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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 03/28/2012

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
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New York, NY 10003

EXAMINER	
SMITH, CHENEA	
ART UNIT	**PAPER NUMBER**
2421	

MAIL DATE	DELIVERY MODE
03/28/2012	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Abandonment	Application No.	Applicant(s)
	11/139,330	STEUER ET AL.
	Examiner	Art Unit
	CHENEA SMITH	2421

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☒ Applicant's failure to timely file a proper reply to the Office letter mailed on *19 September 2011*.
   (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
   (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection.
   (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
   (c) ☐ A reply was received on _____ but it does not constitute a proper reply, or a bona fide attempt at a proper reply, to the non-final rejection. See 37 CFR 1.85(a) and 1.111. (See explanation in box 7 below).
   (d) ☒ No reply has been received.

2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
   (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance (PTOL-85).
   (b) ☐ The submitted fee of $_____ is insufficient. A balance of $_____ is due.
   The issue fee required by 37 CFR 1.18 is $_____. The publication fee, if required by 37 CFR 1.18(d), is $_____.
   (c) ☐ The issue fee and publication fee, if applicable, has not been received.

3. ☐ Applicant's failure to timely file corrected drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
   (a) ☐ Proposed corrected drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
   (b) ☐ No corrected drawings have been received.

4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.

5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.

6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.

7. ☒ The reason(s) below:

No reply has been sent as confirmed by Mike Mauriel on 3/21/2012.

/KRISTINE KINCAID/ Supervisory Patent Examiner, Art Unit 2421	

Petitions to revive under 37 CFR 1.137(a) or (b), or requests to withdraw the holding of abandonment under 37 CFR 1.181, should be promptly filed to minimize any negative effects on patent term.

PTO/SB/08a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	11/139,330
Filing Date	May 26, 2005
First Named Inventor	Jonathan S. Steuer
Art Unit	2426
Examiner Name	Smith, Chenea P.
Attorney Docket Number	10004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-			
		US-			
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	1	WO 2005/006768 A1	01-20-2005	Lee et al.		
	2	WO 2005/036877 A1	04-21-2005	Deng, Kevin		

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Electronic Acknowledgement Receipt	
EFS ID:	11184990
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	13-OCT-2011
Filing Date:	26-MAY-2005
Time Stamp:	19:57:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1000420001SIDS5.pdf	71246 edb76c2be1783054a1cb58895135350ce7d26fc6	yes	5

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	4
	Information Disclosure Statement (IDS) Form (SB08)	5	5
Warnings:			
Information:			
	Total Files Size (in bytes):	71246	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT
Docket No. 10004-2000100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:	Examiner: Chenea Smith
Jonathan S. Steuer et al.	Group Art Unit: 2426
Serial No.: 11/139,330	
Filing Date: May 26, 2005	
For: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD	

INFORMATION DISCLOSURE STATEMENT – FIFTH SUPPLEMENTAL UNDER 37 C.F.R. § 1.97 & § 1.98

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO/SB/08A. The Examiner is requested to make these documents of record.

This Information Disclosure Statement is submitted:

☐ With the application OR This Information Disclosure Statement is submitted before the mailing of a first Office action after the filing of a Request for Continued Examination under § 1.114 (filed concurrently herewith) in accordance with § 1.97(b)(4); accordingly, no fee or separate requirements are required .

☐ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

☒ **After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.**

☐ The fee set forth in 37 CFR 1.17p is paid herewith.

☒ **A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly, no fee is believed to be due.**

☐ each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement.

☒ **no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.**

☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.

☐ The fee set forth in 37 C.F.R. § 1.17p is paid herewith and a Certification under 37 C.F.R. § 1.97(e) is provided below:

☐ each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement.

☐ no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.

Applicants would appreciate the Examiner initialing and returning the PTO/SB/08A, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees under 37 CFR 1.16 and 1.17 which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: October 10, 2011

Respectfully submitted,

By: _____

Michael Mauriel
Reg. No. 44,226

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 09/19/2011

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EXAMINER	
SMITH, CHENEA	
ART UNIT	**PAPER NUMBER**
2421	

MAIL DATE	DELIVERY MODE
09/19/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	CHENEA SMITH	2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☐ Claim(s) *1-14,54-60,66 and 67* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-14, 54-60 and 66-67* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/27/2011 has been entered.

Response to Amendment

2. This office action is in response to communications filed 7/27/2011. Claims 1 and 54 are amended. Claims 15-53, 61-65 and 68-93 are cancelled. Claims 1-14, 54-60 and 66-67 are pending in this action.

Response to Arguments

3. Applicant's arguments with respect to claims 1-14, 54-60 and 66-67 have been considered but are moot in view of the new ground(s) of rejection. The Applicants should please note that although new grounds of rejection are presented, several of the references of record will continue to be used to meet claimed limitations (please see rejection below).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 5, 54 and 66-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view of Atkinson (US20040048637, hereinafter Atkinson).

Regarding claims 1 and 54, Chen discloses a media measurement method (see Chen, col 4, lines 30-35) comprising:

receiving, at one or more computers (local server 104/CTPU 108/user computer 106, see Chen, Fig. 1 and Fig. 6) data samples (see Chen, col 12, lines 1-17) for content recognition against known media content (see Chen, col 6, lines 22-26), the data samples being received from a monitoring device (SPCD 102/CTPU 108, see Chen, Fig. 1 and col 5, line 61 – col 6, line 10) of an audience member (see Chen, col 6, lines 35-44),

the data samples corresponding to portions of audio data captured at the monitoring device (see Chen, col 12, lines 1-17);

and using audience data (see Chen, col 8, line 58 - col 9, line 8) at the one or more computers (see Chen, col 5, lines 58-61 and col 8, line 45 - col 9, line 8) to enhance content identification of a received sample (see Chen, col 8, line 58 - col 9, line 8),

the audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device (see Chen, col 8, line 58 - col 9, line 8).

Chen does not specifically disclose using the audience data as at least part of search criteria to search a content database for identification of the received sample,

the audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device.

In an analogous art relating to a system for identifying media, Atkinson discloses using a location of an audience member at a time at which audio data was captured (see Atkinson, [0026], lines 1-14) at a monitoring device (device 20, see Atkinson, Fig. 1) as at least part of search criteria to search a content database for identification of a received sample (see Atkinson, [0026], lines 1-14).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Atkinson for the advantage of more efficiently identifying media for a user so that the best result may be provided in an improved system for content recognition.

Regarding claim 5, Chen in view of Atkinson discloses using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the location of the audience member (see Atkinson, [0026], lines 1-14, and see Chen, where the sample is compared to known content available from a nearby server, or known content available from a nearby music store, see Chen, col 8, line 58 – col 9, line 8).

Regarding claim 66, Chen in view of Atkinson discloses wherein the one or more computers are provided as part of a device that includes the monitoring device (see Chen, col 5, line 61 – col 6, line 10).

Regarding claim 67, Chen in view of Atkinson discloses wherein the one or more computers are remote from the monitoring device (see Chen, col 5, line 61 – col 6, line 10).

6. Claims 2, 55 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view of Atkinson (previously cited), as applied to claims 1 and 54 above, and further in view of Barton (of record).

Regarding claims 2 and 55, Chen in view of Atkinson does not specifically disclose wherein the audience data further includes a media consumption pattern of the audience member, and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member.

In an analogous art relating to content recognition, Barton discloses audience data further including a media consumption pattern of the audience member (see Barton, [0051], lines 21-30), and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member (see Barton, [0051], lines 21-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Atkinson to include the limitations as taught by Barton for the advantage of more efficiently identifying media for a user so that the best result may be provided in an improved system for content recognition.

Regarding claim 59, Chen in view Atkinson, and further in view of Barton discloses performing an identification attempt by testing samples against content identified using log data from a media player associated with the audience member (see Chen, col 12, lines 28-36).

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view of Atkinson (previously cited) and Barton (of record), as applied to claims 1-2 above, and further in view of Wang (of record).

Regarding claim 3, Chen in view Atkinson, and further in view of Barton does not specifically disclose discloses wherein, if the identification attempt is not successful, the method further comprises testing the received sample against a larger portion of the known content.

In an analogous art relating to a system for identifying content, Wang discloses wherein, if the identification attempt is not successful, the method further comprises testing the received sample against a larger portion of the known content (see Wang, specifically [0094], lines 3-15).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view Atkinson, and further in view of Barton to include the limitations as taught by Wang for the advantage of more efficiently identifying media for a user so that the best result may be provided in an improved system for content recognition.

8. Claims 4, 56 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view of Atkinson (previously cited), as applied to claims 1 and 54 above, and further in view of Barton (of record) and Herz (of record).

Regarding claims 4 and 56, Chen in view of Atkinson does not specifically disclose the audience data further including a media consumption pattern of the audience member;

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member; and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

In an analogous art, Barton discloses audience data further including a media consumption pattern of the audience member (see Barton, [0051], lines 21-30), and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member (see Barton, [0051], lines 21-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Atkinson to include the limitations as taught by Barton for the advantage of more efficiently identifying media for a user so that the best result may be provided in an improved system for content recognition.

Chen in view of Atkinson, and further in view of Barton does not specifically disclose the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member.

In an analogous art relating to a system for customer media consumption patterns, Herz discloses a media consumption pattern of an audience member (see Herz, specifically col 12, lines 2-6 and col 14, lines 4-7),

the media consumption pattern of the audience member being determined by using a media consumption pattern of persons sharing characteristics of the audience member (see Herz, specifically col 13, lines 45-49 and col 15, lines 22-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Atkinson, and further in view of Barton to include the limitations as taught by Herz for the advantage of more efficiently identifying media for a user so that the best result may be provided in an improved system for content recognition.

Regarding claim 60, Chen in view of Atkinson and Barton, and further in view of Herz discloses determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member (see Herz, specifically col 12, lines 2-6, col 14, lines 4-7 and col 45, lines 34-36); and

using channel data to perform an identification attempt by testing a received sample against content corresponding to content of the channel (see Herz, specifically col 12, lines 2-6, col 14, lines 4-7 and col 45, lines 34-36).

9. Claims 6, 9-14 and 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view of Atkinson (previously cited), as applied to claims 1 and 54 above, and further in view of Wang (of record).

Regarding claim 6, Chen in view of Atkinson does not specifically disclose wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

In an analogous art, Wang discloses that a search of known content is first performed on a first subset of files of the known content that have the highest probability of being the correct file. The probability scores of the files are based on their recency/popularity, i.e., the number of requests by all users. By combining Chen's system with Wang's then, the first subset of files to be searched is reasonably the files that are related to the location of the first audience member, i.e., the files at the nearest server, or at the nearest store (see Chen, col 8, line 58 – col 9, line 8), and that are also the most popular/recent ones (see Wang, [0097], lines 1-14). Therefore, the combination of Chen, Atkinson and Wang teaches wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio

data received from the monitoring device of the first audience member, as the second audience member is one of the members to help in making the files popular.

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Atkinson to include the limitations as taught by Wang for the advantage of more efficiently identifying media for a user so that the best result may be provided in an improved system for content recognition.

Regarding claims 9 and 57, Chen in view of Atkinson discloses that memory 136 comprises smaller databases for each particular type of music (see Chen, col 15, lines 13-20), but does not specifically disclose wherein content recognition against known content comprises selecting from multiple content algorithms based upon expected content type to optimize recognition performance.

In an analogous art, Wang discloses that a variety of landmarking algorithms may be used, see Wang, specifically [0051], lines 1-3, and that a Power Norm algorithm is preferred for tonal music, see Wang, specifically [0053], lines 4-5. As Wang also discloses that various types media may be recognized, see Wang, specifically [0037], lines 8-11 and 19-23, Wang reasonably suggests selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Wang's system to explicitly include wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance for the advantage of improving the efficiency of the system, and therefore obvious to modify the system of Chen in view of

Atkinson to include the limitations as taught by Wang for the advantage of more efficiently identifying media for a user so that the best result may be provided in an improved system for content recognition.

Regarding claims 10 and 58, Chen in view of Atkinson, and further in view of Wang discloses wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm (see Wang, specifically [0039], lines 24-27).

Regarding claim 11, Chen in view of Atkinson, and further in view of Wang discloses wherein an expected content type includes absence of recognized content (Wang uses preferred algorithms for different types of content to efficiently and effectively find a match, as opposed to using an algorithm that is inefficient and that wouldn't find results, see Wang, [0053], lines 4-5).

Regarding claim 12, Chen in view of Atkinson, and further in view of Wang discloses wherein an expected content type includes music audio (see Wang, [0037], lines 8-11 and 19-23).

Regarding claim 13, Chen in view of Atkinson, and further in view of Wang discloses wherein an expected content type includes voice audio (see Wang, [0037], lines 8-11 and 19-23).

Regarding claim 14, Chen in view of Atkinson, and further in view of Wang discloses wherein an expected content type includes music, voice and sound effect audio (see Wang, [0037], lines 8-11 and 19-23).

10. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view of Atkinson (previously cited), as applied to claim 1 above, and further in view of Wang (of record), Hansen (of record).

Regarding claim 7, Chen in view of Atkinson discloses using audience data to scrub match results by analyzing known content related to the location of the audience member at the time at which the audio data was captured at the monitoring device (see Atkinson, [0026], lines 1-14), but does not specifically disclose generating a raw play stream, the raw play stream comprising a series of content identification results (i.e., the match results) obtained from a series of received samples.

In an analogous art, Wang discloses generating raw content identification results (see Wang, [0081], lines 26-30 and [0090], lines 1-3) obtained from a series of received samples (see Wang, [0090], lines 1-3), and scrubbing the raw content identification results (see Wang, [0081], line 27 – [0084], line 2).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Atkinson include the limitations as taught by Wang for the advantage of more efficiently identifying media for a user so that the best result may be provided in an improved system for content recognition.

Chen in view of Atkinson, and further in view of Wang does not specifically disclose a play stream of results.

In an analogous art relating to a system for providing media to a user, Hansen discloses a play stream of results (see Hansen, [0027], lines 2-6).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Atkinson, and further in view of Wang to include the limitations as taught by Hansen for the advantage providing the results of

identification in an economically viable and continuous manner (see Hansen, [0009]) in an improved system for content recognition.

Regarding claim 8, Chen in view of Atkinson, Wang and Hansen discloses that a search of known content is first performed on a first subset of files of the known content that have the highest probability scores of being the correct file (see Wang, [0096], lines 1-6). The probability scores of the files are based on their recency/popularity, i.e., the number of requests by all users (see Wang, [0097]-[0100]). By combining the systems of Chen, Atkinson, Wang and Hansen, then, the first subset of Wang's files to be searched correspond to the files that are related to the location of the first audience member (Atkinson, [0026]), and therefore, are the most popular/recent ones in the user's area (see Wang, [0097], lines 1-14 and Platt, [0034], lines 10-16 and [0040], lines 1-12). Therefore, the limitations of "wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member" is met, as the second audience member is one of the members to help in making the files popular.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHENEA SMITH whose telephone number is (571)272-9524. The examiner can normally be reached on 8:00 am - 4:00 pm, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on 571-272-4063. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHENEA SMITH/
Examiner, Art Unit 2421

Notice of References Cited	Application/Control No. 11/139,330	Applicant(s)/Patent Under Reexamination STEUER ET AL.	
	Examiner CHENEA SMITH	Art Unit 2421	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2004/0048637	03-2004	Atkinson, Paul	455/569.1
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	14768921	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 12:09
S2	135021	"725"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 12:09
S3	28455	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 12:09
S4	13864	S1 and S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 12:09
S5	30	("20020161741" | "4677466" | "20020083060" | "7444353" | "20020038456" | "6990453" | "20040224638" | "20020059577" | "20040122679" | "3919479" | "7483975" | "20030009469" | "20040001161" | "20020072982" | "7038619" | "4697209" | "20020072982" | "5095382" | "20050086682" | "5594934" | "5778137" | "20060059277" | "20020010919" | "5945988" | "6513161" | "20020010919" | "5758257" | "5512933" | "20070143777" | "5437050" | "7779415").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 12:09

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S8	101	S1 and S6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 13:02
S9	26449	(recogniz$3 identif$8) near2 (music media song $1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 13:03
S10	4	S8 and S9	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 13:03
S11	4235	(recogniz$3) near2 (music media song$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 13:04
S12	4265	(user$1 with location with (narrow$3 filter$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 13:04
S13	39	S11 and S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 13:04
S14	5	S1 and S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 13:04
S15	816	(user$1 with location with (narrow$3 filter$3) with search$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/13 13:06

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S20	1	"7165056".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 09:03
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S24	37457	S22 and S23	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 09:07
S25	75	S21 and S24	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 09:07

S26	19988	(content$1 music song$1 media) near2 recogni$7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 09:09
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S28	12	S22 and S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 09:09
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S45	2	10/645928.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 10:45
S46	2	S45 and (user$2 with location$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 10:46
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S49	2	S48 and (user$2 with location$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 10:49
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S54	2	(minimiz$6 narrow$3 filter $3) with (possible potential probable) with match$3 with (user$2 near2 location$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 11:05
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S56	9	S55 and (song$1 music acoustic$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/09/14 11:06
S57	7	((JONATHAN) near2 (STEUER)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/09/14 11:13
S58	16	((CHRISTOPHER) near2 (OTTO)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/09/14 11:13
S59	16	S57 S58	US-PGPUB; USPAT; USOCR	OR	OFF	2011/09/14 11:13
S60	7	S59 and (media with monitor$3)	US-PGPUB; USPAT; USOCR	OR	OFF	2011/09/14 11:14
S61	160512	"455".clas.	US-PGPUB; USPAT; USOCR	OR	OFF	2011/09/14 11:56
S62	259	S29 and S61	US-PGPUB; USPAT; USOCR	OR	OFF	2011/09/14 11:56
S63	77	S22 and S62	US-PGPUB; USPAT; USOCR	OR	OFF	2011/09/14 11:56

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
	Chenea Smith	2421

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST search included - see search results printout	9/14/2011 11:55:32 AM	CS
Updated Inventor search, see search results printout	9/14/2011 11:55:34 AM	CS
Updated 725/$$, 455/$$- text search only, see search results printout	9/14/2011 11:55:35 AM	CS

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/CHENEA P SMITH/ Examiner.Art Unit 2421	

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	**Art Unit**
	Chenea Smith	2421

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
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☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
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	89					✓	-			
	90					✓	-			
	91					✓	-			
	92					✓	-			
	93					✓	-			

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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	11/139,330	Filing Date	2005-05-26	Docket Number (if applicable)	10004-2000100	Art Unit	2426
First Named Inventor	Jonathan Steuer			Examiner Name	C. Smith		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

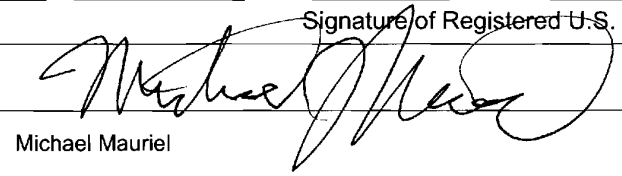
☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 504242

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature		Date (YYYY-MM-DD)	2011-07-27
Name	Michael Mauriel	Registration Number	44226

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Attorney Docket No.: 10004-2000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Jonathan STEUER et al.

Application No.: 11/139,330 Group Art Unit: 2426

Filing Date: May 26, 2005 Examiner: C. Smith

Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

RESPONSE UNDER 37 CFR § 1.114

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

This is in response to the Office Action dated May 23, 2011 (Paper No. 20110226) for which a response is due on August 23, 2011. Accordingly, this response is timely filed. A Request for Continued Examination is also submitted herewith. Reconsideration and allowance of the pending claims in light of the remarks presented herein are respectfully requested.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 7 of this paper.

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows, where additions are underlined and deletions are indicated by ~~strikethrough~~ or enclosed in [[double brackets]]:

Claim 1 (Currently Amended): A media measurement method comprising:

receiving, at one or more computers, data samples for content recognition against known media content, the data samples being received from a monitoring device of an audience member, the data samples corresponding to portions of audio data captured at the monitoring device; and

using audience data at the one or more computers as at least part of search criteria to search a content database for identification ~~to enhance content identification~~ of a received sample, the audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device.

Claim 2 (Previously Presented): The method of claim 1 wherein:

the audience data further includes a media consumption pattern of the audience member and;

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 3 (Previously Presented): The method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the received sample against a larger portion of the known content.

Claim 4 (Previously Presented): The method of claim 1 wherein:

the audience data further includes a media consumption pattern of the audience member;

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member; and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 5 (Previously Presented): The method of claim 1 wherein:

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the location of the audience member.

Claim 6 (Previously Presented): The method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 7 (Previously Presented): The method of claim 1 further comprising:

generating a raw play stream, the raw play stream comprising a series of content identification results obtained from a series of received samples; and

using audience data to scrub the raw play stream by analyzing known content related to the location of the audience member at the time at which the audio data was captured at the monitoring device.

Claim 8 (Previously Presented): The method of claim 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 9 (Original): The method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

Claim 10 (Original): The method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm.

Claim 11 (Original): The method of claim 9 wherein an expected content type includes absence of recognized content.

Claim 12 (Original): The method of claim 9 wherein an expected content type includes music audio.

Claim 13 (Original): The method of claim 9 wherein an expected content type includes voice audio.

Claim 14 (Original): The method of claim 9 wherein an expected content type includes music, voice and sound effect audio.

Claims 15-53 (Previously Canceled).

Claim 54 (Currently Amended): A computer program product for measuring media usage, the computer program product comprising executable instruction code in a tangible non-transitory electronically readable medium for at least:

receiving, at one or more computers, data samples for content recognition against known media content, the data samples being received from a monitoring device of an audience member, the data samples corresponding to portions of audio data captured at the monitoring device; and

using audience data at the one or more computers as at least part of search criteria to search a content database for identification ~~to enhance content identification~~ of a received sample, the

audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device.

Claim 55 (Previously Presented). The computer program product of claim 54 wherein audience data further includes a media consumption patter of the audience member and the executable instruction code is also for at least:

performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 56 (Previously Presented). The computer program product of claim 54 wherein the audience data further includes a media consumption pattern of the audience member and the executable instruction code is also for at least:

determining the media consumption pattern of the audience member by using a media consumption pattern of persons sharing characteristics of the audience member; and

performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 57 (Original): The computer program product of claim 54 wherein the executable instruction code is also for at least:

selecting from multiple content recognitions algorithms based upon expected content type to optimize recognition performance.

Claim 58 (Original): The computer program product of claim 54 wherein the executable instruction code is also for at least

selecting from multiple settings of a content recognition algorithm.

Claim 59 (Previously Presented): The computer program product of claim 55 wherein the executable instruction code is also for at least:

performing an identification attempt by testing samples against content identified using log data from a media player associated with the audience member.

Claim 60 (Previously Presented): The computer program product of claim 55 wherein the executable instruction code is also for at least:

determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member; and

using channel data to perform an identification attempt by testing a received sample against content corresponding to content of the channel.

Claims 61-65 (Previously Canceled).

Claim 66 (Previously Presented): The method of claim 1 wherein the one or more computers are provided as part of a device that includes the monitoring device.

Claim 67 (Previously Presented): The method of claim 1 wherein the one or more computers are remote from the monitoring device.

Claim 68-93 (Canceled).

REMARKS

Claims 1-14, 54-60, and 66-93 were pending. By virtue of this amendment, claims 68-93 are cancelled. Therefore, claims 1-14, 54-60, and 66-67 remain pending and under consideration. Of those, claims 1 and 54 are currently amended. No new matter is added by virtue of this Amendment.

Telephone Interview of June 28, 2011

The Applicants and their attorney conducted a telephone interview with the Examiner and Primary Examiner on June 28, 2011. Applicants thank the Examiner and the Primary Examiner for taking the time to discuss this case. As indicated in the Examiner's Interview Summary (mailed July 13, 2011), an agreement was reached with respect to amended language in claim 1 (and, by implication, with respect to similar language in claim 54). Specifically it was agreed that adding language to recite that the audience data is used at the one or more computers "as at least part of search criteria to search a content database for identification of a received sample" overcomes the art rejection of record.

Claim rejections under 35 U.S.C. §102(e)

In the Office Action, claims 1-5, 54, and 66-67 were rejected again under 35 U.S.C. §102(e) as being anticipated by USP 7,444,353 ("Chen").

In view of the Telephone Interview referenced above, claim 1 has been amended consistent with the agreement reached and is now allowable over the art of record. Claim 54 has also been amended in a similar fashion and is therefore also allowable over the art of record. Claims 2-5 and 66-67 depend from claim 1 and therefore are now allowable for at least the same reason. Applicants therefore respectfully request that this rejection be removed.

Claim rejections under 35 U.S.C. §103

Claims 2-4, 6-14, 55-60, 68, 69-73, 85-88, and 92-93 were all rejected under 35 U.S.C. §103 over Chen in view of various references. Claims 75-79 were rejected 35 U.S.C. §103 over U.S.

Patent No. 7,038,619 ("Percy") in view of Chen and claims 80-84 and 89-91 were rejected under 35 U.S.C. §103 over Percy in view of Chen and U.S. Patent No. 7,779,415 ("Bisdikian").

By virtue of this amendment, claims 68-93 are cancelled. Therefore, the rejection of those claims is now moot.

Regarding the rejections under 35 U.S.C. §103 of claims 2-4, 6-14, and 55-60, each of those rejections relies in significant part on the same basis for rejecting claims 1 and 54 under §102 over Chen alone. As indicated above, claims 1 and 54 have been amended as agreed to in the Telephone Interview and now overcome Chen. Claims 2-4 and 6-14 depend from claim 1 and claims 55-60 depend from claim 54. Therefore, claims 2-4, 6-14, and 55-60 are now allowable for at least the same reason.

Claim rejections under 35 U.S.C. §112

Claims 69-91 were rejected under 35 U.S.C. §112, first paragraph. By virtue of this amendment, claims 69-91 are cancelled. Therefore, this ground of rejection is now moot.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conversation would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: July 27, 2011

Respectfully submitted,

By: /Michael Mauriel/ Reg. No. 44,226

Michael Mauriel
Registration No.: 44,226
Mauriel Kapouytian & Treffert LLP
151 First Avenue #23
New York, NY 10003
(212) 529-5131
Attorney(s) for Applicant

Electronic Patent Application Fee Transmittal	
Application Number:	11139330
Filing Date:	26-May-2005
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Filer:	Michael John Mauriel/Victoria Wilson
Attorney Docket Number:	10004-2000100
Filed as Small Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for continued examination	2801	1	405	405
		Total in USD ($)		**405**

Electronic Acknowledgement Receipt	
EFS ID:	10613529
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	27-JUL-2011
Filing Date:	26-MAY-2005
Time Stamp:	19:37:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Electronic Funds Transfer
Payment was successfully received in RAM	$405
RAM confirmation Number	7776
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Request for Continued Examination (RCE)	1000420001RCETrnsmtl7_27_11.pdf	26721 98aa22b0191449eafdbbc0827c07f904152b0109	no	2
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2		1000420001RespFOA.pdf	87627 5e19719545e69828e911ef0a378be4635faefaec	yes	9

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment Submitted/Entered with Filing of CPA/RCE	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	9

Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	29713 148b32b9b0fd767665d18ca82225e37e6b08155b	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	144061		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/139,330	05/26/2005	

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 07/27/2011	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 23	Minus	** 62	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 2	Minus	***7	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/JACQUELYN WILLIAMS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 07/13/2011

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
#23
New York, NY 10003

EXAMINER	
SMITH, CHENEA	
ART UNIT	PAPER NUMBER
2421	
MAIL DATE	DELIVERY MODE
07/13/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Interview Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	CHENEA SMITH	2421	

All participants (applicant, applicant's representative, PTO personnel):

(1) *CHENEA SMITH*.

(2) *Jason Salce*.

(3) *Mike Mauriel*.

(4) *Chris Otto, Jonathan Steuer*.

Date of Interview: *28 June 2011*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *1*.

Identification of prior art discussed: *Chen*.

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Discussed proposed amendments to the claims, including clarifying the "enhance content identification" limitation. The proposed amendment of using audience data at the one or more computers "as at least part of search criteria to search a content database for identification of a received sample" overcomes the art rejection of record* .

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Jason P Salce/ Primary Examiner, Art Unit 2421	6/29/2011

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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EXAMINER	
SMITH, CHENEA	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	CHENEA P. SMITH	2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14,54-60 and 66-93* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,54-60 and 66-93* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to communications filed 10/22/2010 and 11/24/2010. Per communications filed 10/22/2010, claims 1-5, 7, 54 and 60 are amended. Claims 15-53 and 61-65 are cancelled. Claims 66-68 are new. Per communications filed 11/24/2010, claims 69-93 are new. Claims 1-14, 54-60 and 66-93 are pending in this action.

Response to Arguments

2. Applicants' arguments filed 10/22/2010 have been fully considered but they are not persuasive.

In response to Applicants' arguments filed 10/22/2010, the Examiner notes that in the Interview of 10/7/2010, the proposed amendment to clarify the "enhance content identification" limitation of claim 1 appeared to overcome the art rejection of record. However, upon further consideration, the amendments to claim 1 do not provided enough clarification for the limitation, and therefore the Examiner believes that the Chen reference continues to meet the Applicants' claimed limitations. Specifically, as understood by the Examiner, the Applicants intend to use the location of the audience member specifically to enhance the accuracy of the identification of the content, as disclosed in the Applicants' original specification at [0006], lines 1-6. However, the feature upon which the Examiner believes that the applicant relies (i.e., accuracy) is not recited

in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The Chen reference tracks the location of the monitoring unit, and based on the location determined, chooses the nearest server to respond to the identification request, thereby reducing the processing time associated with identifying the content (see Chen, col 8, line58 – col 9, line 2). This reduction of processing time enhances the efficiency of the process of identifying the content such that the user's request is more quickly fulfilled. Chen also provides the user with a nearest music store where the received sample of content that is identified may be on sale, thereby enhancing the efficiency with which the content is identified by providing extra information. Therefore, Chen reasonably teaches the limitation as claimed.

3. Applicants' remarks filed 11/24/2010 have been fully considered, and the Examiner acknowledges the claims copied from Patent (US 7,623,823 to Zito et al.).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 69- 91 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 69 recites the limitation "*wherein the correlator server correlates the detected location with a location of at least one geographically identifiable sponsor of a reference media item"*. While the Applicants' original disclosure at [0024] recites that *"For example, filtered search module 122 might use audience data from audience data processing module 123 to form parameters and then pass those parameters to content recognition system 124 which then uses the parameters to conduct a filtered search of its content. Alternatively, module 122 might be adapted to utilize an instance of content recognition system 124 that includes content pre-selected based upon relevant audience data. Some examples of relevant audience data that may be used either to form search parameters or to construct targeted content include: location of the audience member (alone and/or relative to other audience members)*", this appears to be the only teaching of a user location, and therefore does not support the limitation as claimed. Also, the claim recited "a server", "at least one stream collection server", "a stream store, coupled to the server and to the at least one stream collection server" and "a location tracking server". While the Applicants' disclosure teach a media measurement system 100, comprised of modules, i.e., 121-123, 129, Fig. 1), these are not servers, and do not support the limitations as claimed. This analysis and rejection, includes then, in addition to claim 69, claim 71-72 and claim 80.

Claims 70 and 86 recite the limitation "*wherein the location tracking server detects the location via at least one selected from the group consisting of: GPS tracking; RFID tracking; Bluetooth tracking*". While the Applicants' original disclosure at [0024] recites that *"For*

example, filtered search module 122 might use audience data from audience data processing module 123 to form parameters and then pass those parameters to content recognition system 124 which then uses the parameters to conduct a filtered search of its content. Alternatively, module 122 might be adapted to utilize an instance of content recognition system 124 that includes content pre-selected based upon relevant audience data. Some examples of relevant audience data that may be used either to form search parameters or to construct targeted content include: location of the audience member (alone and/or relative to other audience members)", this appears to be the only teaching of a user location, and therefore does not support the limitation as claimed.

Claims 72 and 73 recite the limitations "*a purchasing tracking server, for receiving consumer purchasing information; wherein the output device generates a report correlating user purchasing information with user exposure to the identified reference media item*", and "*wherein the purchasing tracking server receives at least one indication of user use of a credit card*", respectively. While the Applicant's original disclosure at [0024] recites that "*For example, filtered search module 122 might use audience data from audience data processing module 123 to form parameters and then pass those parameters to content recognition system 124 which then uses the parameters to conduct a filtered search of its content. Alternatively, module 122 might be adapted to utilize an instance of content recognition system 124 that includes content pre-selected based upon relevant audience data. Some examples of relevant audience data that may be used either to form search parameters or to construct targeted content include: media consumption patterns of the audience member based on questionnaire input or based on past content identifications associated with that audience member* and *media consumption patterns of*

other audience members who have consumed other media content that has also previously been consumed by the audience member using the corresponding monitoring device", this appears to be the only teaching of using user information, and therefore does not support the limitation as claimed.

Claims 74-75 recite the limitation "*for selecting, based on at least one of load and geographic proximity to the client device, one of the plurality of data signature stream collection server*s". While the Applicants' original disclosure at [0024] recites that *"For example, filtered search module 122 might use audience data from audience data processing module 123 to form parameters and then pass those parameters to content recognition system 124 which then uses the parameters to conduct a filtered search of its content. Alternatively, module 122 might be adapted to utilize an instance of content recognition system 124 that includes content pre-selected based upon relevant audience data. Some examples of relevant audience data that may be used either to form search parameters or to construct targeted content include: location of the audience member (alone and/or relative to other audience members)*", this appears to be the only teaching of a user location, and therefore does not support the limitation as claimed.

Claims 75, 80 and 89 recite the limitation "*receiving, from the client device: ... an indication as to whether the client device is in the physical possession of a person at the time of exposure tot he target media item*". While the Applicants' original disclosure at [0017], line 3 recites, "*A monitored audience member wears the monitor 101a during a monitoring period*", this does not support the limitation as claimed.

Furthermore, the limitation "*responsive to an indication that the client device is not in the physical possession of a person at the time of exposure to the target media item, ignoring the*

representation of the at least one target media item from the client device", as recited in claims 76-77 and 81-82, is not supported by the Applicant's original disclosure, as there is no teaching of any received indications of physical possession, or alternative situations "when the client device is not in the physical possession of a person at the time of exposure to the target media item". Therefore, there appears to be no support for the limitations as claimed.

Claims 79, 84 and 91 recite the limitation "*wherein the at least one sensor detects at least one selected from the group consisting of: vibration of the client device; key presses on the client device; temperature of the client device; and movement of the client device*". The Applicants' specification at [0017] recites "*As illustrated, monitoring device 101a includes a microphone 105, a media player port 102, a headphone port 103, and a data upload port 104. A monitored audience member wears monitor 101a during a monitoring period. When the audience member is consuming media from media player 170a without the use of headphones 160a (i.e. if media player 170a has a speaker), monitor 101 captures audio energy acoustically through microphone 105. However, when the audience member desires to use headphones 160a to receive media content from media player 170a (e.g. an MP3 player, iPod, CD player, DVD player, television, radio, computer, or other media player) he or she can plug headphones 160a into headphone port 103 and plug media player 170a into media player port 102. In that case, monitor 101 a captures audio energy through media player port 102. Microphone 105 includes a microphone and associated microphone port. However, in alternatives, a monitor may simply have a microphone port into which a microphone may be plugged or linked via wireless connection. Thus the term "microphone port" will herein refer to any electronics capable of*

receiving energy captured through a microphone, whether or not a microphone is built into the monitoring device itself". This does not support the limitations as claimed.

Claims 85 and 88 recite the limitations "*wherein the audience data processor relates the detected location to retail traffic of an advertiser associated with the known media content*", and "*a retail traffic data system; wherein the report generator generates a report matching retail traffic and audience member exposure to known media content*", respectively. While the Applicant's original disclosure at [0024] recites that "*For example, filtered search module 122 might use audience data from audience data processing module 123 to form parameters and then pass those parameters to content recognition system 124 which then uses the parameters to conduct a filtered search of its content. Alternatively, module 122 might be adapted to utilize an instance of content recognition system 124 that includes content pre-selected based upon relevant audience data. Some examples of relevant audience data that may be used either to form search parameters or to construct targeted content include: media consumption patterns of the audience member based on questionnaire input or based on past content identifications associated with that audience member* and *media consumption patterns of other audience members who have consumed other media content that has also previously been consumed by the audience member using the corresponding monitoring device*", this appears to be the only teaching of using user information, and therefore does not support the limitations as claimed.

Claim 87 recites the limitation "*wherein the representation of the monitored media indicates audience member exposure at a time other than the time of broadcast*". While the Applicant's original disclosure at [0024] recites that "*For example, filtered search module 122 might use audience data from audience data processing module 123 to form parameters and then*

pass those parameters to content recognition system 124 which then uses the parameters to conduct a filtered search of its content. Alternatively, module 122 might be adapted to utilize an instance of content recognition system 124 that includes content pre-selected based upon relevant audience data. Some examples of relevant audience data that may be used either to form search parameters or to construct targeted content include: media consumption patterns of the audience member based on questionnaire input or based on past content identifications associated with that audience member and *media consumption patterns of other audience members who have consumed other media content that has also previously been consumed by the audience member using the corresponding monitoring device*", this appears to be the only teaching of using user information, and therefore does not support the limitation as claimed.

Any claim not specifically addressed above is rejected as incorporating the deficiencies of the claim(s) upon which they depend.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 5, 54 and 66-67 rejected under 35 U.S.C. 102(e) as being anticipated by Chen (of record).

Regarding claims 1 and 54, Chen discloses a media measurement method (see Chen, col 4, lines 30-35) comprising:

receiving, at one or more computers (local server 104/CTPU 108/user computer 106, see Chen, Fig. 1 and Fig. 6) data samples (see Chen, col 12, lines 1-17) for content recognition against known media content (see Chen, col 6, lines 22-26), the data samples being received from a monitoring device (SPCD 102/CTPU 108, see Chen, Fig. 1 and col 5, line 61 – col 6, line 10) of an audience member (see Chen, col 6, lines 35-44),

the data samples corresponding to portions of audio data captured at the monitoring device (see Chen, col 12, lines 1-17);

and using audience data (see Chen, col 8, line 58 - col 9, line 8) at the one or more computers (see Chen, col 5, lines 58-61 and col 8, line 45 - col 9, line 8) to enhance content identification of a received sample (see Chen, col 8, line 58 - col 9, line 8),

the audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device (see Chen, col 8, line 58 - col 9, line 8).

Regarding claim 5, Chen discloses using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the location of the audience member (the sample is compared to known content available from a nearby server, or known content available from a nearby music store, see Chen, col 8, line 58 – col 9, line 8).

Regarding claim 66, Chen discloses wherein the one or more computers are provided as part of a device that includes the monitoring device (see Chen, col 5, line 61 – col 6, line 10).

Regarding claim 67, Chen discloses wherein the one or more computers are remote from the monitoring device (see Chen, col 5, line 61 – col 6, line 10.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 2, 55, 59, 85-86, 88 and 92-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record), as applied to claims 1 and 54 above, and further in view of Barton (of record).

Regarding claims 2 and 55, Chen does not specifically disclose wherein the audience data further includes a media consumption pattern of the audience member, and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member.

In an analogous art relating to content recognition, Barton discloses audience data further including a media consumption pattern of the audience member (see Barton, [0051], lines 21-30), and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member (see Barton, [0051], lines 21-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Barton for the advantage of providing an improved, more efficient method of content recognition.

Regarding claim 59, Chen in view of Barton discloses performing an identification attempt by testing samples against content identified using log data from a media player associated with the audience member (see Chen, col 12, lines 28-36).

Regarding claims 85, 88 and 92-93, Chen discloses a system for measuring audience member exposure to media content (see Chen, Fig. 1), comprising:

an interface (see Chen, Fig. 1) for receiving a plurality of known media content (see Chen, col 6, lines 11-15 and col 14, lines 55-63) from at least one media broadcast (see Chen, col 2, lines 12-20);

a sample control processor (see Chen, Fig. 1 and col 5, lines 24-29) for receiving a representation of monitored media from at least one audience member monitoring device (see Chen, col 6, lines 11-15);

a content recognition system, coupled to the interface and to the sample control processor (see Chen, Fig. 1), for storing a representation of at least a subset of the known media content

and for storing a representation of the monitored media (see Chen, col 6, lines 11-15 and col 16, lines 5-13);

wherein the content recognition system identifies one of the known media content as corresponding to the monitored media (see Chen, col 16, lines 42-52 and col 17, lines 4-6); and

an audience data processor for detecting a location of the audience member monitoring device (see Chen, col 8, lines 44-63);

wherein the audience data processor relates the detected location to retail traffic of an advertiser associated with the known media content (see Chen, col 9, lines 3-8).

Chen does not specifically disclose a report generator, coupled to the content recognition system, for generating output signaling audience member exposure to the identified known media content.

In an analogous art, Barton discloses a report generator, coupled to the content recognition system, for generating output signaling audience member exposure to the identified known media content (see Barton, [0138], lines 1-6).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Barton for the advantage of providing an improved, more efficient and more versatile method of content recognition

Regarding claim 86, Chen in view of Barton discloses wherein the audience data processor detects the location via GPS tracking (see Chen, col 8, lines 58-61).

10. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view of Barton (of record), as applied to claim 2 above, and further in view of Wang (of record).

Regarding claim 3, Chen in view of Barton does not specifically disclose discloses wherein, if the identification attempt is not successful, the method further comprises testing the received sample against a larger portion of the known content.

In an analogous art relating to a system for identifying content, Wang discloses wherein, if the identification attempt is not successful, the method further comprises testing the received sample against a larger portion of the known content (see Wang, specifically [0094], lines 3-15).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Barton to include the limitations as taught by Wang for the advantage of providing an improved, more efficient method of content recognition.

11. Claims 4, 56 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record), as applied to claims 1 and 54 above, and further in view of Barton (of record) and Herz (of record).

Regarding claims 4 and 56, Chen in does not specifically disclose the audience data further including a media consumption pattern of the audience member;

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member; and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

In an analogous art, Barton discloses audience data further including a media consumption pattern of the audience member (see Barton, [0051], lines 21-30), and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member (see Barton, [0051], lines 21-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Barton for the advantage of providing an improved, more efficient method of content recognition.

Chen in view of Barton does not specifically disclose the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member.

In an analogous art relating to a system for customer media consumption patterns, Herz discloses a media consumption pattern of an audience member (see Herz, specifically col 12, lines 2-6 and col 14, lines 4-7),

the media consumption pattern of the audience member being determined by using a media consumption pattern of persons sharing characteristics of the audience member (see Herz, specifically col 13, lines 45-49 and col 15, lines 22-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Barton to include the limitations as taught by Herz for the advantage of providing an improved, more efficient method of content recognition.

Regarding claim 60, Chen in view of Barton, and further in view of Herz discloses determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member (see Herz, specifically col 12, lines 2-6, col 14, lines 4-7 and col 45, lines 34-36); and

using channel data to perform an identification attempt by testing a received sample against content corresponding to content of the channel (see Herz, specifically col 12, lines 2-6, col 14, lines 4-7 and col 45, lines 34-36).

12. Claims 6, 9-14 and 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record), as applied to claims 1 and 54 above, and further in view of Wang (of record).

Regarding claim 6, Chen does not specifically disclose wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

In an analogous art, Wang discloses that a search of known content is first performed on a first subset of files of the known content that have the highest probability of being the correct file. The probability scores of the files are based on their recency/popularity, i.e., the number of

requests by all users. By combining Chen's system with Wang's then, the first subset of files to be searched is reasonably the files that are related to the location of the first audience member, i.e., the files at the nearest server, or at the nearest store (see Chen, col 8, line 58 – col 9, line 8), and that are also the most popular/recent ones (see Wang, [0097], lines 1-14). Therefore, Chen in view of Wang reasonably teaches wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Wang for the advantage of providing an improved, more efficient method of content recognition.

Regarding claims 9 and 57, Chen discloses that memory 136 comprises smaller databases for each particular type of music (see Chen, col 15, lines 13-20), but does not specifically disclose wherein content recognition against known content comprises selecting from multiple content algorithms based upon expected content type to optimize recognition performance.

In an analogous art, Wang discloses that a variety of landmarking algorithms may be used, see Wang, specifically [0051], lines 1-3, and that a Power Norm algorithm is preferred for tonal music, see Wang, specifically [0053], lines 4-5. As Wang also discloses that various types media may be recognized, see Wang, specifically [0037], lines 8-11 and 19-23, Wang reasonably suggests selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Wang's system to explicitly include wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance for the advantage of improving the efficiency of the system, and therefore obvious to modify Chen's system to include the limitations as taught by Wang for the advantage of providing an improved, more efficient method of content recognition.

Regarding claims 10 and 58, Chen in view of Wang discloses wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm (see Wang, specifically [0039], lines 24-27).

Regarding claim 11, Chen in view of Wang discloses wherein an expected content type includes absence of recognized content (Wang uses preferred algorithms for different types of content to efficiently and effectively find a match, as opposed to using an algorithm that is inefficient and that wouldn't find results, see Wang, [0053], lines 4-5).

Regarding claim 12, Chen in view of Wang discloses wherein an expected content type includes music audio (see Wang, [0037], lines 8-11 and 19-23).

Regarding claim 13, Chen in view of Wang discloses wherein an expected content type includes voice audio (see Wang, [0037], lines 8-11 and 19-23).

Regarding claim 14, Chen in view of Wang discloses wherein an expected content type includes music, voice and sound effect audio (see Wang, [0037], lines 8-11 and 19-23).

13. Claims 7-8 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record), as applied to claim 1 above, and further in view of Wang (of record), Hansen (US20020038456, hereinafter Hansen), Burges et al. (US20050086682, hereinafter Burges) and Platt et al. (US20030009469, hereinafter Platt). ** Note** Burges incorporates by reference (at [0001] and [0032] of Burges) US Patent application US20040001161 to Herley.

Regarding claims 7 and 68, Chen does not specifically disclose generating a raw play stream, the raw play stream comprising a series of content identification results obtained from a series of received samples, or

using audience data to scrub the raw play stream by analyzing known content related to the location of the audience member at the time at which the audio data was captured at the monitoring device.

In an analogous art, Wang discloses generating raw content identification results (see Wang, [0081], lines 26-30 and [0090], lines 1-3) obtained from a series of received samples (see Wang, [0090], lines 1-3), and scrubbing the raw content identification results (see Wang, [0081], line 27 – [0084], line 2).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Wang for the advantage of providing an improved, more efficient method of content recognition.

Chen in view of Wang does not specifically disclose a play stream of results, or

using audience data to scrub the raw play stream by analyzing known content related to the location of the audience member at the time at which the audio data was captured at the monitoring device.

In an analogous art relating to a system for providing media to a user, Hansen discloses a play stream of results (see Hansen, [0027], lines 2-6).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Wang to include the limitations as taught by Hansen for the advantage of providing an improved system for recognizing media and its source in which the results of identification are provided in an economically viable and continuous manner (see Hansen, [0009]).

Chen in view of Wang and Hansen does not specifically disclose using audience data to scrub the raw play stream by analyzing known content related to the location of the audience member at the time at which the audio data was captured at the monitoring device.

In an analogous art relating to a system for the identification of content, Burges discloses using audience data (extra identification information of known media objects, see Burges, [0052], lines 1-5, and Herley, [0163], lines 4-5 and [0159], lines 7-12) to scrub content identification results (the identification of probable repeating objects being the identification results, see Burges, [0036], lines 1-6, [0043], lines 1-21) by analyzing known content (see Burges, [0045], lines 1-5).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Wang and Hansen to include the limitations as taught by Burges for the advantage of providing an improved system for recognizing content

and inferring extensive and comprehensive information about the content such that a user has more options for managing the content.

Chen in view of Wang, Hansen and Burges does not specifically disclose that the audience data is related to the location of the audience member at the time at which the audio data was captured at the monitoring device.

In an analogous art relating to a system for the identification of content, Platt discloses audience data that is related to the location of the audience member at the time at which the audio data was captured at the monitoring device (see Platt, [0034], lines 10-16 and [0040], lines 1-12).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Wang, Hansen and Burges to include the limitations as taught by Platt for the advantage of providing an improved system for recognizing content and inferring more extensive and comprehensive information about the content such that a user has greater control of the content.

Regarding claim 8, Chen in view of Wang, Hansen, Burges and Platt discloses that a search of known content is first performed on a first subset of files of the known content that have the highest probability of being the correct file (see Wang, [0096], lines 1-6). The probability scores of the files are based on their recency/popularity, i.e., the number of requests by all users (see Wang, [0097]-[0100]). By combining Chen's system with Wang, Burges and Platt, then, the first subset of Wang's files to be searched may reasonably be the files that are related to the location of the first audience member (see Platt, [0034], lines 10-16 and [0040], lines 1-12), therefore most popular/recent ones in the user's area, i.e., zip code (see Wang,

[0097], lines 1-14 and Platt, [0034], lines 10-16 and [0040], lines 1-12). Therefore, Chen in view of Wang, Hansen, Burges and Platt reasonably teaches the limitation as claimed.

14. Claims 69 -71 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view Bisdikian et al. (US7779415, hereinafter Bisdikian).

Regarding claim 69, Chen discloses a system for detecting user exposure to media items (see Chen, Fig. 1), comprising:

a server (local servers 104/110, see Chen, Fig. 1 and col 5, lines 24-29), for receiving a plurality of reference media items from at least one media receiver (see Chen, col 6, lines 11-15 and col 14, lines 55-63);

receiving a representation of at least one target media item from at least one client device (see Chen, col 6, lines 11-15);

a stream store (database of local servers 104/110, see Chen, Fig. 1 and col 5, lines 24-29), coupled to the server (see Chen, Fig. 1), for storing a representation of at least a subset of the received reference media items and for storing a representation of the at least one target media item (see Chen, col 6, lines 11-15 and col 16, lines 5-13);

identifying one of the reference media items as corresponding to the target media item (see Chen, col 16, lines 42-52 and col 17, lines 4-6);

an output device (see Chen, Fig. 1), for generating output signaling user exposure to the identified reference media item (see Chen, col 16, lines 42-52 and col 17, lines 4-6); and

a location tracking device (location identification unit 120, see Chen, col 8, line 45 – col 9, line2) for detecting a location for the client device (see Chen, col 8, lines 46-48);

wherein the detected location is correlated with a location of at least one geographically identifiable sponsor of a reference media item (see Chen, col 8, lines 55-57 and col 9, lines 3-8).

And while Chen does disclose that those of skill in the art will understand that any number of such communication devices may be included within the system 100 of the invention (see Chen, col 5, lines 24-29), he does not specifically disclose separate servers to perform steps of the disclosed method.

In an analogous art relating to a system for distributed computing wherein a group of computing devices cooperate to provide a specific service, Bisdikian discloses a distributed computing system wherein each server is responsible for some portion of the overall workload space (see Bisdikian, col 1, lines 42-43 and col 3, lines 6-12), thereby allowing the computational burden to be shared across multiple servers and reducing catastrophic single-point failures.

Therefore, it would have been obvious for a person having ordinary skill in the art to modify Chen's system to include the limitations as taught by Bisdikian for the advantage of allowing the computational burden to be shared, thereby reducing catastrophic single-point failures.

Regarding claim 70, Chen in view of Bisdikian discloses wherein the location tracking server detects the location via at least one selected from the group consisting of: GPS tracking (see Chen, col 8, lines 58-60).

Regarding claim 71, Chen discloses a system for detecting user exposure to media items (see Chen, Fig. 1), comprising:

a server (local servers 104/110, see Chen, Fig. 1 and col 5, lines 24-29), for receiving a plurality of reference media items from at least one media receiver (see Chen, col 6, lines 11-15 and col 14, lines 55-63);

receiving a representation of at least one target media item from at least one client device (see Chen, col 6, lines 11-15);

a stream store (database of local servers 104/110, see Chen, Fig. 1 and col 5, lines 24-29), coupled to the server (see Chen, Fig. 1), for storing a representation of at least a subset of the received reference media items and for storing a representation of the at least one target media item (see Chen, col 6, lines 11-15 and col 16, lines 5-13);

identifying one of the reference media items as corresponding to the target media item (see Chen, col 16, lines 42-52 and col 17, lines 4-6);

an output device (see Chen, Fig. 1), for generating output signaling user exposure to the identified reference media item (see Chen, col 16, lines 42-52 and col 17, lines 4-6);

wherein the plurality of reference media items comprises at least one broadcast (see Chen, col 2, lines 12-20), and

wherein the representation of at least one target media item indicates user exposure at a time other than the time of the broadcast (Chen's submission of the sample itself indicates user exposure, see Chen, col 6, lines 11-15).

And while Chen does disclose that those of skill in the art will understand that any number of such communication devices may be included within the system 100 of the invention

(see Chen, col 5, lines 24-29), he does not specifically disclose separate servers to perform steps of the disclosed method.

In an analogous art relating to a system for distributed computing wherein a group of computing devices cooperate to provide a specific service, Bisdikian discloses a distributed computing system wherein each server is responsible for some portion of the overall workload space (see Bisdikian, col 1, lines 42-43 and col 3, lines 6-12), thereby allowing the computational burden to be shared across multiple servers and reducing catastrophic single-point failures.

Therefore, it would have been obvious for a person having ordinary skill in the art to modify Chen's system to include the limitations as taught by Bisdikian for the advantage of allowing the computational burden to be shared, thereby reducing catastrophic single-point failures.

Regarding claim 74, Chen discloses a system for detecting user exposure to media items (see Chen, Fig. 1), comprising:

a server (local servers 104/110, see Chen, Fig. 1 and col 5, lines 24-29), for receiving a plurality of reference media items from at least one media receiver (see Chen, col 6, lines 11-15 and col 14, lines 55-63);

receiving a representation of at least one target media item from at least one client device (see Chen, col 6, lines 11-15);

a stream store (database of local servers 104/110, see Chen, Fig. 1 and col 5, lines 24-29), coupled to the server (see Chen, Fig. 1), for storing a representation of at least a subset of the

received reference media items and for storing a representation of the at least one target media item (see Chen, col 6, lines 11-15 and col 16, lines 5-13);

identifying one of the reference media items as corresponding to the target media item (see Chen, col 16, lines 42-52 and col 17, lines 4-6);

an output device (see Chen, Fig. 1), for generating output signaling user exposure to the identified reference media item (see Chen, col 16, lines 42-52 and col 17, lines 4-6); and

selecting, based on at least one of load and geographic proximity to the client device, one of the plurality of data signature stream collection servers to receive the representation of at least one target media item (see Chen, col 8, line 58 - col 9, line 2).

And while Chen does disclose that those of skill in the art will understand that any number of such communication devices may be included within the system 100 of the invention (see Chen, col 5, lines 24-29), he does not specifically disclose separate servers to perform steps of the disclosed method.

In an analogous art relating to a system for distributed computing wherein a group of computing devices cooperate to provide a specific service, Bisdikian discloses a distributed computing system wherein each server is responsible for some portion of the overall workload space (see Bisdikian, col 1, lines 42-43 and col 3, lines 6-12), thereby allowing the computational burden to be shared across multiple servers and reducing catastrophic single-point failures.

Therefore, it would have been obvious for a person having ordinary skill in the art to modify Chen's system to include the limitations as taught by Bisdikian for the advantage of

allowing the computational burden to be shared, thereby reducing catastrophic single-point failures.

15. Claims 72-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view of Bisdikian (previously cited) and Barton (of record).

Regarding claim 72, Chen discloses a system for detecting user exposure to media items (see Chen, Fig. 1), comprising:

a server (local servers 104/110, see Chen, Fig. 1 and col 5, lines 24-29), for receiving a plurality of reference media items from at least one media receiver (see Chen, col 6, lines 11-15 and col 14, lines 55-63);

receiving a representation of at least one target media item from at least one client device (see Chen, col 6, lines 11-15);

a stream store (database of local servers 104/110, see Chen, Fig. 1 and col 5, lines 24-29), coupled to the server (see Chen, Fig. 1), for storing a representation of at least a subset of the received reference media items and for storing a representation of the at least one target media item (see Chen, col 6, lines 11-15 and col 16, lines 5-13);

identifying one of the reference media items as corresponding to the target media item (see Chen, col 16, lines 42-52 and col 17, lines 4-6); and

an output device (see Chen, Fig. 1), for generating output signaling user exposure to the identified reference media item (see Chen, col 16, lines 42-52 and col 17, lines 4-6).

Chen does not specifically disclose a purchase tracking server, for receiving consumer purchasing information;

wherein the output device generates a report correlating user purchasing information with user exposure to the identified reference media item.

And while Chen does disclose that those of skill in the art will understand that any number of such communication devices may be included within the system 100 of the invention (see Chen, col 5, lines 24-29), he does not specifically disclose separate servers to perform steps of the disclosed method.

In an analogous art relating to a system for distributed computing wherein a group of computing devices cooperate to provide a specific service, Bisdikian discloses a distributed computing system wherein each server is responsible for some portion of the overall workload space (see Bisdikian, col 1, lines 42-43 and col 3, lines 6-12), thereby allowing the computational burden to be shared across multiple servers and reducing catastrophic single-point failures.

Therefore, it would have been obvious for a person having ordinary skill in the art to modify Chen's system to include the limitations as taught by Bisdikian for the advantage of allowing the computational burden to be shared, thereby reducing catastrophic single-point failures.

Chen in view of Bisdikian does not specifically disclose a purchase tracking server, for receiving consumer purchasing information;

wherein the output device generates a report correlating user purchasing information with user exposure to the identified reference media item.

In an analogous art, Barton discloses a purchase tracking server (see Barton, [0051], lines 14-17), for receiving consumer purchasing information (see Barton, [0046], lines 1-5 and [0051], lines 14-17);

wherein an output device generates a report correlating user purchasing information with user exposure to the identified reference media item (see Barton, [0051], lines 22-30 and [0052], lines 1-5).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Bisdikian to include the limitations as taught by Barton for the advantage of providing an improved, more efficient and more versatile method of content recognition.

Regarding claim 73, Chen in view of Bisdikian and Barton discloses wherein the purchase tracking server receives at least one indication of user use of a credit card (see Barton, [0043], lines 4-7).

16. Claims 75-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Percy et al. (US7038619, hereinafter Percy) in view of Chen (of record).

Regarding claim 75, Percy discloses a method for detecting user exposure to media items (see Percy, col 2, line 46 – col 3, line 10), comprising:

receiving a plurality of reference media items from at least one media source (the user/respondent receives the media items visually/audibly, etc., from the media displays 150, see Percy, col 7, lines 59-64);

for at least one client device (monitoring device 200, see Percy, col 7, lines 54-64):

selecting one of a plurality of data signature stream collection servers (download server 300/post-processing server 400, see Percy, col 7, lines 40-41); and

at the selected data signature stream collection server, receiving, from the client device:

a representation of at least one target media item (identifiers of the specific media displays, see Percy, col 17, lines 40-44);

an indication as to whether the client device is in the physical possession of a person at the time of exposure to the target media item (see Percy, col 12, line 50 – col 13, line 2, col 13, lines 14-27, col 15, lines 1-16 and col 16, lines 10-25); and

responsive to an indication that the client device is in the physical possession of a person at the time of exposure to the target media item (see Percy, col 18, lines 33-35, col 20, line 64 - col 21, line 11 and col 22, lines 43-49):

identifying one of the reference media items as corresponding to the target media item (see Percy, col 8, lines 7-12, col 18, lines 33-35 and col 20, line 64 - col 21, line 11); and

and generating output signaling user exposure to the identified reference media item (see Percy, Fig. 14 #1800-2100 and Figs. 18-21).

Percy does not specifically disclose selecting, based on at least one of load and geographic proximity to the client device, one of the servers.

In an analogous art relating to a system for presenting media and information to a user, Chen discloses selecting, based on at least one of load and geographic proximity to the client device, one of the servers (see Chen, col 8, line 64 – col 9, line 2).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the system of Percy to include the limitations as taught by Chen for the advantage of providing an improved system for measuring media exposure such that music and information may be delivered to a user, while accurate measurements of the user exposure to the media presentations may be obtained in a manner that reduces processing time.

Regarding claim 76, Percy in view of Chen discloses that responsive to an indication that the client device is not in the physical possession of a person at the time of exposure to the target media item, ignoring the representation of the at least one target media item from the client device (see Percy, col 22, lines 43-48 and col 23, lines 2-19).

Regarding claim 77, Percy in view of Chen discloses responsive to an indication that the client device is not in the physical possession of a person at the time of exposure to the target media item: identifying one of the reference media items as corresponding to the target media item; and generating output signaling user exposure to the identified reference media item, wherein the output is flagged as having reduced reliability (Percy discloses that the information flagged as having a reduced reliability is saved for possible future use, but does not specifically disclose that it is output. However, outputting various collected data and information to a user is very common and well known in the art for the advantage of providing the user more complete and accurate results of a study. Therefore, the Examiner takes Official Notice that it would have been obvious to a person having ordinary skill in the art at the time of the invention to output the compiled data, with an indication of reduced reliability in order to provide the user with more accurate and complete results of the conducted study, see Percy, col 23, lines 15-20 and col 24, lines 64-67).

Regarding claim 78, Percy in view of Chen discloses wherein the indication as to whether the client device is in the physical possession of a person is provided based on output of at least one sensor associated with the client device (see Percy, col 12, line 50 – col 13, line 2, col 13, lines 14-27, col 15, lines 1-16 and col 16, lines 10-25).

Regarding claim 79, Percy in view of Chen discloses wherein the at least one sensor detects movement of the client device (see Percy, col 12, line 50 – col 13, line 2, col 13, lines 14-27, col 15, lines 1-16 and col 16, lines 10-25).

17. Claims 80-84 and 89-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Percy (previously cited) in view of Chen (of record) and Bisdikian (previously cited).

Regarding claims 80 and 89, Percy discloses system for detecting user exposure to media items (see Percy, col 2, line 46 – col 3, line 10), comprising:

at least one stream collection server servers (download server 300/post-processing server 400, see Percy, col 7, lines 40-41), for, receiving, from at least one client device:

a representation of at least one target media item from at least one client device (identifiers of the specific media displays, see Percy, col 17, lines 40-44);

an indication as to whether the client device is in the physical possession of a person at a time of exposure to the target media item (see Percy, col 12, line 50 – col 13, line 2, col 13, lines 14-27, col 15, lines 1-16 and col 16, lines 10-25); and

a stream store (database of download server 300/post-processing server 400, see col 8, lines 7-12), coupled to the at least one stream collection server (database of download server 300/post-processing server 400, see col 8, lines 7-12), for:

storing a representation of at least a subset of the received reference media items (see Percy, col 8, lines 7-12); and

responsive to an indication that the client device is in the physical possession of a person at the time of exposure to the target media item, storing a representation of the target media item (see Percy, col 18, lines 33-35, col 20, line 64 - col 21, line 11 and col 22, lines 43-49);

for each stored representation of a target media item, identifying one of the reference media items as corresponding to the target media item (see Percy, col 8, lines 7-12, col 18, lines 33-35 and col 20, line 64 - col 21, line 11); and

an output device, for, for each identified reference media item, generating output signaling user exposure to the identified reference media item (see Percy, Fig. 14 #1800-2100 and Figs. 18-21).

Percy does not specifically disclose a server, for receiving a plurality of reference media items from at least one media receiver; or separate servers to perform steps of the disclosed method.

In an analogous art, Chen discloses a server (local servers 104/110, see Chen, Fig. 1 and col 5, lines 24-29), for receiving a plurality of reference media items from at least one media receiver (see Chen, col 6, lines 11-15 and col 14, lines 55-63).

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the system of Percy to include the limitations as taught by Chen for the advantage of providing an improved system for measuring media exposure such that music and information may be delivered to a user, while accurate measurements of the user exposure to the media presentations may be obtained in a manner that reduces processing time.

And while both Percy and Chen does disclose that those of skill in the art will understand that any number of such communication devices may be included within the system 100 of the invention (see Percy, col 7, lines 35-40 and Chen, col 5, lines 24-29), neither specifically discloses separate servers to perform steps of the disclosed method.

In an analogous art, Bisdikian discloses a distributed computing system wherein each server is responsible for some portion of the overall workload space (see Bisdikian, col 1, lines 42-43 and col 3, lines 6-12), thereby allowing the computational burden to be shared across multiple servers and reducing catastrophic single-point failures.

Therefore, it would have been obvious for a person having ordinary skill in the art to modify the system of Percy in view of Chen to include the limitations as taught by Bisdikian for the advantage of allowing the computational burden to be shared, thereby reducing catastrophic single-point failures.

Regarding claim 81, Percy in view of Chen and Bisdikian discloses wherein the stream store: responsive to an indication that the client device is not in the physical possession of a person at the time of exposure to the target media item, ignores the representation of the target media item (see Percy, col 22, lines 43-48 and col 23, lines 2-19).

Regarding claim 82, wherein, Percy in view of Chen and Bisdikian discloses responsive to an indication that the client device is not in the physical possession of a person at the time of exposure to the target media item: the stream store stores a representation of the target media item and an indication of reduced reliability of the stored representation; the correlator server identifies one of the reference media items as corresponding to the target media item; and the output device, generates output signaling user exposure to the identified reference media item and indicates reduced reliability of the indication of user exposure (Percy discloses that the information flagged as having a reduced reliability is saved for possible future use, but does not specifically disclose that it is output. However, outputting various collected data and information to a user is very common and well known in the art for the advantage of providing the user more complete and accurate results of a study. Therefore, the Examiner takes Official Notice that it would have been obvious to a person having ordinary skill in the art at the time of the invention to output the compiled data, with an indication of reduced reliability in order to provide the user with more accurate and complete results of the conducted study, see Percy, col 23, lines 15-20 and col 24, lines 64-67).

Regarding claims 83 and 90, Percy in view of Chen and Bisdikian discloses wherein the indication as to whether the client device is in the physical possession of a person is provided based on output of at least one sensor associated with the client device (see Percy, col 12, line 50 – col 13, line 2, col 13, lines 14-27, col 15, lines 1-16 and col 16, lines 10-25).

Regarding claims 84 and 91, Percy in view of Chen and Bisdikian discloses wherein the at least one sensor detects movement of the client device (see Percy, col 12, line 50 – col 13, line 2, col 13, lines 14-27, col 15, lines 1-16 and col 16, lines 10-25).

18. Claim 87 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (of record) in view of Barton (of record) and Burges (previously cited).

Regarding claim 87, Chen discloses a system for measuring audience member exposure to media content (see Chen, Fig. 1), comprising:

an interface (see Chen, Fig. 1) for receiving a plurality of known media content (see Chen, col 6, lines 11-15 and col 14, lines 55-63) from at least one media broadcast (see Chen, col 2, lines 12-20);

a sample control processor (see Chen, Fig. 1 and col 5, lines 24-29) for receiving a representation of monitored media from at least one audience member monitoring device (see Chen, col 6, lines 11-15); and

a content recognition system, coupled to the interface and to the sample control processor (see Chen, Fig. 1), for storing a representation of at least a subset of the known media content and for storing a representation of the monitored media (see Chen, col 6, lines 11-15 and col 16, lines 5-13);

wherein the content recognition system identifies one of the known media content as corresponding to the monitored media (see Chen, col 16, lines 42-52 and col 17, lines 4-6);

wherein the plurality of known media content comprises at least one broadcast (see Chen, col 2, lines 12-20).

Chen does not specifically disclose a report generator, coupled to the content recognition system, for generating output signaling audience member exposure to the identified known media content,

wherein the representation of the monitored media indicates audience member exposure at a time other than the time of the broadcast.

In an analogous art, Barton discloses a report generator, coupled to the content recognition system, for generating output signaling audience member exposure to the identified known media content (see Barton, [0138], lines 1-6).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Barton for the advantage of providing an improved, more efficient and more versatile method of content recognition.

Chen in view of Barton does not specifically disclose wherein the representation of the monitored media indicates audience member exposure at a time other than the time of the broadcast.

In an analogous art, Burges discloses wherein the representation of the monitored media indicates audience member exposure at a time other than the time of the broadcast (Burges discloses that his media objects are stored with extra identification information, such as time stamps indicating the date and time the object occurred in a media stream {see Burges, [0052], lines 10-16}. Therefore, the submitted sample of Chen in view of Barton and Burges' system would include time stamp information, which would indicate when/if the user has been exposed to the media. Therefore, the limitations as claimed are met.

It would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Barton to include the limitations as taught by Burges for the advantage of providing an improved system for recognizing content and inferring

extensive and comprehensive information about the content such that a user has more options for managing the content.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHENEA P. SMITH whose telephone number is (571)272-9524. The examiner can normally be reached on 8:00 am - 4:00 pm, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Supervisory Patent Examiner, Art Unit 2421

/TIMOTHY P. CALLAHAN/
Director, Technology Center 2400

/CHENEA P SMITH/
Examiner, Art Unit 2421

Notice of References Cited	Application/Control No. 11/139,330	Applicant(s)/Patent Under Reexamination STEUER ET AL.	
	Examiner CHENEA P. SMITH	Art Unit 2421	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0038456	03-2002	Hansen et al.	725/46
*	B	US-2005/0086682	04-2005	Burges et al.	725/019
*	C	US-2003/0009469	01-2003	Platt et al.	707/100
*	D	US-2004/0001161	01-2004	Herley, Cormac	348/465
*	E	US-7,779,415	08-2010	Bisdikian et al.	718/105
*	F	US-7,038,619	05-2006	Percy et al.	342/357.52
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	**Art Unit**
	Chenea Smith	2421

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008	03/30/2009	11/20/2009	06/04/2010	05/02/2011				
	1	✓	✓	✓	✓	✓				
	2	✓	✓	✓	✓	✓				
	3	✓	✓	✓	✓	✓				
	4	✓	✓	✓	✓	✓				
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	7	✓	✓	✓	✓	✓				
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	36	N	N	-	-	-				

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	**Art Unit**
	Chenea Smith	2421

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008	03/30/2009	11/20/2009	06/04/2010	05/02/2011				
	37	N	N	-	-	-				
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	50	N	N	-	-	-				
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	69					✓				
	70					✓				
	71					✓				
	72					✓				

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☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008	03/30/2009	11/20/2009	06/04/2010	05/02/2011				
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	87					✓				
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	89					✓				
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	91					✓				
	92					✓				
	93					✓				

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	0	separat$3 with (device$1 machine$1 server$1) with (each near2 process$2) with (efficiency quality bandwidth load$1 burden $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:04
S2	0	separat$3 with (device$1 machine$1 server$1) with (each with process$2) with (efficiency quality bandwidth load$1 burden $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:04
S3	0	(multiple$1 plural$3) with (device$1 machine$1 server $1) with (each with process $2) with (efficiency quality bandwidth load$1 burden $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:05
S4	72305	(multiple$1 plural$3) with (device$1 machine$1 server $1)with (efficiency quality bandwidth load$1 burden $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:05
S5	72305	(multiple$1 plural$3) with (device$1 machine$1 server $1) with (efficiency quality bandwidth load$1 burden $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:06
S6	14764994	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:06
S7	34958	S5 and S6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:06
S8	27183	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:06

S9	400	S7 and S8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:07
S10	23559	((multiple$1 plural$3) near2 (device$1 machine $1 server$1)) with (efficiency quality bandwidth load$1 burden $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:07
S11	11339	S6 and S10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:07
S12	141	S8 and S11	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:07
S13	3	S12 and servers.ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:07
S14	3784	((multiple$1 plural$3) near server$1) with (efficiency quality bandwidth load$1 burden$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:09
S15	1720	S6 and S14	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:09
S16	36	S8 and S15	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:09
S17	140	((multiple multiples plural $3) near server$1) with ((efficiency quality) with load$1 burden$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:10
S18	70	S6 and S17	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:10

S19	1	11/139330.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/26 11:21
S20	1	"2001004734".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 10:52
S21	1	"20010034734".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 10:52
S22	14764994	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 10:59
S23	11990	(recogniz$6 identif$8) with (music)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 10:59
S24	4936	S22 and S23	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:00
S25	141	S24 and biometric$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:00
S26	72	S25 and (presence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:00
S27	2199	((reduc$3 decreas$3) with qualit$3) with presence	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:01
S28	0	S25 and S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:01

S29	0	S23 and S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:01
S30	1238	S22 and S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:01
S31	27183	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:01
S32	1	S30 and S31	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:01
S33	6675	((reduc$3 decreas$3 alter $3 chang$3) with (parameter$1 qualit$3)) with presence	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:02
S34	0	S25 and S33	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:02
S35	7	S23 and S33	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:02
S36	3	S22 and S35	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:03
S37	15	S25 and ((presence absence) with (physical$3 person))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:04
S38	0	((reduc$3 decreas$3 alter $3 chang$3) with (parameter$1 qualit$3)) with (pysical near (presence absence))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:08

S39	16	((reduc$3 decreas$3 alter $3 chang$3) with (parameter$1 qualit$3)) with (physical near (presence absence))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:08
S40	15488260	S39 ad S22	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:09
S41	8	S39 and S22	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:09
S42	73567	((reduc$3 decreas$3 alter $3 chang$3) with (parameter$1 qualit$3) with (signal media content $1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:11
S43	27275	((reduc$3 decreas$3) with (qualit$3) with (signal media content$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:11
S44	5	((reduc$3 decreas$3) with (qualit$3) with (signal media content$1)) with ((physical$3 person) with (present presence absent absence))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:12
S45	5	S22 and S44	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:12
S46	17	((reduc$3 decreas$3) with (qualit$3) with (signal media content$1)) with ((physical$3 person viewer user) with (present presence absent absence proximity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:13
S47	14	S22 and S46	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:13

S48	1116	((reduc$3 decreas$3) with (qualit$3) with (signal media content$1)) and ((physical$3 person viewer user) with (present presence absent absence proximity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:14
S49	13743	S22 and S31	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:14
S50	15	S48 and S49	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:14
S51	296	((reduc$3 decreas$3) with (qualit$3) with (signal media content$1)) and ((physical$3 person viewer user) near (present presence absent absence proximity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:15
S52	8	S49 and S51	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:16
S53	44	(((reduc$3 decreas$3 increas$3) near (qualit$3)) with (signal media content $1)) and ((physical$3 person viewer user) near (present presence absent absence proximity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:17
S54	15488269	S22 ad S53	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:17
S55	15	S22 and S53	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:17
S56	569	((recogniz$6 identif$8) with (music)) and ((physical $3 person viewer user) near (present presence absent absence proximity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:19

S57	125	S22 and S56	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:19
S58	11	S31 and S57	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:20
S59	1	(audience near measur$5) with ((physical$3 person viewer user) near (present presence absent absence proximity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:22
S60	21	((recogniz$6 identif$8 measur$5) with (music)) and ((touch$3 near sens $3) with (select$3 request $3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:24
S61	2	S60 and S22	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:24
S62	4629	(mistake$3 accident$2) near (touch$3 request$3 select$3 press$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:25
S63	14112	(recogniz$6 identif$8 measur$5) with (music)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:25
S64	22	S62 and S63	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:25
S65	9	S64 and S22	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:26
S66	1314	(detect$3 with (physical$3) with captur$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:29

S67	497	S22 and S66	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:29
S68	3	S31 and S67	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:29
S69	19415	(detect$3 sens$3) with (user viewer) with touch$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:30
S70	3269	(media music) near captur $3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:30
S71	122	S69 and S70	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:30
S72	5	S22 and S71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:30
S73	208	activat$3 with (media music) with captur$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:36
S74	15142	(detect$3 sens$3) with presence with (viewer$1 user$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:37
S75	4	S73 and S74	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:37
S76	1	S22 and S75	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:37

S77	19542	(media music) with captur $3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:38
S78	553	S74 and S77	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:38
S79	76	S22 and S78	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:38
S80	4023	(detect$3 sens$3) near2 presence near2 (viewer$1 user$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:39
S81	3269	(media music) near captur $3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:39
S82	8	S80 and S81	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:39
S83	2	S22 and S82	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:39
S84	12	(check$3 with activat$3 with (intent$4 intend$3)) and ((detect$3 sens$3) near presence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:43
S85	8	S84 and S22	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:43
S86	1225	(check$3 with (intent$4 intend$3)) and ((detect$3 sens$3) near presence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:45

S87	21	(check$3 with (intent$4 intend$3))with ((detect$3 sens$3) near presence)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:45
S88	5	S22 and S87	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:45
S89	2	(check$3 with (intent$4 intend$3)) with ((detect$3 sens$3) with presence with person$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:46
S90	0	((check$3 detect$3 sens $3) with presence with person$1) with ((fulfill$3 respond$3 complet3) near request$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:47
S91	0	((check$3 detect$3 sens $3) with presence with person$1) with ((compliance comply$3 fulfill$3 respond$3 complet3) near request$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:48
S92	0	((check$3 detect$3 sens $3) with presence with person$1) with ((continue compliance comply$3 fulfill $3 respond$3 complet3) near request$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:48
S93	155	((check$3 detect$3 sens $3) with presence with person$1) and ((continu$3 compliance comply$3 fulfill $3 respond$3 complet3) near request$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:48
S94	66	S22 and S93	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 11:48
S95	1	"7444353".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:27
S96	83	determin$5 with (physical $3 near possess$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:34

S97	14764994	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:35
S98	37	S96 and S97	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:35
S99	27183	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:35
S100	176250	"455".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:35
S101	2	S98 and (S99 S100)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:35
S102	276	((proof prove$1 proving) with listen$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:44
S103	1	S102 and biometric$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:45
S104	0	S97 and S103	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:45
S105	47	S102 and (sens$3 detect $3) with (presence temperature$1 movement $1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:46
S106	47	S102 and ((sens$3 detect $3) with (presence temperature$1 movement $1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:46

S107	27	S106 and S97	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:46
S108	5337	((proof prove$1 proving determin$6) near3 listen $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:47
S109	5657144	((proof prove$1 proving determin$6) withlisten$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:47
S110	13773	((proof prove$1 proving determin$6) with listen$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:47
S111	2836	S110 and ((sens$3 detect $3) with (presence temperature$1 movement $1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:47
S112	1357	S97 and S111	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:47
S113	42	S112 and S99	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:48
S114	6238	((proof prove$1 proving determin$6) with listening)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:53
S115	2826	S97 and S114	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:53
S116	0	S115 and ((sens$3 detect $3) with (physical near presence) with (temperature$1 movement $1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:54

S117	49	((sens$3 detect$3) with (physical near presence) with (temperature$1 movement$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:55
S118	340365	S97 and "203"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:56
S119	18	S97 and S117	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/27 14:56

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PTO/SB/08a (07-09)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	11/139,330
Filing Date	May 26, 2005
First Named Inventor	Jonathan S. Steuer
Art Unit	2426
Examiner Name	Chenea Smith
Attorney Docket Number	10004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US- 5,437,050	07-25-1995	Lamb et al.	
	2	US- 2003/0009469	01-09-2003	Platt et al.	
	3	US- 2004/0001161	01-01-2004	Herley, Cormac	
	4	US- 2005/0086682	04-21-2005	Burges et al.	
	5	US- 2007/0143777	06-21-2007	Wang, Avery Li-Chun	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature	/Chenea Smith/	Date Considered	04/26/2011

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.S./

PTO/SB/08a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	11/139,330
Filing Date	May 26, 2005
First Named Inventor	Jonathan S. Steuer
Art Unit	2426
Examiner Name	Chenea Smith
Attorney Docket Number	10004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US- 5095382	03-10-1992	Abe, Kesasku	
	2	US- 5512933	04-30-1996	Wheatley et al.	
	3	US- 7483975	01-27-2009	Kolessar et al.	
	4	US- 2002/0038456	03-28-2002	Hansen et al.	
	5	US- 2002/0083060	06-27-2002	Wang et al.	
	6	US- 2004/0224638	11-11-2004	Fadell et al.	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature	/Chenea Smith/	Date Considered	04/26/2011

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.S./

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	14765036	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:12
S2	28	(determin$6 with (user near activat$3)) same ((sens$3 detect$3) with (temperature$1 vibrat$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:14
S3	15	S1 and S2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:14
S4	224	(determin$6 with (user near activat$3)) and ((sens $3 detect$3) with (temperature$1 vibrat$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:14
S5	13	(determin$6 with (user near activat$3)) and ((sens $3 detect$3) with (body near (temperature$1 vibrat $3)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:15
S6	11	(determin$6 with (user near activat$3)) and ((sens $3 detect$3) with (body near (temperature$1)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:15
S7	1	S1 and S6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:16
S8	187	(determin$6 with (user near activat$3)) and ((sens $3 detect$3) with temperature$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:16
S9	67	S1 and S8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:16

S10	27224	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:16
S11	0	S9 and S10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:16
S12	176372	"455".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:16
S13	3	S9 and S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:17
S14	411	(confirm$$6 with (user near activat$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:18
S15	157	S1 and S14	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:18
S16	9	S10 and S15	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:18
S17	411	(confirm$6 with (user near activat$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:18
S18	772	(confirm$6 with ((user$1 viewer$1) near2 activat $3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:19
S19	292	S1 and S18	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:19

S20	13404	(recogniz$6 identif$8) near (music media)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:19
S21	3	S19 and S20	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:19
S22	290	(confirm$6 near2 ((user$1 viewer$1) near2 activat $3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:20
S23	3	S20 and S22	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:20
S24	0	S1 and S23	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:20
S25	96	S1 and S22	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:20
S26	0	S23 and (S10 S12)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:21
S27	22	S25 and (S10 S12)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:21
S28	12546	(confirm$6 with (user$1 viewer$1) with (request$1 activat$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:24
S29	5422	S1 and S28	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:24

S30	1873	(recogniz$6 identif$8) near (music)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:24
S31	22	S29 and S30	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:24
S32	2735	(confirm$6 near2 (user$1 viewer$1) near2 (request $1 activat$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:30
S33	1125	S1 and S32	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:30
S34	233	S33 and (((key$1 button $1) near press$3) (device near temperature$1) (device near (vibratiion$1 movement$1)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:31
S35	56	S34 and secure	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:32
S36	3	(confirm$6 near2 (user$1 viewer$1) near2 (request $1 activat$3)) and (conserv $5 near bandwidth)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:35
S37	2	S1 and S36	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:35
S38	15	(confirm$6 with (user$1 viewer$1) with (request$1 activat$3)) and (conserv$5 near bandwidth)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:36
S39	8	S1 and S38	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:36

S40	1	(determin$6 with (mistake $1 erroneous) with (request$1 activation$1)) and (conserv$5 with bandwidth)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:39
S41	261	(determin$6 with (mistake $1 erroneous) with (request$1 activation$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:40
S42	353	((confirm$6 determin$6) with (mistake$1 erroneous) with (request $1 activation$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:40
S43	181	S1 and S42	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:40
S44	4	S32 and S43	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:40
S45	22	((confirm$6 determin$6) near2 (mistake$1 erroneous) near2 (request $1 activation$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:42
S46	30	((confirm$6 determin$6) near2 (mistake$1 erroneous) near2 (request $1 activat$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:42
S47	20	S1 and S46	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:42
S48	9	((mistake$1 erroneous) near2 (request$1 activat $4)) and (confirm$6 near2 ((user$1 viewer$1) near2 (request$1 activat$3)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:44
S49	2	S1 and S48	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:44

S50	122	((mistake$1 erroneous) with (request$1 activat $4)) and (confirm$6 with ((user$1 viewer$1) with (request$1 activat$3)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:45
S51	64	S1 and S50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:45
S52	0	S51 and S10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:45
S53	2	S51 and bandwidth	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 09:46
S54	1312	(monitor$1 measur$6) with (audio media) with expos$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 10:06
S55	5	S54 and (physical near (presence possession))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 10:06
S56	0	S55 and S1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 10:06
S57	30	S54 and (physical with (presence possession))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 10:06
S58	13	S1 and S57	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 10:07
S59	215	S54 and ((sens$3 detect$3 determin$6) with (audience $1 person$1 listener$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 10:08

S60	48	S1 and S59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 10:09
S61	27	S60 and (temperature vibration$1 movement$1 ((key$1 button$1) near press$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 10:11
S62	12	S60 and (temperature)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/04/28 10:11

5/ 2/ 2011 10:04:30 AM

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
	Chenea Smith	2421

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST search included - see search results printout	5/2/2011 2:11:58 PM	CS
Updated Inventor search, see search results printout	5/2/2011 2:12:00 PM	CS
725/$$, 455/$$- text search only, see search results printout	5/2/2011 2:12:03 PM	CS

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/CHENEA P SMITH/ Examiner.Art Unit 2421	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S2	14763054	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:43
S3	26668	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:44
S4	13664	S2 and S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:44
S5	422	determin$6 with physical $2 with possess$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:52
S6	0	S4 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:52
S7	200	S2 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:52
S8	174056	"455".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:53
S9	3	S7 and S8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:53
S10	303421	(media with measur$6) ((audio music content$1 media song$2) with (identif $8 recogni$7))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:55

S11	53	S5 and S10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:55
S12	21	S2 and S11	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:55
S13	199287	S3 S8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:55
S14	0	S12 and S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 09:55
S15	23	("20020010919" | "20020010919" | "20020038456" | "20020059577" | "20020072982" | "20020072982" | "20020083060" | "20020161741" | "20040122679" | "20040224638" | "20060059277" | "3919479" | "4677466" | "4697209" | "5095382" | "5512933" | "5594934" | "5758257" | "5778137" | "5945988" | "6513161" | "6990453" | "7444353" | "7483975").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:13
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S17	26	S15 S16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:15
S18	12	S17 and sens$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:16
S19	2	11/216543.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:24
S20	1	S19 and possession$1.clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:24
S21	6173	(captur$3 monitor$3) with (audio music content$1 media song$2) with (presence present vicinit$3 audienc$2 possess$3 physical$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:38
S22	2682	S2 and S21	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:38
S23	254	S13 and S22	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:38
S24	121	S23 and S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:39
S25	143	S23 and S8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:39
S26	97	S25 and sens$5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:40

S27	17	S25 and (sens$5 with (presence$1 possession $1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:40
S28	17	S25 and (sens$5 with (presence$1 possess$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:41
S29	94	S25 and sens$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 10:45
S30	1	"4630108".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:15
S31	1	"4626904".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:15
S32	1	S31 and sens$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:16
S33	1	"7395062".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:22
S34	0	S33 and ("not" near carr $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:32
S35	0	S33 and ("not" adj carr$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:33
S36	0	S33 and "not"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:33

S37	0	S33 and "not carried"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:34
S38	0	S33 and (no$1 adj carr$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:34
S39	1	S33 and (no$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:35
S40	0	S33 and ("not")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:36
S41	1	S33 and "carried"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:36
S42	0	S33 and "presence of the transponder"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:36
S43	6264	(detect$3 sens$3 determin $6) with presence with (resolution qualit$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:37
S44	6280	(detect$3 sens$3 determin $6) with presence with (resolution$1 qualit$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:37
S45	11	S4 and S44	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:38
S46	225	((detect$3 sens$3 determin $6) with (physical$3 with presence)) same (resolution qualit$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:39

S47	0	S4 and S46	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:40
S48	1240	(physical$3 with presence) same (resolution qualit$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:40
S49	2	S4 and S48	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:40
S50	2698	(physical$3 with (presence possess$4)) same (resolution qualit$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:41
S51	25586	(physical$3 with (presence possess$4)) and (resolution qualit$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:41
S52	27	S4 and S51	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:41
S53	27521	(physical$3 with (presen$2 possess$4)) and (resolution qualit$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:42
S54	1078	(physical$3 with (presen$2 possess$4)) with (resolution qualit$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:42
S55	0	S4 and S54	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:42
S56	5	S7 and S54	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 11:43

S57	35636	((wear$3 carry$3 remov $3) (tak$3 near off)) with (physical$3 person$1 body bodies head$1) with (sens $3 detect$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 12:04
S58	26	S4 and S57	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 12:05
S59	2906	S57 and (reduc$3 decreas $3) with (reliab$7 resolution$1 qualit$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 12:16
S60	2906	S57 and ((reduc$3 decreas $3) with (reliab$7 resolution$1 qualit$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 12:16
S61	1442	S2 and S60	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 12:16
S62	3	S61 and S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 12:17
S63	13	S61 and S8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 12:17
S64	16	S62 S63	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 12:17

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L9	1731	725/9-21.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:12
L10	14763054	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:12
L11	883	9 and 10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:13
L12	0	11 and ((user$1 person$1 human$1) with (wear$3 carry$3) with (remov$3 (tak$3 near off)) with (sampl$3 captur$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:14
L13	57	((user$1 person$1 human $1) with (wear$3 carry$3) with (remov$3 (tak$3 near off)) with (sampl$3 captur $3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:14
L14	32	10 and 13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:14
L15	2877	((user$1 person$1 human $1) with (wear$3 carry$3) with (sampl$3 captur$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:15
L16	4	11 and 15	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:15
L17	16	11 and (captur$3 with sampl$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:16

L18	12	17 and (wear$3 carry$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:17
L19	5533310	(remov$3 (tak$3 near off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:17
L20	3	18 and 19	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:17
L21	174056	"455".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:22
L22	90364	10 and 21	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:22
L23	262	22 and (captur$3 with sampl$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:22
L24	140	23 and (wear$3 carry$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:22
L25	77	24 and 19	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:22
L26	2	15 and 25	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	OFF	2011/03/07 15:23

3/ 7/ 2011 3:25:26 PM

PTO/SB/08a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	11/139,330
Filing Date	May 26, 2005
First Named Inventor	Jonathan S. Steuer
Art Unit	2426
Examiner Name	Chenea Smith
Attorney Docket Number	10004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US- 5,437,050	07-25-1995	Lamb et al.	
	2	US- 2003/0009469	01-09-2003	Platt et al.	
	3	US- 2004/0001161	01-01-2004	Herley, Cormac	
	4	US- 2005/0086682	04-21-2005	Burges et al.	
	5	US- 2007/0143777	06-21-2007	Wang, Avery Li-Chun	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Acknowledgement Receipt	
EFS ID:	9790036
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	01-APR-2011
Filing Date:	26-MAY-2005
Time Stamp:	12:43:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1000420001SIDS4.pdf	57045 be3c5447a502def9650480c79a2dc82c1b0e9c59	yes	5

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	4
	Information Disclosure Statement (IDS) Filed (SB/08)	5	5
Warnings:			
Information:			
	Total Files Size (in bytes):	57045	

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT
Docket No. 10004-2000100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:	Examiner: Chenea Smith
Jonathan S. Steuer et al.	Group Art Unit: 2426
Serial No.: 11/139,330	
Filing Date: May 26, 2005	
For: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD	

INFORMATION DISCLOSURE STATEMENT – FOURTH SUPPLEMENTAL UNDER 37 C.F.R. § 1.97 & § 1.98

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO/SB/08A. The Examiner is requested to make this document of record.

This Information Disclosure Statement is submitted:

☐ With the application OR This Information Disclosure Statement is submitted before the mailing of a first Office action after the filing of a Request for Continued Examination under § 1.114 (filed concurrently herewith) in accordance with § 1.97(b)(4); accordingly, no fee or separate requirements are required .

☐ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

☒ **After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.**

☐ The fee set forth in 37 CFR 1.17p is paid herewith.

☒ **A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly, no fee is believed to be due.**

☐ each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement.

☒ **no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.**

☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.

☐ The fee set forth in 37 C.F.R. § 1.17p is paid herewith and a Certification under 37 C.F.R. § 1.97(e) is provided below:

☐ each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement.

☐ no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.

Applicants would appreciate the Examiner initialing and returning the PTO/SB/08A, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees under 37 CFR 1.16 and 1.17 which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: March 31, 2011

Respectfully submitted,

By: _____
Michael Mauriel
Reg. No. 44,226

Mauriel Kapouytian & Treffert LLP
151 First Avenue #23
New York, NY 10003
Telephone: (212) 529-5131
Facsimile: (212) 529-5132

PTO/SB/80 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 51417

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

Assignee Name and Address:
Anonymous Media Research, LLC
72 E. 3rd St., Suite 1B, NY, NY 10003

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record
The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	1 DEC 2010
Name	Jonathan S. Steuer	Telephone	866 295 2661
Title	MANAGER & CEO		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Acknowledgement Receipt	
EFS ID:	9066787
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	17-DEC-2010
Filing Date:	26-MAY-2005
Time Stamp:	17:52:38
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73(b).	1000420001Statement373b.pdf	344450 2ceb6d270e0ccedecb7f1050e2dd395bad908c7a	no	3
Warnings:					
Information:					

2	Power of Attorney	1000420001POA.pdf	163821 5ad6f0573adc8f0e42a698a4fa67eb92ce2add12	no	1

Warnings:	
Information:	
Total Files Size (in bytes):	508271

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/96 (07-09)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Jonathan S. Steuer et al.

Application No./Patent No.: 11/139,330 Filed/Issue Date: May 26, 2005

Titled: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Anonymous Media Research, LLC , a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.

states that it is:

1. [X] the assignee of the entire right, title, and interest in;

2. [ ] an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. [ ] the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. [ ] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy therefore is attached.

OR

B. [X] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Jonathan S. Steuer and Christopher W. Otto To: Anonymous Media, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 016861, Frame 0088, or for which a copy thereof is attached.

2. From: Anonymous Media, LLC To: Anonymous Media Research, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

[ ] Additional documents in the chain of title are listed on a supplemental sheet(s).

[ ] As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature	December 16, 2010 Date
Michael Mauriel, Reg. No. 44,226 Printed or Typed Name	Attorney for Applicants Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

COPY

ASSIGNMENT

THIS ASSIGNMENT, by Anonymous Media LLC, a limited liability company organized under the laws of Delaware and having its registered office at 72 East 3rd Street, Apartment 2B, New York, NY 10003-0206 (hereinafter referred to as the "assignor") witnesseth:

WHEREAS, said assignor is the owner, by prior assignment from the inventors, of certain patent applications for Letters Patent for a Media Usage Monitoring and Measurement System, including at least the following applications:

COUNTRY	APPLICATION NUMBER	FILING DATE
US	11/139,330	May 26, 2005
US	12/283,353	September 11, 2008
US	12/283,354	September 11, 2008
US	12/283,332	September 11, 2008
US	12/283,355	September 11, 2008
US	12/283,333	September 11, 2008
US	12/954,604	November 24, 2010
PCT	PCT/US05/18934	May 27, 2005
EP	05755114.5	May 27, 2005
AU	2005251196	May 27, 2005

(collectively, "The Patent Applications").

WHEREAS, Anonymous Media Research LLC, a limited liability company organized under the laws of Delawarea and having a place of business at 72 East 3rd Street, Apartment 2B, New York, NY 10003-0206 (hereinafter referred to as the "assignee") is desirous of confirming its acquisition of the entire right, title and interest in and to The Patent Applications, and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar ($1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignor has sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to The Patent Applications for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would has been held and enjoyed by the assignor, had this sale and assignment not been made.

AND for the same consideration, said assignor hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignor are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignor have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignor hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignor will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation in part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignor hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

Assignor has caused this Patent Assignment to be duly executed by a duly authorized representative on its behalf:

ANONYMOUS MEDIA, LLC

By: _____ Date: 1 DEC 2010

Jonathan Steuer, Manager

PTO/SB/08a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	11/139,330
Filing Date	May 26, 2005
First Named Inventor	Jonathan S. Steuer
Art Unit	2426
Examiner Name	Chenea Smith
Attorney Docket Number	10004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US- 5095382	03-10-1992	Abe, Kesasku	
	2	US- 5512933	04-30-1996	Wheatley et al.	
	3	US- 7483975	01-27-2009	Kolessar et al.	
	4	US- 2002/0038456	03-28-2002	Hansen et al.	
	5	US- 2002/0083060	06-27-2002	Wang et al.	
	6	US- 2004/0224638	11-11-2004	Fadell et al.	
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Electronic Acknowledgement Receipt	
EFS ID:	9030839
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	14-DEC-2010
Filing Date:	26-MAY-2005
Time Stamp:	14:50:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1000420001SIDS3.pdf	413213 c460e80520a097fd12e18ca9e1b60b25de889958	yes	5

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Transmittal Letter	1	4
	Information Disclosure Statement (IDS) Filed (SB/08)	5	5
Warnings:			
Information:			
	Total Files Size (in bytes):	413213	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT
Docket No. 10004-2000100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:	Examiner: Chenea Smith
Jonathan S. Steuer et al.	Group Art Unit: 2426
Serial No.: 11/139,330	
Filing Date: May 26, 2005	
For: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD	

INFORMATION DISCLOSURE STATEMENT – THIRD SUPPLEMENTAL UNDER 37 C.F.R. § 1.97 & § 1.98

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Form PTO/SB/08A. The Examiner is requested to make this document of record.

This Information Disclosure Statement is submitted:

☐ With the application OR This Information Disclosure Statement is submitted before the mailing of a first Office action after the filing of a Request for Continued Examination under § 1.114 (filed concurrently herewith) in accordance with § 1.97(b)(4); accordingly, no fee or separate requirements are required .

☐ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

☒ **After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.**

☐ The fee set forth in 37 CFR 1.17p is paid herewith.

☒ **A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly, no fee is believed to be due.**

☐ each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement.

☒ **no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.**

☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.

☐ The fee set forth in 37 C.F.R. § 1.17p is paid herewith and a Certification under 37 C.F.R. § 1.97(e) is provided below:

☐ each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart

foreign application not more than three months prior to the filing of the information disclosure statement.

☐ no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.

Applicants would appreciate the Examiner initialing and returning the PTO/SB/08A, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees under 37 CFR 1.16 and 1.17 which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: December 14, 2010

Respectfully submitted,

By: _____

Michael Mauriel
Reg. No. 44,226

Mauriel Kapouytian & Treffert LLP
151 First Avenue #23
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Telephone: (212) 529-5131
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Attorney Docket No.: 10004-2000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:
Jonathan STEUER et al.

Application No.: 11/139,330

Group Art Unit: 2426

Filing Date: May 26, 2005

Examiner: C. Smith

Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

SUPPLEMENTAL AMENDMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Applicants respectfully submit this Supplemental Amendment in addition to the Response to Non-Final Office Action filed on October 22, 2010.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 19 of this paper.

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows, where additions are underlined and deletions are indicated by ~~strikethrough~~ or enclosed in [[double brackets]]:

Claim 1 (Previously Presented): A media measurement method comprising:

receiving, at one or more computers, data samples for content recognition against known media content, the data samples being received from a monitoring device of an audience member, the data samples corresponding to portions of audio data captured at the monitoring device; and

using audience data at the one or more computers to enhance content identification of a received sample, the audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device.

Claim 2 (Previously Presented): The method of claim 1 wherein:

the audience data further includes a media consumption pattern of the audience member and;

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 3 (Previously Presented): The method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the received sample against a larger portion of the known content.

Claim 4 (Previously Presented): The method of claim 1 wherein:

the audience data further includes a media consumption pattern of the audience member;

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member; and

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 5 (Previously Presented): The method of claim 1 wherein:

using audience data comprises performing an identification attempt by testing a received sample against a portion of the known content related to the location of the audience member.

Claim 6 (Previously Presented): The method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 7 (Previously Presented): The method of claim 1 further comprising:

generating a raw play stream, the raw play stream comprising a series of content identification results obtained from a series of received samples; and

using audience data to scrub the raw play stream by analyzing known content related to the location of the audience member at the time at which the audio data was captured at the monitoring device.

Claim 8 (Previously Presented): The method of claim 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 9 (Original): The method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

Claim 10 (Original): The method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm.

Claim 11 (Original): The method of claim 9 wherein an expected content type includes absence of recognized content.

Claim 12 (Original): The method of claim 9 wherein an expected content type includes music audio.

Claim 13 (Original): The method of claim 9 wherein an expected content type includes voice audio.

Claim 14 (Original): The method of claim 9 wherein an expected content type includes music, voice and sound effect audio.

Claims 15-53 (Canceled).

Claim 54 (Previously Presented): A computer program product for measuring media usage, the computer program product comprising executable instruction code in a tangible non-transitory electronically readable medium for at least:

receiving, at one or more computers, data samples for content recognition against known media content, the data samples being received from a monitoring device of an audience member, the data samples corresponding to portions of audio data captured at the monitoring device; and

using audience data at the one or more computers to enhance content identification of a received sample, the audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device.

Claim 55 (Previously Presented). The computer program product of claim 54 wherein audience data further includes a media consumption patter of the audience member and the executable instruction code is also for at least:

performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 56 (Previously Presented). The computer program product of claim 54 wherein the audience data further includes a media consumption pattern of the audience member and the executable instruction code is also for at least:

determining the media consumption pattern of the audience member by using a media consumption pattern of persons sharing characteristics of the audience member; and

performing an identification attempt by testing a received sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 57 (Original): The computer program product of claim 54 wherein the executable instruction code is also for at least:

selecting from multiple content recognitions algorithms based upon expected content type to optimize recognition performance.

Claim 58 (Original): The computer program product of claim 54 wherein the executable instruction code is also for at least

selecting from multiple settings of a content recognition algorithm.

Claim 59 (Previously Presented): The computer program product of claim 55 wherein the executable instruction code is also for at least:

performing an identification attempt by testing samples against content identified using log data from a media player associated with the audience member.

Claim 60 (Previously Presented): The computer program product of claim 55 wherein the executable instruction code is also for at least:

determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member; and

using channel data to perform an identification attempt by testing a received sample against content corresponding to content of the channel.

Claims 61-65 (Canceled).

Claim 66 (Previously Presented): The method of claim 1 wherein the one or more computers are provided as part of a device that includes the monitoring device.

Claim 67 (Previously Presented): The method of claim 1 wherein the one or more computers are remote from the monitoring device.

Claim 68 (Previously Presented): The method of claim 1 wherein using audience data comprises using the location to filter a search of the known media content.

Claim 69 (New): A system for detecting user exposure to media items, comprising:

a server, for receiving a plurality of reference media items from at least one media receiver;

at least one stream collection server, for receiving a representation of at least one target media item from at least one client device;

a stream store, coupled to the server and to the at least one stream collection server, for storing a representation of at least a subset of the received reference media items and for storing a representation of the at least one target media item;

a correlator server, coupled to the stream store, for identifying one of the reference media items as corresponding to the target media item;

an output device, coupled to the correlator server, for generating output signaling user exposure to the identified reference media item; and

a location tracking server for detecting a location for the client device; wherein the correlator server correlates the detected location with a location of at least one geographically identifiable sponsor of a reference media item.

Claim 70 (New): The system of claim 69, wherein the location tracking server detects the location via at least one selected from the group consisting of:

GPS tracking;

RFID tracking;

Bluetooth tracking.

Claim 71 (New): A system for detecting user exposure to media items, comprising:

a server, for receiving a plurality of reference media items from at least one media receiver;

at least one stream collection server, for receiving a representation of at least one target media item from at least one client device;

a stream store, coupled to the server and to the at least one stream collection server, for storing a representation of at least a subset of the received reference media items and for storing a representation of the at least one target media item;

a correlator server, coupled to the stream store, for identifying one of the reference media items as corresponding to the target media item; and

an output device, coupled to the correlator server, for generating output signaling user exposure to the identified reference media item; wherein the plurality of reference media items comprises at least one broadcast, and

wherein the representation of at least one target media item indicates user exposure at a time other than the time of the broadcast.

Claim 72 (New): A system for detecting user exposure to media items, comprising:

a server, for receiving a plurality of reference media items from at least one media receiver;

at least one stream collection server, for receiving a representation of at least one target media item from at least one client device;

a stream store, coupled to the server and to the at least one stream collection server, for storing a representation of at least a subset of the received reference media items and for storing a representation of the at least one target media item;

a correlator server, coupled to the stream store, for identifying one of the reference media items as corresponding to the target media item;

an output device, coupled to the correlator server, for generating output signaling user exposure to the identified reference media item; and

a purchasing tracking server, for receiving consumer purchasing information;

wherein the output device generates a report correlating user purchasing information with user exposure to the identified reference media item.

Claim 73 (New): The system of claim 72, wherein the purchasing tracking server receives at least one indication of user use of a credit card.

Claim 74 (New): A system for detecting user exposure to media items, comprising:

a server, for receiving a plurality of reference media items from at least one media receiver;

a plurality of stream collection servers for receiving a representation of at least one target media item from at least one client device;

a stream store, coupled to the server and to the stream collection servers, for storing a representation of at least a subset of the received reference media items and for storing a representation of the at least one target media item;

a correlator server, coupled to the stream store, for identifying one of the reference media items as corresponding to the target media item;

an output device, coupled to the correlator server, for generating output signaling user exposure to the identified reference media item; and

a stream collection server selector, for selecting, based on at least one of load and geographic proximity to the client device, one of the plurality of data signature stream collection servers to receive the representation of at least one target media item.

Claim 75 (New): A method for detecting user exposure to media items, comprising:

receiving a plurality of reference media items from at least one media source;

for at least one client device:

selecting, based on at least one of load and geographic proximity to the client device, one of a plurality of data signature stream collection servers; and

at the selected data signature stream collection server, receiving, from the client device:

a representation of at least one target media item; and

an indication as to whether the client device is in the physical possession of a person at a time of exposure to the target media item; and

responsive to an indication that the client device is in the physical possession of a person at the time of exposure to the target media item:

identifying one of the reference media items as corresponding to the target media item; and generating output signaling user exposure to the identified reference media item.

Claim 76 (New): The method of claim 75, further comprising:

responsive to an indication that the client device is not in the physical possession of a person at the time of exposure to the target media item, ignoring the representation of the at least one target media item from the client device.

Claim 77 (New): The method of claim 75, further comprising:

responsive to an indication that the client device is not in the physical possession of a person at the time of exposure to the target media item:

identifying one of the reference media items as corresponding to the target media item; and

generating output signaling user exposure to the identified reference media item, wherein the output is flagged as having reduced reliability.

Claim 78 (New): The method of claim 75, wherein the indication as to whether the client device is in the physical possession of a person is provided based on output of at least one sensor associated with the client device.

Claim 79 (New): The method of claim 78, wherein the at least one sensor detects at least one selected from the group consisting of:

vibration of the client device;

key presses on the client device;

temperature of the client device; and

movement of the client device.

Claim 80 (New): A system for detecting user exposure to media items, comprising:

a server, for receiving a plurality of reference media items from at least one media receiver;

at least one stream collection server, for, receiving, from at least one client device:

a representation of at least one target media item from at least one client device;

an indication as to whether the client device is in the physical possession of a person at a time of exposure to the target media item; and

a stream store, coupled to the server and to the at least one stream collection server, for:

storing a representation of at least a subset of the received reference media items; and

responsive to an indication that the client device is in the physical possession of a person at the time of exposure to the target media item, storing a representation of the target media item;

a correlator server, coupled to the stream store, for, for each stored representation of a target media item, identifying one of the reference media items as corresponding to the target media item; and

an output device, coupled to the correlator server, for, for each identified reference media item, generating output signaling user exposure to the identified reference media item.

Claim 81 (New): The system of claim 80, wherein the stream store:

responsive to an indication that the client device is not in the physical possession of a person at the time of exposure to the target media item, ignores the representation of the target media item.

Claim 82 (New): The system of claim 80, wherein, responsive to an indication that the client device is not in the physical possession of a person at the time of exposure to the target media item:

the stream store stores a representation of the target media item and an indication of reduced reliability of the stored representation;

the correlator server identifies one of the reference media items as corresponding to the target media item; and

the output device, generates output signaling user exposure to the identified reference media item and indicates reduced reliability of the indication of user exposure.

Claim 83 (New): The system of claim 80, wherein the indication as to whether the client device is in the physical possession of a person is provided based on output of at least one sensor associated with the client device.

Claim 84 (New): The system of claim 83, wherein the at least one sensor detects at least one selected from the group consisting of:

vibration of the client device;

key presses on the client device;

temperature of the client device; and

movement of the client device.

Claim 85 (New): A system for measuring audience member exposure to media content, comprising:

an interface for receiving a plurality of known media content from at least one media broadcast;

a sample control processor for receiving a representation of monitored media from at least one audience member monitoring device;

a content recognition system, coupled to the interface and to the sample control processor, for storing a representation of at least a subset of the known media content and for storing a representation of the monitored media;

wherein the content recognition system identifies one of the known media content as corresponding to the monitored media;

a report generator, coupled to the content recognition system, for generating output signaling audience member exposure to the identified known media content; and

an audience data processor for detecting a location of the audience member monitoring device; wherein the audience data processor relates the detected location to retail traffic of an advertiser associated with the known media content.

Claim 86 (New): The system of claim 85, wherein the audience data processor detects the location via GPS tracking.

Claim 87 (New): A system for measuring audience member exposure to media content, comprising:

an interface for receiving a plurality of known media content from at least one media broadcast;

a sample control processor for receiving a representation of monitored media from at least one audience member monitoring device;

a content recognition system, coupled to the interface and to the sample control processor, for storing a representation of at least a subset of the known media content and for storing a representation of the monitored media;

wherein the content recognition system identifies one of the known media content as corresponding to the monitored media; and

a report generator, coupled to the content recognition system, for generating output signaling audience member exposure to the identified known media content; wherein the plurality of known media content comprises at least one broadcast; and

wherein the representation of the monitored media indicates audience member exposure at a time other than the time of the broadcast.

Claim 88 (New): A system for measuring audience member exposure to media content, comprising:

an interface for receiving a plurality of known media content from at least one media broadcast;

a sample control processor for receiving a representation of monitored media from at least one audience member monitoring device;

a content recognition system, coupled to the interface and to the sample control processor, for storing a representation of at least a subset of the known media content and for storing a representation of the monitored media;

wherein the content recognition system identifies one of the known media content as corresponding to the monitored media;

a report generator, coupled to the content recognition system, for generating output signaling audience member exposure to the identified known media content; and

a retail traffic data system; wherein the report generator generates a report matching retail traffic and audience member exposure to known media content.

Claim 89 (New): A system for measuring audience member exposure to media content, comprising:

an interface for receiving a plurality of known media content from at least one media broadcast;

a sample control processor for receiving from at least one audience member monitoring device:

a representation of monitored media from at least one audience member monitoring device;

data indicating that the monitoring device is in possession of an audience member at a time of exposure to the monitored media; and

a content recognition system, coupled to the interface and to the sample control processor, for:

storing a representation of at least a subset of the received known media content; and

storing a representation of the monitored media based on the monitoring device being in the possession of an audience member at the time of exposure to the monitored media;

wherein the content recognition system, for each stored representation of monitored media, identifies one of the known media content as corresponding to the monitored media; and

a report generator, coupled to the content recognition system, for, for each identified known media content, generating output signaling audience member exposure to the identified known media content.

Claim 90 (New): The system of claim 89, wherein the data indicating the monitoring device is in the possession of an audience member is provided based on output of at least one sensor associated with the monitoring device.

Claim 91 (New): The system of claim 90, wherein the at least one sensor detects at least one selected from the group consisting of:

key presses on a media player device coupled to the monitoring device; and

movement of the monitoring device.

Claim 92 (New): A system for measuring audience member exposure to media content, comprising:

an interface for receiving a plurality of known media content from at least one media broadcast;

a sample control processor for receiving a representation of monitored media from at least one audience member monitoring device;

a content recognition system, coupled to the interface and to the sample control processor, for storing a representation of at least a subset of the known media content and for storing a representation of the monitored media;

wherein the content recognition system identifies one of the known media content as corresponding to the monitored media;

a report generator, coupled to the content recognition system, for generating output signaling audience member exposure to the identified known media content; and

an audience data processor for detecting a location of the audience member monitoring device and relating the detected location to content meta data associated with the known media content.

Claim 93 (New): A system for measuring audience member exposure to media content, comprising:

an interface for receiving a plurality of known media content from at least one media broadcast;

a sample control processor for receiving a representation of monitored media from at least one audience member monitoring device;

a content recognition system, coupled to the interface and to the sample control processor, for storing a representation of at least a subset of the known media content and for storing a representation of the monitored media;

wherein the content recognition system identifies one of the known media content as corresponding to the monitored media;

a report generator, coupled to the content recognition system, for generating output signaling audience member exposure to the identified known media content; and

an audience data processor;

wherein the report generator, coupled to the audience data processor, generates a report matching audience data to audience member exposure to known media content.

REMARKS

By this amendment, the Applicants have added claims 69 - 93 for consideration and examination. Therefore, claims 1 - 14, 54 - 60, and 66 - 93 are pending in this application. The Applicants want to advise the Examiner that claims 69 - 84 are identical to, and have been copied from, claims 1 - 16 of U.S. Patent No. 7,623,823 to Zito, et al.

The Applicants further want to advise the Examiner that claims 85 - 93 are substantially identical to, and have been copied from, claims 1, 2, 3, 4, 12, 15, 16, 1, and 4, respectively, of U.S. Patent No. 7.623.823 to Zito, et al., but with modifications to the claims so that the language more closely tracks the terminology used in the present specification.

Claims 69 - 93 have been submitted to avoid any question of compliance with 35 USC § 135(b) should it ultimately be determined that the subject claims are patentable and that an interference is appropriate. If a determination is ultimately made that an interference is appropriate, a further paper containing the information required by 37 CFR § 41.202 will be submitted. Should the Examiner reach this case for action prior to receiving such a paper of filing, the Applicants respectfully request the Examiner please contact the undersigned at the telephone number set forth below.

As indicated above, claims 69 - 93 have been copied and are being submitted in this application to preserve the right to request an interference, if appropriate. While having copied claims 1 - 16 of the 7,623,823 Zito et al. patent to comply with the requirements of 35 USC § 135(b), the Applicants are not making any assertions herein regarding the patentability of these claims.

Entry of the above-mentioned amendments is respectfully requested.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: November 24, 2010

Respectfully submitted,

By _____

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Attorney(s) for Applicant

Electronic Patent Application Fee Transmittal

Application Number:	11139330
Filing Date:	26-May-2005
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Filer:	Michael John Mauriel/Victoria Wilson
Attorney Docket Number:	10004-2000100

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Independent claims in excess of 3	2201	5	110	550
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**550**

Electronic Acknowledgement Receipt	
EFS ID:	8914865
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	24-NOV-2010
Filing Date:	26-MAY-2005
Time Stamp:	23:03:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Electronic Funds Transfer
Payment was successfully received in RAM	$550
RAM confirmation Number	11682
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1		1000420001SupplementalAmendment.pdf	125050 38ca991e5cb25a26159eb895d1d621695e20e960	yes	20

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Supplemental Response or Supplemental Amendment	1	1
Claims	2	18
Applicant Arguments/Remarks Made in an Amendment	19	20

Warnings:

Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	29438 0c566b618b20b54ef169ad534d5357de5431b171	no	2

Warnings:

Information:

Total Files Size (in bytes):	154488

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/139,330	05/26/2005	

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT		(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
	11/24/2010	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 49	Minus	** 62	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 12	Minus	***7	= 5	X $110 =	550	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	550	OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1)		(Column 2)	(Column 3)					
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/DESHONNE T. MARTINO/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Attorney Docket No.: 10004-2000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:
Jonathan STEUER et al.

Application No.: 11/139,330 Group Art Unit: 2426

Filing Date: May 26, 2005 Examiner: C. Smith

Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

AMENDMENT UNDER 37 CFR § 1.111

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

This is in response to the Office Action June 22, 2010 (Paper No. 20100604) for which a response was due on September 22, 2010. A petition and fee for a one month extension of time is filed concurrently herewith. Reconsideration and allowance of the pending claims, as amended, in light of the remarks presented herein are respectfully requested.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 7 of this paper.

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows, where additions are underlined and deletions are indicated by ~~strikethrough~~ or enclosed in [[double brackets]]:

Claim 1 (Currently Amended). A media measurement method comprising:

receiving, at one or more computers, ~~submitting~~ data samples for content recognition against known media content, the data samples being received from a monitoring device of an audience member, the data samples corresponding to portions of audio data captured at ~~a~~ the monitoring device, ~~of an audience member for content recognition against known media content~~; and

using audience data at the one or more computers to enhance content identification of a received sample, the audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device.

Claim 2 (Currently Amended). The method of claim 1 wherein:

the audience data further includes a media consumption pattern of the audience member and;

using audience data comprises performing an identification attempt by testing a ~~submitted~~ received sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 3 (Currently Amended). The method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the ~~submitted~~ received sample against a larger portion of the known content.

Claim 4 (Currently Amended). The method of claim 1 wherein:

the audience data further includes a media consumption pattern of the audience member;

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member; and

using audience data comprises performing an identification attempt by testing a ~~submitted~~ received sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 5 (Currently Amended). The method of claim 1 wherein:

using audience data comprises performing an identification attempt by testing a ~~submitted~~ received sample against a portion of the known content related to the location of the audience member.

Claim 6 (Previously Amended). The method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 7 (Currently Amended). The method of claim 1 further comprising ~~wherein~~:

generating a raw play stream, the raw play stream comprising a series of content identification results obtained from a series of received samples; and

using audience data ~~comprises scrubbing~~ to scrub ~~a~~ the raw play stream by analyzing known content related to the location of the audience member at the time at which the audio data was captured at the monitoring device.

Claim 8 (Previously Amended). The method of claim 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member

at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 9 (Original). The method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

Claim 10 (Original). The method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm.

Claim 11 (Original). The method of claim 9 wherein an expected content type includes absence of recognized content.

Claim 12 (Original). The method of claim 9 wherein an expected content type includes music audio.

Claim 13 (Original). The method of claim 9 wherein an expected content type includes voice audio.

Claim 14 (Original). The method of claim 9 wherein an expected content type includes music, voice and sound effect audio.

Claims 15-53 (Previously Cancelled).

Claim 54 (Currently Amended). A computer program product for measuring media usage, the computer program product comprising executable instruction code in a tangible non-transitory electronically readable medium for at least:

receiving, at one or more computers, ~~submitting~~ data samples for content recognition against known media content, the data samples being received from a monitoring device of an audience member, the data samples corresponding to portions of audio data captured at ~~a~~ the monitoring device, ~~of an audience member for content recognition against known media content~~; and

using audience data at the one or more computers to enhance content identification of a received sample, the audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device.

Claim 55 (Currently Amended). The computer program product of claim 54 wherein audience data further includes a media consumption patter of the audience member and the executable instruction code is also for at least:

performing an identification attempt by testing a received ~~submitted~~ sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 56 (Currently Amended). The computer program product of claim 54 wherein the audience data further includes a media consumption pattern of the audience member and the executable instruction code is also for at least:

determining the media consumption pattern of the audience member by using a media consumption pattern of persons sharing characteristics of the audience member; and

performing an identification attempt by testing a received ~~submitted~~ sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 57 (Original). The computer program product of claim 54 wherein the executable instruction code is also for at least:

selecting from multiple content recognitions algorithms based upon expected content type to optimize recognition performance.

Claim 58 (Original). The computer program product of claim 54 wherein the executable instruction code is also for at least

selecting from multiple settings of a content recognition algorithm.

Claim 59 (Previously Amended). The computer program product of claim 55 wherein the executable instruction code is also for at least:

performing an identification attempt by testing samples against content identified using log data from a media player associated with the audience member.

Claim 60 (Currently Amended). The computer program product of claim 55 wherein the executable instruction code is also for at least:

determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member; and

using channel data to perform an identification attempt by testing a received ~~submitted~~ sample against content corresponding to content of the channel.

Claims 61-62 (Previously Canceled).

Claim 63-65 (Canceled).

Claim 66 (New) The method of claim 1 wherein the one or more computers are provided as part of a device that includes the monitoring device.

Claim 67 (New) The method of claim 1 wherein the one or more computers are remote from the monitoring device.

Claim 68 (New) The method of claim 1 wherein using audience data comprises using the location to filter a search of the known media content.

REMARKS

Claims 1-14, 54-60 and 63-65 were pending and under consideration. By virtue of this response, claims 63-65 have been canceled and claims 66-68 have been added. Therefore, claims 1-14, 54-60, and 66-68 are pending and under consideration. Of the claims currently under consideration, claims 1-5, 7, 54-56, and 60 have been amended.

Summary of Telephone Interview of October 7, 2010

On October 7, 2010, the Applicants and the undersigned attorney met for an interview via telephone with the Examiner. Applicants thank the Examiner for taking the time to conduct the interview. As indicated in the Examiner's Interview Summary (mailed October 14, 2010), claims 1 and 7 were discussed. With respect to claim 7, Applicants agreed to further clarify in the claim the meaning of "raw play stream." With respect to claim 1, Applicants agreed to further clarify where audience data is used to "enhance content identification of a sample" to further clarify the distinction between the claimed use of audience data and the disclosure of Chen. As the Examiner's Interview Summary indicates, the amendments discussed appeared to the Examiner to overcome the prior art of record.

Claim rejections under 35 U.S.C. § 101

Claims 1-14 and 63-65 were rejected under 35 U.S.C. § 101 for being directed to non-statutory subject matter (note, the Office Action stated both "Claims 1-6" and "Claims 1-14" in reference to this rejection; Applicants assume the Examiner meant to reference claims 1-14). This rejection is moot with respect to claims 63-65 as those claims have been canceled by virtue of the present Amendment. Applicants respectfully submit that this rejection is moot with respect to claims 1-14 in light of the interim Bilski guidelines made effective by the USPTO on July 27, 2010. Applicants further respectfully submit that the standard applied in the Office Action is not consistent with those guidelines. Applicants believe that application of those guidelines, particularly in view of amended claim 1's recitation of "receiving, at one or more computers, data samples for content recognition against known media content, the data samples being received from a monitoring device

of an audience member," (emphasis added), will result in a determination that claim 1 is directed to statutory subject matter. Therefore, Applicants respectfully request withdrawal of this rejection.

Claim rejections under 35 U.S.C. § 102

Claims 1, 5, 7, and 54 were rejected under 35 U.S.C. 102(e) as being anticipated by USP 7,444,353 ("Chen"). Regarding claims 1 and 54, the Examiner referenced Chen, col. 8, line 58 – col. 9, line 8. As discussed during the interview, Chen discloses a very different use of location data than recited by the Applicant. Chen discloses: "The location information of the SPCD 102 can be used, for example, to determine the nearest server 104, CTPU 108, user computer 106 (FIG. 1) and/or network node to receive a transmission. Thus, the location identification unit may reduce the processing time associated with processing a user's request to the server." (Chen, col. 8, line 64 – col. 9, line 2). Thus in Chen, the location information is only used to determine to which computer the audio data should be transmitted. However, Chen does not disclose or even suggest that location information is used at the content searching computer to enhance content identification of a sample after it is received at that computer. Rather, any "processing time" reduction is only due to the fact that the data is sent to a "nearest server" and therefore the transit time of the data may be reduced.

By contrast, in the Applicants' invention as recited in amended claims 1 and 54, location information is used "at the one or more computers" "to enhance content identification of a received sample." Applicants respectfully submit that the claims as amended make clear that location information is used to enhance content identification of "a received sample" "at the one or more computers" (emphasis added), something not disclosed or even suggested in Chen.

For the above reasons, Applicants respectfully request the withdrawal of the rejection of claims 1 and 54 over Chen. Claims 5 and 7 depend from claim 1. Applicants respectfully request the withdrawal of the rejection of claims 5 and 7 for at least the same reasons.

With respect to claim 7, as discussed during the interview, Applicants note that the amendment clarifies in the claim that a "raw play stream" comprises "a series of content identification results obtained from a series of received samples." Applicants further respectfully

submit that the meaning of "scrub the raw play stream," when interpreted in light of the specification (see, e.g., **Fig. 4** and accompanying text) is clear to one skilled in the art.

Claim rejections under 35 U.S.C. § 103

Claims 2-4, 6, 8-14 and 55-60 were are all rejected under 35 U.S.C. 103(a) as being unpatentable over Chen as applied to claims 1 and 54 and further in view various other cited prior art. Applicants respectfully note that claims 2-4, 6, and 8-14 depend from claim 1 and claims 55-60 depend from claim 54. All of these rejections depend in significant part on the same basis used for rejecting claims 1 and 54 over Chen under 102(e). Because Applicants respectfully submit that claims 1 and 54, as amended, are now allowable over Chen for the reasons set forth above, Applicants respectfully request that the rejections of claims 2-4, 6, 8-14, and 55-60 be withdrawn for at least the same reasons.

Newly Added claims

Claims 66-68 are newly added but depend from claim 1. Therefore, Applicants respectfully submit that these claims are allowable for at least the same reasons set forth above regarding claim 1.

Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added. Entry of the above-mentioned amendments is respectfully requested.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conversation would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: October 22, 2010

Respectfully submitted,

By _____
Michael Mauriel
Registration No.: 44,226
Mauriel Kapouytian & Treffert LLP
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(212) 529-5131
Attorney(s) for Applicant

PTO/SB/22 (07-09)
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) **FY 2009** ***(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)***	Docket Number (Optional) 10004-2000100
Application Number 11/139,330	Filed May 26, 2005
For MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD	
Art Unit 2426	Examiner C. Smith

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	
☑ One month (37 CFR 1.17(a)(1))	$130	$65	$ 65.00
☐ Two months (37 CFR 1.17(a)(2))	$490	$245	$
☐ Three months (37 CFR 1.17(a)(3))	$1110	$555	$
☐ Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐ Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☐ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-4242.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

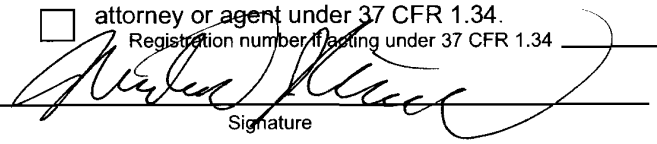
I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration Number 44,226

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____



Signature — October 22, 2010 (Date)

Michael Mauriel — Typed or printed name

212-529-5131 — Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☑ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal

Application Number:	11139330
Filing Date:	26-May-2005
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Filer:	Michael John Mauriel/Victoria Wilson
Attorney Docket Number:	10004-2000100

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with $0 paid	2251	1	65	65

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**65**

Electronic Acknowledgement Receipt	
EFS ID:	8687983
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	22-OCT-2010
Filing Date:	26-MAY-2005
Time Stamp:	19:06:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Electronic Funds Transfer
Payment was successfully received in RAM	$65
RAM confirmation Number	5173
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1		1000420001RespOA.pdf	80549 48fa05c154329068c5b30949c79d9fafe700bda9	yes	10

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	6
Applicant Arguments/Remarks Made in an Amendment	7	10

Warnings:

Information:

2	Extension of Time	1000420001PetExtTime.pdf	23427 92d8b8b1588153f905e5b0861fe81af58660afed	no	1

Warnings:

Information:

3	Fee Worksheet (PTO-875)	fee-info.pdf	29613 be667f8ca131e73b36fe48670c381766eb6236a0	no	2

Warnings:

Information:

Total Files Size (in bytes):	133589

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/139,330	05/26/2005	

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☒ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	**150**		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	**150**		TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT	**10/22/2010**	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 24	Minus	** 62	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 2	Minus	***7	= 0	X $110 =	0	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	**0**	OR	TOTAL ADD'L FEE	

		(Column 1)		(Column 2)	(Column 3)					
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/GLORIA TRAMMELL/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 10/14/2010

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
#23
New York, NY 10003

EXAMINER	
SMITH, CHENEA	
ART UNIT	PAPER NUMBER
2421	
MAIL DATE	DELIVERY MODE
10/14/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Interview Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	CHENEA P. SMITH	2421	

All participants (applicant, applicant's representative, PTO personnel):

(1) *CHENEA P. SMITH*. (3)*Jonathan Steuer*.

(2) *Michael Mauriel*. (4)*Christopher Otto*.

Date of Interview: *10/7/2010*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____.

Claim(s) discussed: *1 and 7*.

Identification of prior art discussed: *Chen (of record)*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Proposed amendments were discussed. The proposed amendments clarifying the "enhance content identification" limitation appears to overcome the art rejection of record. Further search and consideration is required upon a formal submission.*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/John W. Miller/
Supervisory Patent Examiner, Art Unit 2421

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

———

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 06/22/2010

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
#23
New York, NY 10003

EXAMINER	
SMITH, CHENEA	

ART UNIT	PAPER NUMBER
2421	

MAIL DATE	DELIVERY MODE
06/22/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	CHENEA P. SMITH	2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14,54-60 and 63-65* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14, 54-60 and 63-65* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to communications filed 3/8/2010. Claims 1-2, 4-5, 7 and 54-56 are currently amended. Claims 15-53 and 61-62 are cancelled. Claims 63-65 are new. Claims 1-14, 54-60 and 63-65 are pending in this action.

Response to Arguments

2. Applicant's arguments with respect to claims 1-14, 54-60 and 63-65 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-6 and 63-65 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-14 and 63-65 are rejected as not falling within one of the four statutory categories of invention. While the claims are directed to a series of steps or acts to be performed,

a statutory process under 35 USC 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claim neither transforms underlying subject matter nor is positively tie to another category that accomplishes the claimed method steps. Furthermore, the steps of the instant claim may be performed manually. For example, with reference to claim 1, the submitting step could be interpreted as one person giving another audio recordings captured at a microphone/recorder of a viewer cheering for a team while watching a football game, and the using step could be interpreted as one using the captured audio to identify the game. Therefore, the claims are not statutory.

In order for a process to be tied to another statutory category, the structure of another statutory category should be positively recited in a step or steps significant to the basic inventive concept.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 63-64 are rejected under 35 U.S.C. 102(b) as being anticipated by Barton et al. (US20020072982, hereinafter Barton).

Regarding claim 63, Barton discloses a media measurement method comprising:

submitting data samples (see Barton, [0012], lines 10-15) corresponding to portions of audio data (see Barton, [0017], lines 9-16) captured at a monitoring device of an audience member (see Barton, [0012], lines 10-15 and [0017], lines 9-16) for content recognition against known media content (see Barton, [0018], lines 1-8); and

using audience data to enhance content identification of a sample, the audience data including a media consumption pattern of the audience member (see Barton, [0051], lines 21-30),

the media consumption pattern being determined at least in part from known media content identification results obtained from testing audio data samples captured at a monitoring device of the audience member (see Barton, [0051], lines 21-30).

Regarding claim 64, Barton discloses wherein using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of the audience member (see Barton, [0018], lines 1-8 and [0051], lines 21-30).

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 5, 7 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al. (US7444353, hereinafter Chen).

Regarding claims 1 and 54, Chen discloses a media measurement method (see Chen, col 4, lines 30-35) comprising:

submitting data samples corresponding to portions of audio data captured (see Chen, col 12, lines 1-14) at a monitoring device (specialized portable communication device (SPCD) 102, see Chen, Fig. 1 and col 12, lines 1-14) of an audience member (see Chen, col 6, lines 35-44) for content recognition against known media content (see Chen, col 6, lines 22-26); and

using audience data to enhance content identification of a sample, the audience data including a location of the audience member at a time at which the audio data was captured at the monitoring device (see Chen, col 8, line 58 - col 9, line 8).

Regarding claim 5, Chen discloses using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the location of the audience member (the sample is compared to known content available from a nearby server, or known content available from a nearby music store, see Chen, col 8, line 58 – col 9, line 8).

Regarding claim 7, Chen discloses using audience data comprises scrubbing a raw play stream by analyzing known content related to a location of the audience at a time at which the audio data was captured at the monitoring device (as only a sample of the content is presented for comparison, the raw play stream must be scrubbed [Scrubbing as understood by the

Examiner means the process of moving within an audio file or tape to locate a particular section] in order for a match to be made, see Chen, col 6, lines 22-26).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 2, 55 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (previously cited), as applied to claims 1 and 54 above, and further in view of Barton (previously cited).

Regarding claims 2 and 55, Chen does not specifically disclose wherein the audience data further includes a media consumption pattern of the audience member, and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of the audience member.

In an analogous art relating to content recognition, Barton discloses audience data further including a media consumption pattern of the audience member (see Barton, [0051], lines 21-30), and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of the audience member (see Barton, [0051], lines 21-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Barton for the advantage of providing an improved, more efficient method of content recognition.

Regarding claim 59, Chen in view of Barton discloses performing an identification attempt by testing samples against content identified using log data from a media player associated with the audience member (see Chen, col 12, lines 28-36).

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (previously cited) in view of Barton (previously cited), as applied to claims 2 and 54 above, and further in view of Wang (of record).

Regarding claim 3, Chen in view of Barton does not specifically disclose discloses wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content.

In an analogous art relating to a system for identifying content, Wang discloses wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content (see Wang, specifically [0094], lines 3-15).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Barton to include the limitations as taught by Wang for the advantage of providing an improved, more efficient method of content recognition.

12. Claims 4, 56 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (previously cited), as applied to claims 1 and 54 above, and further in view of Barton (previously cited) and Herz (of record).

Regarding claims 4 and 56, Chen in does not specifically disclose the audience data further including a media consumption pattern of the audience member;

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member; and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

In an analogous art, Barton discloses audience data further including a media consumption pattern of the audience member (see Barton, [0051], lines 21-30), and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of the audience member (see Barton, [0051], lines 21-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Barton for the advantage of providing an improved, more efficient method of content recognition.

Chen in view of Barton does not specifically disclose the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member.

In an analogous art relating to a system for customer media consumption patterns, Herz discloses a media consumption pattern of an audience member (see Herz, specifically col 12, lines 2-6 and col 14, lines 4-7),

the media consumption pattern of the audience member being determined by using a media consumption pattern of persons sharing characteristics of the audience member (see Herz, specifically col 13, lines 45-49 and col 15, lines 22-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system of Chen in view of Barton to include the limitations as taught by Herz for the advantage of providing an improved, more efficient method of content recognition.

Regarding claim 60, Chen in view of Barton, and further in view of Herz discloses determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member (see Herz, specifically col 12, lines 2-6, col 14, lines 4-7 and col 45, lines 34-36); and

using channel data to perform an identification attempt by testing a submitted sample against content corresponding to content of the channel (see Herz, specifically col 12, lines 2-6, col 14, lines 4-7 and col 45, lines 34-36).

13. Claims 6, 8-14 and 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen (previously cited), as applied to claims 1 and 54 above, and further in view of Wang (of record).

Regarding claims 6 and 8, Chen does not specifically disclose wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

In an analogous art, Wang discloses that a search of known content is first performed on a first subset of files of the known content that have the highest probability of being the correct file. The probability scores of the files are based on their recency/popularity, i.e., the number of requests by all users. By combining Chen's system with Wang's then, the first subset of files to be searched is reasonably the files that are related to the location of the first audience member, i.e., the files at the nearest server, or at the nearest store (see Chen, col 8, line 58 – col 9, line 8) , and that are also the most popular/recent ones (see Wang, [0097], lines 1-14). Therefore, Chen in view of Wang reasonably teaches wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Chen's system to include the limitations as taught by Wang for the advantage of providing an improved, more efficient method of content recognition.

Regarding claims 9 and 57, Chen discloses that memory 136 comprises smaller databases for each particular type of music (see Chen, col 15, lines 13-20), but does not specifically disclose wherein content recognition against known content comprises selecting from multiple content algorithms based upon expected content type to optimize recognition performance.

In an analogous art, Wang discloses that a variety of landmarking algorithms may be used, see Wang, specifically [0051], lines 1-3, and that a Power Norm algorithm is preferred for tonal music, see Wang, specifically [0053], lines 4-5. As Wang also discloses that various types media may be recognized, see Wang, specifically [0037], lines 8-11 and 19-23, Wang reasonably suggests selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance. It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Wang's system to explicitly include wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance for the advantage of improving the efficiency of the system, and therefore obvious to modify Chen's system to include the limitations as taught by Wang for the advantage of providing an improved, more efficient method of content recognition.

Regarding claims 10 and 58, Chen in view of Wang discloses wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm (see Wang, specifically [0039], lines 24-27).

Regarding claim 11, Chen in view of Wang discloses wherein an expected content type includes absence of recognized content (Wang uses preferred algorithms for different types of content to efficiently and effectively find a match, as opposed to using an algorithm that is inefficient and that wouldn't find results, see Wang, [0053], lines 4-5).

Regarding claim 12, Chen in view of Wang discloses wherein an expected content type includes music audio (see Wang, [0037], lines 8-11 and 19-23).

Regarding claim 13, Chen in view of Wang discloses wherein an expected content type includes voice audio (see Wang, [0037], lines 8-11 and 19-23).

Regarding claim 14, Chen in view of Wang discloses wherein an expected content type includes music, voice and sound effect audio (see Wang, [0037], lines 8-11 and 19-23).

14. Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barton (previously cited), as applied to claim 63 above, and further in view of Wang (of record).

Regarding claim 63, Barton does not specifically disclose discloses wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content.

In an analogous art, Wang discloses wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content (see Wang, specifically [0094], lines 3-15).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Barton's system to include the limitations as taught by Wang for the advantage of providing an improved, more efficient method of content recognition.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHENEA P. SMITH whose telephone number is (571)272-9524. The examiner can normally be reached on Monday through Friday, 7:30 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John W. Miller/
Supervisory Patent Examiner, Art Unit 2421

/Chenea P. Smith/
Examiner, Art Unit 2421

Notice of References Cited	Application/Control No. 11/139,330	Applicant(s)/Patent Under Reexamination STEUER ET AL.	
	Examiner CHENEA P. SMITH	Art Unit 2421	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0072982	06-2002	Barton et al.	705/26
*	B	US-7,444,353	10-2008	Chen et al.	1/1
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
	Chenea Smith	2421

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008	03/30/2009	11/20/2009	06/04/2010					
	1	✓	✓	✓	✓					
	2	✓	✓	✓	✓					
	3	✓	✓	✓	✓					
	4	✓	✓	✓	✓					
	5	✓	✓	✓	✓					
	6	✓	✓	✓	✓					
	7	✓	✓	✓	✓					
	8	✓	✓	✓	✓					
	9	✓	✓	✓	✓					
	10	✓	✓	✓	✓					
	11	✓	✓	✓	✓					
	12	✓	✓	✓	✓					
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	14	✓	✓	✓	✓					
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	33	N	N	-	-					
	34	N	N	-	-					
	35	N	N	-	-					
	36	N	N	-	-					

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
	Chenea Smith	2421

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008	03/30/2009	11/20/2009	06/04/2010					
	37	N	N	-	-					
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	58	✓	✓	✓	✓					
	59	✓	✓	✓	✓					
	60	✓	✓	✓	✓					
	61	✓	-	-	✓					
	62	✓	-	-	✓					
	63				✓					
	64				✓					
	65				✓					

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	28656639	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 11:32
L2	92	((recogni$6 identif$8) near2 (music song$1)) with (usage histor$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 11:32
L4	30	1 and 2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 11:33
L5	13	4 and (compar$3 same (usage histor$3 profil$2 preferenc$2))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 11:34
L6	2	"20020083060".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:03
L7	0	6 and (usage histor$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:04
L8	0	6 and (sens$3 with (locat $3 area$1 place$1 suround $4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:19

L9	1	6 and ((area$1 place$1 suround$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:19
L10	2	"20020072982".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:22
L11	1	10 and (sens$3 with (locat $3 area$1 place$1 suround $4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:22
L12	1	10 and (enhanc$6 with (locat$3 area$1 place$1 suround$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:25
L13	1	10 and (enhanc$6 same (locat$3 area$1 place$1 suround$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:25
L14	1	10 and ((area$1 place$1 suround$4))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:26
L15	2	10 and enhanc$6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:27
L16	0	10 and (determin$5 with (locat$3 position$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:34
L17	1	10 and (position$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 12:34

L18	137	((li near2 chun near2 wang) ((chris$6 $4topher) near3 barton)).in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 13:14
L19	77	1 and 18	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 13:14
L20	2	19 and (gps ((position$3 locat$3) near sens$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 13:14
S31	28656639	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:51
S32	569	(identif$8 with (media audio)) with biometric$1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:52
S33	43	(identif$8 with (music songs audio)) with biometric$1 with location $1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:53
S34	1	S31 and S33	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:53
S35	365	(identif$8 with (music songs audio)) with biometric$1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:53
S36	105	S31 and S35	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:53

S37	24226	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:54
S38	3	S36 and S37	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:55
S39	3255	(identif$8 with (music songs audio)) with (location gps)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:55
S40	414	(identif$8 with (music songs audio)) with (gps)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:56
S41	81	S31 and S40	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:56
S42	3	S37 and S41	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:56
S43	216	((recogni$6) with (music songs audio)) with (gps)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:57
S44	59	S31 and S43	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:57
S45	25	((recogni$6 identif$8) near2 (music songs audio)) with (gps)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:58

S46	6	S31 and S45	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:59
S47	138	((recogni$6 identif$8) with (music songs)) with (gps)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:59
S48	17	S31 and S47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/03 13:59
S49	1458	((recogni$6 identif$8) with (music songs)) and (gps)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:25
S50	28656639	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:25
S51	1458	((recogni$6 identif$8) with (music songs)) and (gps)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:26
S52	321	S50 and S51	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:26
S53	317	((recogni$6 identif$8) near2 (music songs)) and (gps)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:26
S54	90	S50 and S53	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:26

S55	5932	((recogni$6 identif$8) near2 (music song$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:28
S56	24226	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:28
S57	2649	S50 and S55	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:28
S58	134	S57 and S56	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:28
S59	1741	((recogni$6) near2 (music song$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:28
S60	832	S50 and S59	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:28
S61	26	S56 and S60	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:28
S62	2	S61 and (gps (position$3 near2 sens$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:29
S63	46	S60 and (gps (position$3 near2 sens$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:30

S64	4	("20020083060" | "5758257").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:33
S65	33	("20020010919" | "20020010919" | "20020059577" | "20020072982" | "20020083060" | "20020161741" | "20040122679" | "20060059277" | "3919479" | "4677466" | "4697209" | "5594934" | "5758257" | "5778137" | "5945988" | "6513161" | "6990453").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 07:48
S66	1	11/139330.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 08:20
S67	0	S66 and (enhanc$3 with location$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 08:20
S68	0	S66 and (enhanc$3 same location$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 08:21
S69	1	S66 and (location$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 08:23
S70	6	((JONATHAN) near2 (STEUER)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2010/06/04 08:41
S71	15	((CHRISTOPHER) near2 (OTTO)).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2010/06/04 08:41
S72	15	S70 S71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 08:43

S73	92	((recogni$6 identif$8) near2 (music song$1)) with (usage histor$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 11:28
S74	1	((recogni$6 identif$8) near2 (music song$1)) with (monitor$3 with (usage histor$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2010/06/04 11:31

6/4/2010 1:59:07 PM
C:\Documents and Settings\Csmith3\My Documents\EAST\Workspaces\Steuer2.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
	Chenea Smith	2421

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Updated EAST search included - see search results printout	6/4/2010 9:14:31 AM	CS
Updated Inventor search, see search results printout	6/4/2010 9:14:34 AM	CS
725/$$ - text search only, see search results printout	6/4/2010 9:14:37 AM	CS

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/CHENEA P SMITH/ Examiner.Art Unit 2421	

Attorney Docket No.: 10004-2000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:
Jonathan STEUER et al.

Application No.: 11/139,330 Group Art Unit: 2426

Filing Date: May 26, 2005 Examiner: C. Smith

Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

AMENDMENT UNDER 37 CFR § 1.111

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

This is in response to the Office Action December 8, 2009 (Paper No. 20091119) for which a response was due on March 8, 2010. Accordingly, this response is timely filed. Reconsideration and allowance of the pending claims, as amended, in light of the remarks presented herein are respectfully requested.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 8 of this paper.

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows, where additions are underlined and deletions are indicated by ~~strikethrough~~ or enclosed in [[double brackets]]:

Claim 1 (Currently Amended). A media measurement method comprising:

submitting data samples corresponding to portions of audio data captured at a monitoring device of an audience member for content recognition against known media content; and

using audience data to enhance content identification of a sample, the audience data including ~~one or more of: a media consumption pattern of the audience member and~~ a location of the audience member at a time at which the audio data was captured at the monitoring device.

Claim 2 (Currently Amended). The method of claim 1 wherein:

the audience data further includes a media consumption pattern of the audience member and;

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 3 (Original). The method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content.

Claim 4 (Currently Amended). The method of claim 1 wherein:

the audience data further includes a media consumption pattern of the audience member;

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member; and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 5 (Currently Amended). The method of claim 1 wherein:

~~the audience data includes a location of the audience member; and~~

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the location of the audience member.

Claim 6 (Previously Amended). The method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 7 (Currently Amended). The method of claim 1 wherein:

~~the audience data includes a location of the audience member; and~~

using audience data comprises scrubbing a raw play stream by analyzing known content related to ~~a~~ the location of the audience member at the time at which the audio data was captured at the monitoring device.

Claim 8 (Previously Amended). The method of claim 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 9 (Original). The method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

Claim 10 (Original). The method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm.

Claim 11 (Original). The method of claim 9 wherein an expected content type includes absence of recognized content.

Claim 12 (Original). The method of claim 9 wherein an expected content type includes music audio.

Claim 13 (Original). The method of claim 9 wherein an expected content type includes voice audio.

Claim 14 (Original). The method of claim 9 wherein an expected content type includes music, voice and sound effect audio.

Claims 15-17 (Previously Cancelled).

Claim 18 (Cancelled).

Claims 19-53 (Previously Cancelled).

Claim 54 (Currently Amended). A computer program product for measuring media usage, the computer program product comprising executable instruction code in ~~an~~ a tangible non-transitory electronically readable medium for at least:

submitting data samples corresponding to portions of audio data captured at a monitoring device of an audience member for content recognition against known media content; and

using audience data to enhance content identification of a sample, the audience data including ~~one or more of: a media consumption pattern of the audience member and~~ a location of the audience member at a time at which the audio data was captured at the monitoring device.

Claim 55 (Currently Amended). The computer program product of claim 54 wherein audience data further includes ~~the~~ a media consumption pattern of the audience member and the executable instruction code is also for at least:

performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 56 (Currently Amended). The computer program product of claim 54 wherein the audience data further includes a media consumption pattern of the audience member and the executable instruction code is also for at least:

determining the media consumption pattern of the audience member by using a media consumption pattern of persons sharing characteristics of the audience member; and

performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 57 (Original). The computer program product of claim 54 wherein the executable instruction code is also for at least:

selecting from multiple content recognitions algorithms based upon expected content type to optimize recognition performance.

Claim 58 (Original). The computer program product of claim 54 wherein the executable instruction code is also for at least

selecting from multiple settings of a content recognition algorithm.

Claim 59 (Previously Amended). The computer program product of claim 55 wherein the executable instruction code is also for at least:

performing an identification attempt by testing samples against content identified using log data from a media player associated with the audience member.

Claim 60 (Previously Amended). The computer program product of claim 55 wherein the executable instruction code is also for at least:

determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member; and

using channel data to perform an identification attempt by testing a submitted sample against content corresponding to content of the channel.

Claims 61-62 (Previously Cancelled).

Claim 63 (Newly added). A media measurement method comprising:

submitting data samples corresponding to portions of audio data captured at a monitoring device of an audience member for content recognition against known media content; and

using audience data to enhance content identification of a sample, the audience data including a media consumption pattern of the audience member, the media consumption pattern being determined at least in part from known media content identification results obtained from testing audio data samples captured at a monitoring device of the audience member.

Claim 64 (Newly added). The method of claim 63 wherein using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 65 (Newly added). The method of claim 64 wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content.

REMARKS

Claims 1-14, 18 and 54-60 were pending. By virtue of this response, claim 18 has been cancelled, claims 1, 2, 4, 5, 7, 54, 55, and 56 have been amended and new claims 63-65 have been added. Therefore, claims 1-14, 54-60, and 63-65 are pending and are currently under consideration.

Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added. Entry of the above-mentioned amendments is respectfully requested.

Summary of Telephone Interview of December 29, 2009

On December 29, 2009, the Applicants and the undersigned attorney met for an interview via telephone with the Examiner and the Supervisory Examiner. Applicants thank the Examiner and the Supervisory Examiner for taking the time to conduct the interview. Applicants further note with appreciation that the Examiner and Supervisory Examiner currently assigned to this case have taken particular care to thoughtfully analyze the claims relative to the prior art.

As indicated in the Examiner's Interview Summary, claims 1 and 2 were discussed in light of Wang and Herz. Agreement was reached that if language discussed during the interview was added to claim 1 to more clearly define audience data including a "location" of the audience member, then the rejections, to the extent they relied on paragraph [0103] of Wang, would appear to be overcome.

Claim rejections under 35 U.S.C. § 101

In the Office Action, claims 54-60 were rejected under 35 U.S.C. § 101 for being directed to non-statutory subject matter. The Examiner suggested "amending the claims to include the disclosed tangible computer readable storage media, while at the same time excluding the intangible transitory media such as signals, carrier waves, etc." Office Action at 3. Applicants have amended independent claim 54 to recite "a tangible non-transitory electronically readable medium" (new language underlined). Applicants believe that this implements the Examiner's suggestion and

respectfully request that this basis for rejecting claims 54-60 be withdrawn.

Claim rejections under 35 U.S.C. § 102

In the Office Action, claims 1, 5-8 and 54 were rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (US 2002/0083060 A1). As to claim 1, the Office Action states that Wang discloses "audience data including a location of the audience member" and relies for that proposition on Wang's reference at paragraph [0103] to "demographic information." Consistent with the agreement reached during the 12/29/09 interview, claim 1 has been amended to recite "the audience data including ~~one or more of: a media consumption pattern of the audience member and~~ a location of the audience member at a time at which the audio data was captured at the monitoring device" (deletions indicated by strikethrough and additions indicated by underlining). As agreed in the interview, claim 1 as amended is distinct over paragraph [0103] as Wang does not teach or suggest using such audience data to enhance content identification.

During the interview, the Supervisory Examiner suggested that it would be helpful if Applicants' response also explained why the language of claim 1 distinguished the Applicants' invention over paragraph [0107] of Wang. The last sentence of that paragraph states: "If location information is available (e.g., from GPS), such information can also be logged." Wang paragraph [0107]. Applicants note that Wang merely suggests "logging" location information for reporting purposes. Wang nowhere suggests that this information could be used to help identify the content. Wang in fact teaches away from such use of location information. Wang teaches collecting and logging location and other information related the content (e.g. title, artist, album cover art) only *after* the content is identified. Wang states "a report is made to indicate the presence of identified content. For example, a log file can be collected, or a display can be shown on a device indicating information about the music, such as title, artist, album cover art, lyrics, or purchase information. To avoid redundancy, a report can be made only when the identity of recognized sound changes." Wang paragraph [0107] (emphasis added). This language clearly teaches away from using location data to identify content because it teaches logging and reporting such other data only after the identity of the content has been established and again after the identity of the content changes. Thus

the location data as referenced in Wang cannot possibly be used to help identify the content in Wang.

In view of the above, and consistent with the agreement reached in the 12/29/09 interview, Applicants respectfully request removal of the rejection of claim 1 under 35 U.S.C. § 102 over Wang. Claims 5-8 depend from claim 1, therefore Applicants respectfully request removal of the rejection of those claims under 35 U.S.C. § 102 over Wang for the same reasons. Claim 54 is a computer program product claim and, like claim 1, has been amended to recite "the audience data including ~~one or more of: a media consumption pattern of the audience member and~~ a location of the audience member at a time at which the audio data was captured at the monitoring device" (deletions indicated by strikethrough and additions indicated by underlining). Therefore Applicants respectfully request removal of the rejection of claim 54 under 35 U.S.C. § 102 over Wang for the same reasons set forth above with respect to claim 1.

Claim rejections under 35 U.S.C. § 103

Claims 2-4, 18, 55-56 and 59-60

In the Office Action, claims 2-4, 18, 55-56 and 59-60 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Herz et al. (USP 5,758,257). Claim 18 has been cancelled. Claims 2-4 depend from claim 1 and claims 55-56 and 59-60 depend from claim 54. The Examiner's basis for rejecting claims 2-4 over Wang in view of Herz depends on the basis for having rejected claim 1 over Wang and, in like manner, the Examiner's basis for rejecting claims 55-56 and 59-60 over Wang in view of Herz depends on the Examiner's basis for having rejected claim 54 over Wang. Because Applicants respectfully submit that claims 1 and 54, as amended, are now allowable over Wang for the reasons set forth above, Applicants respectfully request that the rejection of claims 2-4, 55-56 and 59-60 be withdrawn for at least the same reasons.

Claims 9-14 and 57-58

In the Office Action, claims 9-14 and 57-58 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wang. Claims 9-14 depend from claim 1 and claims 57-58 depend from claim 54. The Examiner's basis for rejecting claims 9-14 over Wang depends on the basis for having

rejected claim 1 over Wang and, in like manner, the Examiner's basis for rejecting claims 57-58 over Wang in view of Herz depends on the Examiner's basis for having rejected claim 54 over Wang. Because Applicants respectfully submit that claims 1 and 54, as amended, are now allowable over Wang for the reasons set forth above, Applicants respectfully request that the rejection of claims 9-14 and 57-58 be withdrawn for at least the same reasons.

Newly Added Claims

Independent claim 63 and dependent claims 64 and 65 are newly added. Claim 63 is directed to a media measurement method that uses audience data to enhance content identification of a sample, the audience data including a media consumption pattern of the audience member.

Applicants recognize that in the 12/8/09 Office Action claims directed to using a media consumption pattern to enhance content identification were rejected under 35 U.S.C. 103(a) over Wang in view of Herz. With respect to those rejections, Applicants respectfully submit that the Office Action did not adequately establish a prima facie case of obviousness. For example, with respect to claims 2 and 3 as previously worded, the Office Action states: "It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Wang's system to include the limitations as taught by Herz for the advantage of providing various alternative ranking schemes, which allows for a faster search time." Office Action at pages 6-7. Applicants respectfully submit that the law requires more than conclusory statements. As stated in the MPEP:

> The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at ___ , 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

MPEP § 2142. Applicants respectfully submit that the Office Action did not set forth the required findings to support any of the potential rationales for obviousness listed in MPEM § 2143. Therefore, Applicants respectfully submit that newly added claims 63-65 cannot be rejected using the same basis of rejection (Wang in view of Herz) set forth in the Office Action for the previously

worded versions of claims 2 and 3.

That said, however, newly added claim 63 further defines media consumption pattern to more particularly recite aspects of Applicants' invention and further defines Applicants' invention over Wang and Herz. In particular, claim 63 defines "the media consumption pattern" as "being determined at least in part from known media content identification results obtained from testing audio data samples captured at a monitoring device of the audience member."

Applicants respectfully submit that neither Wang nor Herz teach or suggest using an individual audience member's media consumption pattern to enhance content identification and, moreover, neither teach or suggest use of an individual audience member's media consumption pattern that is determined based on content results identified from audio data captured at a monitoring device of the audience member. As the Examiner acknowledged in the Office Action, "Wang does not specifically disclose a media consumption pattern of the audience member." Office Action at 6. Applicants respectfully submit that Herz also fails to disclose such a pattern, particularly as it is now defined in claim 63. Rather, Herz merely discloses monitoring "set top multimedia terminals." Herz column 25 at line 37. However, data collected in such a manner can at most only determine to what channel the media device was tuned at a particular time.

Though the difference between a media consumption pattern identified from set top box tuning (as arguably disclosed by Herz) and one identified from captured audio samples (as claimed by Applicants) may appear subtle to non-experts in the field, in fact the difference is profound and greatly impacts the usefulness of a media monitoring method. By relying on captured audio samples to identify a media consumption pattern, Applicants invention as defined in claim 63 achieves several advantages not found in prior art methods such as those disclosed by Herz. For example, use of audio samples captured at a monitoring device of an audience member increases the likelihood that the monitored audience member was in fact exposed to the relevant content. Use of set top box data, in contrast, cannot account for audience members who mute a television set, leave the room, or are otherwise not in fact exposed to media corresponding to programs broadcast on channels reflected by the tuning data from the set top box. As another example, if the audience member leaves the room and is exposed to media content delivered through a device not connected to a set

top box (for example, a radio, a CD player, a computer, another television, or a movie theater's display and sound system, etc.), the Applicants invention is more likely to be able to identify that content and incorporate it into determining the audience member's media consumption pattern. By contrast, the method of Herz is helpless when the audience member is exposed to media not delivered through a device connected to the set top box. Nowhere does Herz disclose or suggest obtaining or using a media consumption pattern as defined in claims 63-65.

For at least these reasons, Applicants respectfully submit that newly added claims 63-65 are patentable over Wang and Herz.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conversation would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: March 8, 2010

Respectfully submitted,

By _____
Michael Mauriel
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Electronic Acknowledgement Receipt	
EFS ID:	7164216
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/JAMIE LEATH
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	08-MAR-2010
Filing Date:	26-MAY-2005
Time Stamp:	17:11:04
Application Type:	Utility under 35 USC 111(a)

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Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		10004-2000100_Resp_OA_of_12-08-09.pdf	1333931 e668791415fc6d700635d605fc5045cbaf0903e7	yes	14

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	7
	Applicant Arguments/Remarks Made in an Amendment	8	14
Warnings:			
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	Total Files Size (in bytes):	1333931	

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/139,330	05/26/2005	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 03/08/2010

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 24	Minus	** 62	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 4	Minus	***7	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/Trina Steptoe/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 01/05/2010

Mauriel Kapouytian & Treffert LLP
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EXAMINER	
SMITH, CHENEA	

ART UNIT	PAPER NUMBER
2421	

MAIL DATE	DELIVERY MODE
01/05/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Interview Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	CHENEA P. SMITH	2421	

All participants (applicant, applicant's representative, PTO personnel):

(1) *CHENEA P. SMITH*.

(2) *Reuben Brown*.

(3)*Michael Mauriel*.

(4)*Jonathan Steuer, Chris Otto*.

Date of Interview: *29 December 2009*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____.

Claim(s) discussed: *1, 2*.

Identification of prior art discussed: *Wang and Herz (both of record)*.

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *The scope of the invention was discussed. Proposed amendments to the claims appear to overcome paragraph [103] of the Wang reference. Examiner will consider amendments, upon filing a formal response. Further search and consideration would required*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Reuben M. Brown/ Patent Examiner, Art Unit 2424	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

———

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 12/08/2009

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
#23
New York, NY 10003

EXAMINER	
SMITH, CHENEA	

ART UNIT	PAPER NUMBER
2421	

MAIL DATE	DELIVERY MODE
12/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	CHENEA P. SMITH	2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14,18 and 54-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,18 and 54-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/15/2009 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-14, 18 and 54-60 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows (see also MPEP 2106):

> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.
>
> … a signal does not fall within one of the four statutory classes of Sec. 101
>
> …signal claims are ineligible for patent protection because they do not fall within any four statutory classes of Sec. 101.

4. Claims 54-60 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows.

Claims 54-60 are drawn to functional descriptive material recorded on a computer readable medium, specifically a computer program product comprising executable instruction code in an electronically readable medium. Normally, the claim would be statutory. However, the specification at [0061] lines 8-11 discloses that "electronically readable medium maybe any medium that either stores or carries electronic signals (including signals referred to as electrical signals and signals referred to as electromagnetic signals)".

"A transitory, propagating signal…is not a "process, machine, manufacture or composition of matter". Those four categories define explicit scope and reach of subject matter patentable under 35 U.S.C. 101; thus, such a signal cannot be patentable subject matter." (*In re Nuijten,* 84 USPQ2d 1495 (Fed. Cir. 2007)).

Because the full scope of the claims as properly read in light of the disclosure appears to encompass non-statutory subject matter, the claim as a whole is non-statutory. The Examiner suggests amending the claims to include the disclosed tangible computer readable storage media, while at the same time excluding the intangible transitory media such as signals, carrier waves, etc.

Any amendment to the claims should be commensurate with its corresponding disclosure.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 5-8 and 54 are rejected under 35 U.S.C. 102(b) as being anticipated by Wang et al. (US20020083060, hereinafter Wang).

Regarding claims 1 and 54, Wang discloses a media measurement method comprising:

submitting data samples (see Wang, specifically [0077], lines 1-4) corresponding to portions of audio data (see Wang, specifically [0079], lines 6-10) captured at a monitoring device of an audience member (see Wang, specifically [0079], lines 10-13) for content recognition against known media content (see Wang, specifically [0079], lines 1-4); and

using audience data to enhance content identification of a sample (see Wang, specifically [0103], lines 6-10 and [0105], lines 8-16), the audience data including a location of the audience member (Wang discloses that the user's demographic information may be used to how/what to search for a match, thereby enhancing the content identification, see Wang, specifically [0103], 6-10).

Regarding claim 5, Wang discloses wherein: the audience data includes a location of the audience member (Wang discloses that the user's demographic information may be used to

how/what to search for a match, thereby enhancing the content identification, see Wang, specifically [0103], 6-10); and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the location of the audience member (see Wang, specifically [0094], lines 3-7, [0097], lines 1-14 and [0103], 6-10).

Regarding claims 6 and 8, Wang discloses wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member (the determination of a ranking based on recency/popularity/frequency, see Wang [0097], lines 1-14 and demographics, see Wang, [0103]).

Regarding claim 7, Wang discloses wherein: the audience data includes a location of the audience member (Wang discloses that the user's demographic information may be used to how/what to search for a match, thereby enhancing the content identification, see Wang, specifically [0103], 6-10); and

using audience data comprises scrubbing a raw play stream by analyzing known content related to a location of the audience (Wang discloses that highly distorted samples may be recognized, see [0037], lines 11-16. By finding a match to a distorted sample, known content must have been analyzed for comparison to the sample).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 2-4, 18, 55-56 and 59-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (previously cited) in view of Herz et al. (US5758257, hereinafter Herz).

Regarding claims 2 and 55, Wang discloses using audience data comprising performing an identification attempt by testing a submitted sample against a portion of the known content (see Wang, specifically [0079], lines 1-4) related to a pattern of the audience member (as the sound files that are to be compared to the sample may be ranked according to alternative ranking schemes, which reasonably includes different patterns of the audience member, see Wang, specifically [0103], lines 6-8).

Wang does not specifically disclose a media consumption pattern of the audience member.

In an analogous art, Herz discloses a media consumption pattern of an audience member (see Herz, specifically col 12, lines 2-6 and col 14, lines 4-7).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Wang's system to include the limitations as taught by Herz for the

advantage of providing various alternative ranking schemes, which allows for a faster search time.

Regarding claim 3, Wang in view of Herz discloses wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content (see Wang, specifically [0094], lines 3-15).

Regarding claims 4 and 56, Wang discloses using audience data comprising performing an identification attempt by testing a submitted sample against a portion of the known content (see Wang, specifically [0079], lines 1-4) related to a pattern of the audience member (as the sound files that are to be compared to the sample may be ranked according to alternative ranking schemes, which reasonably includes different patterns of the audience member, see Wang, specifically [0103], lines 6-8).

Wang does not specifically disclose a media consumption pattern of the audience member,

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member.

In an analogous art, Herz discloses a media consumption pattern of an audience member (see Herz, specifically col 12, lines 2-6 and col 14, lines 4-7),

the media consumption pattern of the audience member being determined by using a media consumption pattern of persons sharing characteristics of the audience member (see Herz, specifically col 13, lines 45-49 and col 15, lines 22-30).

It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify Wang's system to include the limitations as taught by Herz for the

advantage of providing various alternative ranking schemes, which allows for a faster search time.

Regarding claims 18 and 59, Wang in view of Herz discloses wherein the media consumption pattern is determined at least in part by examining log data of a media player of the audience member (see Herz, specifically col 14, lines 4-7).

Regarding claim 60, Wang in view of Herz discloses determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member (see Herz, specifically col 12, lines 2-6, col 14, lines 4-7 and col 45, lines 34-36); and

using channel data to perform an identification attempt by testing a submitted sample against content corresponding to content of the channel (see Herz, specifically col 12, lines 2-6, col 14, lines 4-7 and col 45, lines 34-36).

9. Claims 9-14 and 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang (previously cited).

Regarding claims 9 and 57, Wang discloses that a variety of landmarking algorithms may be used, see Wang, specifically [0051], lines 1-3, and that a Power Norm algorithm is preferred for tonal music, see Wang, specifically [0053], lines 4-5. As Wang also discloses that various types media may be recognized, see Wang, specifically [0037], lines 8-11 and 19-23, Wang reasonably suggests selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance. Therefore, it would have been obvious for a

person having ordinary skill in the art at the time of the invention to modify Wang's system to explicitly include wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance for the advantage of improving the efficiency of the system.

Regarding claims 10 and 58, Wang discloses wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm (see Wang, specifically [0039], lines 24-27).

Regarding claim 11, Wang discloses wherein an expected content type includes absence of recognized content (Wang uses preferred algorithms for different types of content to efficiently and effectively find a match, as opposed to using an algorithm that is inefficient and that wouldn't find results, see Wang, specifically [0053], lines 4-5).

Regarding claim 12, Wang discloses wherein an expected content type includes music audio (see Wang, specifically [0037], lines 8-11 and 19-23).

Regarding claim 13, Wang discloses wherein an expected content type includes voice audio (see Wang, specifically [0037], lines 8-11 and 19-23).

Regarding claim 14, Wang discloses wherein an expected content type includes music, voice and sound effect audio (see Wang, specifically [0037], lines 8-11 and 19-23).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHENEA P. SMITH whose telephone number is (571)272-9524. The examiner can normally be reached on Monday through Friday, 7:30 am - 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John W. Miller/
Supervisory Patent Examiner, Art Unit 2421

/Chenea P. Smith/
Examiner, Art Unit 2421

Notice of References Cited	Application/Control No. 11/139,330	Applicant(s)/Patent Under Reexamination STEUER ET AL.	
	Examiner CHENEA P. SMITH	Art Unit 2421	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0083060	06-2002	Wang et al.	707/10
*	B	US-5,758,257	05-1998	Herz et al.	725/116
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	**Art Unit**
	Chenea Smith	2421

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008	03/30/2009	11/20/2009						
	1	✓	✓	✓						
	2	✓	✓	✓						
	3	✓	✓	✓						
	4	✓	✓	✓						
	5	✓	✓	✓						
	6	✓	✓	✓						
	7	✓	✓	✓						
	8	✓	✓	✓						
	9	✓	✓	✓						
	10	✓	✓	✓						
	11	✓	✓	✓						
	12	✓	✓	✓						
	13	✓	✓	✓						
	14	✓	✓	✓						
	15	✓	-	-						
	16	✓	-	-						
	17	✓	-	-						
	18	✓	✓	✓						
	19	N	N	-						
	20	N	N	-						
	21	N	N	-						
	22	N	N	-						
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	25	N	N	-						
	26	N	N	-						
	27	N	N	-						
	28	N	N	-						
	29	N	N	-						
	30	N	N	-						
	31	N	N	-						
	32	N	N	-						
	33	N	N	-						
	34	N	N	-						
	35	N	N	-						
	36	N	N	-						

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
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	Chenea Smith	2421

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008	03/30/2009	11/20/2009						
	37	N	N	-						
	38	N	N	-						
	39	N	N	-						
	40	N	N	-						
	41	N	N	-						
	42	N	N	-						
	43	N	N	-						
	44	N	N	-						
	45	N	N	-						
	46	N	N	-						
	47	N	N	-						
	48	N	N	-						
	49	N	N	-						
	50	N	N	-						
	51	N	N	-						
	52	N	N	-						
	53	N	N	-						
	54	✓	✓	✓						
	55	✓	✓	✓						
	56	✓	✓	✓						
	57	✓	✓	✓						
	58	✓	✓	✓						
	59	✓	✓	✓						
	60	✓	✓	✓						
	61	✓	-	-						
	62	✓	-	-						

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
	Chenea Smith	2421

SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
EAST search included - see search results printout	11/20/2009 4:29:25 PM	CS
Inventor search - see search results printout	11/20/2009 4:29:50 PM	CS
725/$$ - text search only, see search results printout	11/20/2009 4:29:48 PM	CS

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

/CHENEA P SMITH/ Examiner.Art Unit 2421	

UNITED STATES PATENT AND TRADEMARK OFFICE

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Alexandria, Virginia 22313-1450
www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 1039

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
11/139,330	05/26/2005	704	2421	10004-2000100

APPLICANTS

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Christopher W. Otto, Fremont, CA;

**** CONTINUING DATA ***************************

This appln claims benefit of 60/574,836 05/27/2004

**** FOREIGN APPLICATIONS ***************************

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06/20/2005

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /CHENEA P SMITH/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		NY	7	62	9

ADDRESS

Mauriel Kapouytian & Treffert LLP
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UNITED STATES

TITLE

Media usage monitoring and measurement system and method

FILING FEE RECEIVED		
2215	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

BIB (Rev. 05/07).

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	0	(error near correct$3) with (compar43 with similar)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:37
S2	38	(error near correct$3) with (compar$3 with similar)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:37
S3	22441	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:37
S4	0	S2 and S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:37
S5	28635513	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:37
S6	23	S2 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:37
S7	1	(error near correct$3) with audio with (compar$3 with similar)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:38

S8	0	S6 and S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:39
S9	16	(audio near scrub$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:42
S10	13	S5 and S9	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 14:42
S11	2	"5758257".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 12:14
S12	5	"2002008360".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 12:58
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S19	4	S16 S17 S18	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:41
S20	36	S15 not S19	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:41
S21	40	S15 S19	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:41
S22	1	S21 and (scrub$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:41
S23	0	S21 and (correct$4 with mistak$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:43

S24	3	S21 and (correct$4 with (mistak$3 error$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:44
S25	2	"20040199387".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:46
S26	36	S15 not S25	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:46
S27	8112	((false incorrect$3 mistak $4) near (id identif$8))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:48
S28	0	S15 and S27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:48
S29	8951	(content$1 media) near recogni$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:49
S30	43	S27 and S29	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:49
S31	28635513	@ad<"20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:50
S32	20	S30 and S31	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/20 13:52

11/20/2009 4:37:19 PM
C:\Documents and Settings\Csmith3\My Documents\EAST\Workspaces\Steuer2.wsp

EAST Search History

EAST Search History (Prior Art)

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S3	22409	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:10
S4	9198	(media content$1) near recogni$6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:10
S5	13056	S2 and S3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:10
S6	120	S4 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:10
S7	1469	(audience$1 with measur $6)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:11
S8	3	S6 and S7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:11

S9	123	(audience$1 with measur $6) and (user$1 near (preference$1 pattern$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:12
S10	39	S2 and S9	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:13
S11	2	S4 and S10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:14
S12	155793	(media content$1 signal $1) near (recogni$6 identif $8)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:20
S13	55	S9 and S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:20
S14	14	S2 and S13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:20
S15	2	S3 and S14	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:20
S16	4	S11 S15	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:21
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S26	1	wo-0227600-$.did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:22
S30	2	S25 S26	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:23

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S32	4	S30 S31	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:24
S33	2794	(sampl$3 with (identif$7 recogni$6) with (media content$1 audio video signal$1) with compar$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:41
S34	1822	S2 and S33	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:42
S35	24	S3 and S34	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:42
S36	0	(comsumption$1 near pattern$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:47
S37	1143	(consumption$1 near pattern$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:47
S38	0	S35 and S37	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:47
S39	21	S5 and S37	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:47
S40	3	S35 and ((monitor measur $3 pattern$1) near usage $1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:48
S41	10	S35 and (usage$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:50

S42	10	S35 and (usage$1 (user near (preferen$3 profil $3)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:52
S43	46	S33 and ((usage$1 near pattern$1) (user near (preferen$3 profil$3)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:53
S44	21	S43 and S2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 11:53
S45	2620	((usage$1 near pattern$1) (user near (preferen$3 profil$3))) with (identif$7 recogni$6) with (media content$1 audio video signal$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:10
S46	113	S45 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:10
S47	2421	((usage$1 near pattern$1) (user near (preferen$3 profil$3))) with (identif$7 recogni$6) with (media content$1 audio video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:11
S48	108	S47 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:11
S49	0	S48 not S46	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:12
S50	853	((usage$1 near pattern$1) (user near (preferen$3 profil$3))) with (identif$7 recogni$6) near2 (media content$1 audio video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:12
S51	41	S50 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:12

S52	77	((usage$1 near pattern$1) (user near (preferen$3 profil$3))) with (recogni$6) near2 (media content$1 audio video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:13
S53	3	S52 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:13
S54	379	((usage$1 near pattern$1) (user near (preferen$3 profil$3))) with (recogni$6) with (media content$1 audio video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:14
S55	10	S54 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:14
S56	7	S55 not S53	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:14
S57	0	(sampl$3 with (identif$7 recogni$6) with (media content$1 audio video signal$1) with compar$5) same match$3 with (user $1 near (preferenc$3 profie $1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:17
S58	2	(sampl$3 with (identif$7 recogni$6) with (media content$1 audio video signal$1) with compar$5) and match$3 with (user$1 near (preferenc$3 profie $1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:17
S59	6	(sampl$3 with (identif$7 recogni$6) with (media content$1 audio video signal$1) with compar$5) and ((compar$5 match$) with (user$1 near (preferenc$3 profie$1)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:18
S60	2	S59 and S2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:19

S61	63	S33 and ((usage$1 user$1) near (pattern$1 preferen$3 profil$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:27
S62	2	S61 and S5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:28
S63	24	S61 and S2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 12:28
S64	30	(sampl$3 with (identif$7 recogni$6) with (media content$1 audio video signal$1) with compar$5) and (user$1 near (preferenc$3 profie$1))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:19
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S66	13	S64 and S65	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:19
S67	2794	(sampl$3 with (identif$7 recogni$6) with (media content$1 audio video signal$1) with compar$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:20
S68	1822	S65 and S67	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:20
S69	0	S68 and ((search$3 compar $3) with fvorite$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:21
S70	0	S68 and ((search$3 compar $3) with favorite$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:21

S71	133	S68 and favorite$1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:21
S72	22409	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:21
S73	5	S71 and S72	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:21
S74	85398	(user$1 usage) near (preference$1 profile$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:23
S75	3358	S72 and S74	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:24
S76	2	S68 and S75	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:24
S77	18	S68 and S74	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:24
S78	5	S68 and (usage near pattern$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:26
S79	3	S78 not S77	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:26
S80	3111	(narrow$3 decreas$3 limit $4) near (search$3 compar $3) with (type$1 genre$1 specific)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:29
S81	2127	(narrow$3 limit$4) near (search$3 compar$3) with (type$1 genre$1 specific)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:29

S82	1	S68 and S81	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:29
S83	27821	(narrow$3 limit$4) near (search$3 compar$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:30
S84	48	S68 and S83	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/18 14:30
S85	8	(content$1 with recommend$6 with rank $3).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:25
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S87	3	S85 and S86	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:25
S88	502	(content$1 with recommend$6).ti.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:25
S89	151	S86 and S88	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:26
S90	22441	"725".clas.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:26
S91	10	S89 and S90	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:26
S92	5	(content$1 media) with rank$3 with usage with (user$1 near (profil$2 preferenc$2))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:27

S93	2	S86 and S92	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:27
S94	165	(content$1 media) with rank$3 with usage	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:28
S95	42	S86 and S94	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:28
S96	1	S90 and S95	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:28
S97	1161	(rank$3 rating) with (media content$1) with (profile$1 preference$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:29
S98	409	S86 and S97	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:29
S99	118	S90 and S98	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:29
S100	38	S99 and demograph$6'	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:30
S101	38	S99 and demograph$6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:30
S102	2	"5758257".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:42
S103	1	11/139330.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 10:44

S105	6	(audio with scrub$4 with raw)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:05
S106	0	(review$3 with audio with (missing incorrect) with (data information) with compar$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:08
S107	12	(audio with (missing incorrect) with (data information) with compar $3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:08
S108	1	S86 and S96	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:08
S109	6	S86 and S107	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:09
S110	0	(((analyz$5 review$3) near audio) with (missing incorrect)) with compar$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:14
S111	0	(((analy$6 review$3) near audio) with (missing incorrect)) with compar$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:15
S112	3	(((analy$6 review$3) with audio) with (missing incorrect)) with compar$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:15
S113	9	(((analy$6 review$3 correct $3) with audio) with (missing incorrect)) with compar$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:17
S114	9	(((analy$6 review$3 correct $3 fix$3) with audio) with (missing incorrect)) with compar$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:17
S115	5	S114 and S86	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:17

S116	12	(((analy$6 review$3 correct $3 fix$3) with stream$1) with (missing incorrect)) with compar$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:26
S117	9	S116 and S86	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:26
S118	1	(((analy$6 review$3 correct $3 fix$3) with stream$1) with (missing incorrect)) with compar$3 with similar	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:28
S119	80	error with correct$3 with compar$3 with similar	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:29
S120	46	S119 and S86	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/11/19 11:29

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OIPE IAP89
MAR 17 2006
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Jonathan S. Steuer et al.		
Serial No.:	11/139,330	ART UNIT:	2655
Filed:	May 26, 2005	EXAMINER:	(not yet assigned)
Entitled:	MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD		

Attorney Docket No.: 1004-2000100
March 13, 2006

Mail Stop, Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

UTILITY PATENT APPLICATION TRANSMITTAL

1. Information Disclosure Statement (5 pages)
2. Copies of listed references (where required) (11 documents, 211 pages total)
3. Return Receipt Postcard

Respectfully submitted,

Michael Mauriel
Registration No. 44,226
Attorney for Applicants
Mauriel Patent Practice
168 Second Ave., Box 352
New York, NY 10003
Telephone: (212) 529-5131
Fax: (212) 529-5132

CERTIFICATE OF MAILING

The undersigned hereby certifies that this correspondence listed above is being deposited with the United States Postal Service with postage sufficient for first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

March 13, 2006
Date

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MAR 17 2006
PATENT & TRADEMARK OFFICE

PATENT
Docket No. 10042000100

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Date of Deposit: March 13, 2006

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Michael Maurel

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Jonathan STEUER et al.

Serial No.: 11/139,330

Filing Date: May 26, 2005

For: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Examiner: To Be Assigned

Group Art Unit: 2655

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97 & 1.98

March 13, 2006

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Forms PTO-1449. The Examiner is requested to make these documents of record. Copies of the documents, other than U.S. patent documents, are also submitted herewith.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.S./

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This Information Disclosure Statement is submitted:

☐ With the application; accordingly, no fee or separate requirements are required.

☒ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.

- ☐ A fee is required. A check in the amount of * is enclosed.
- ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly; no fee is believed to be due.

☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.

- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a check in the amount of * is enclosed.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.S./

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In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time.

Dated: March 13, 2006

Respectfully submitted,

By: _____

Michael J. Mauriel
Registration No. 44,226

Mauriel Patent Practice
168 Second Avenue, Box 352
New York, NY 10003
Telephone: (212) 529-5131
Facsimile: (212) 529-5132

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.S./

OIPE IAP89 MAR 17 2006 PATENT & TRADEMARK OFFICE

PTO/SB/08A (07-05)
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	~~2655~~ 2421
Examiner Name	
Attorney Docket Number	1004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 6,990,453 B2	06-27-2002	Avery Li-CHun WANG	All
		US- 4,697,209	09-29-1987	David KIEWIT et al.	All
		US- 4,677,466	06-30-1987	John LERT et al.	All
		US- 2002/0161741 A1	10-31-2002	Avery Li-CHun WANG et al.	All
		US- 5,594,934	01-14-1997	Daozhen LU et al.	All
		US- 6,513,161 B2	01-28-2003	Henry WHEELER et al.	All
		US- 2004/0122679 A1	06-24-2004	Alan NEUHAUSER et al.	All
		US- 3,919,479	11-11-1975	Warren D. MOON et al.	All
		US- 2002/0059577 A1	05-16-2002	Daozheng LU et al.	All
		US- 2002/0072982 A1	06-13-2002	Christopher BARTON et al.	All
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		WO 2004/040475 A2	05-13-2004	Koninklijke Philips N.V.	All	
		WO 03/091990 A1	11-06-2003	Shazam Entertainment, LTD	All	
		WO 02/27600 A2	04-04-2002	Shazam Entertainment, LTD	All	

Examiner Signature	/Chenea Smith/	Date Considered	11/18/2009

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.S./

PTO/SB/08B (07-05)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	~~2655~~ 2421
Examiner Name	
Attorney Docket Number	1004-2000100

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		Ashwin PINTO, "Mediawatch meters a complex mix of media, passively," www. Indian television.com/headlines/y2k5/feb/feb177.htm, February 19, 2005 (5 pages)	
		Michael HEDGES, "New measurement devices raise new questions. Will we ever know who's listening?" www.follwthemedia.com/number/devices01082004.htm, August 1, 2004 (5 pages)	
		NIELSEN MEDIA RESEARCH, "Summary Report of the Active/Passive (A/P) Meter Regional Test," November 11, 2002 (26 pages)	
		John GERTNER, "Watching What You Watch," New York Times Magazine, April 10, 2005 (12 pages)	
		ARBITRON, "The Portable People Meter System," www.arbitron.com/protable_people_meters/ppm_system.htm, dowloaded on April 25, 2005 (4 pages)	
		NIELSEN MEDIA RESEARCH, "Active/Passive Metering begins July 2004," August 6, 2003 (3 pages)	
		Philips Research, "Audio Fingerprinting for automatic music recognition," brochure, www.content.identification.philips.com, downloaded March 9, 2005 (2 pages)	
		GFK AG, "Gfk unveils its multi-talented new MediaWatch," press release, June 14, 2004 (2 pages)	

Examiner Signature	/Chenea Smith/	Date Considered	11/18/2009

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

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If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.S./



JAW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Jonathan S. Steuer et al.		
Serial No.:	11/139,330	ART UNIT:	2655
Filed:	May 26, 2005	EXAMINER:	(not yet assigned)
Entitled:	MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD		

Attorney Docket No.: 1004-2000100
May 30, 2006

Mail Stop, Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

UTILITY PATENT APPLICATION TRANSMITTAL

1. Information Disclosure Statement – First Supplemental (4 pages)
2. Return Receipt Postcard

Respectfully submitted,

Michael Mauriel
Registration No. 44,226
Attorney for Applicants
Mauriel Patent Practice
168 Second Ave., Box 352
New York, NY 10003
Telephone: (212) 529-5131
Fax: (212) 529-5132

CERTIFICATE OF MAILING

The undersigned hereby certifies that this correspondence listed above is being deposited with the United States Postal Service with postage sufficient for first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

May 30, 2006
Date

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PATENT & TRADEMARK OFFICE

PATENT
Docket No. 10042000100

CERTIFICATE OF MAILING BY "FIRST CLASS MAIL"

Date of Deposit: May 30, 2006

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Michael Mauriel

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Jonathan STEUER et al.

Serial No.: 11/139,330

Filing Date: May 26, 2005

For: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Examiner: To Be Assigned

Group Art Unit: 2655

INFORMATION DISCLOSURE STATEMENT – FIRST SUPPLEMENTAL UNDER 37 C.F.R. § 1.97 & 1.98

May 30, 2006

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, and supplemental to the Information Disclosure Statement filed in this matter March 13 2006, Applicants submit for consideration in the above-identified application the additional document listed on the attached Form PTO-1449. The Examiner is requested to make this documents of record. A copy of the U.S. patent document is not required and is thus not included herein.

This Information Disclosure Statement is submitted:

☐ With the application; accordingly, no fee or separate requirements are required.

☒ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.

- ☐ A fee is required. A check in the amount of * is enclosed.
- ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly; no fee is believed to be due.

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In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time.

Dated: May 30, 2006

Respectfully submitted,

By: _____

Michael J. Mauriel
Registration No. 44,226

Mauriel Patent Practice
168 Second Avenue, Box 352
New York, NY 10003
Telephone: (212) 529-5131
Facsimile: (212) 529-5132

O I P E IAP43 JUN 02 2006 PATENT & TRADEMARK OFFICE

PTO/SB/08A (07-05)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1 (First Supplemental)

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	~~2655~~ 2421
Examiner Name	
Attorney Docket Number	1004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/C.S./		US- 2006/0059277 A1	03-16-2006	Tom ZITO et al.	All
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

Examiner Signature	/Chenea Smith/	Date Considered	11/18/2009

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Docket No. 10042000100

CERTIFICATE OF TRANSMISSION VIA FACSIMILE

Date of Deposit: April 30, 2007

I hereby certify that this paper or fee is being transmitted via facsimile to the United States Patent and Trademark Office at (571) 273-8300 on the date indicated above and is addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Victoria A. Wilson

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Jonathan STEUER et al.

Serial No.: 11/139,330

Filing Date: May 26, 2005

For: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Examiner: C.C. Grant

Group Art Unit: 2623

INFORMATION DISCLOSURE STATEMENT – SECOND SUPPLEMENTAL UNDER 37 C.F.R. § 1.97 & 1.98

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, and supplemental to the Information Disclosure Statement filed in this matter May 30, 2006, Applicants submit for consideration in the above-identified application the additional documents listed on the attached Form PTO/SB/08a/b. These documents were cited in an International Search Report dated October 26, 2006 for related international application PCT/US05/18934, filed May 27, 2005. The Examiner is requested to make these documents of record. Copies of the U.S. patent document and US published application are not required and are thus not included herein.

This Information Disclosure Statement is submitted:

☐ With the application; accordingly, no fee or separate requirements are required.

☒ **Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.**

☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.

- ☐ A fee is required. A check in the amount of * is enclosed.
- ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly; no fee is believed to be due.

☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.

- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a check in the amount of * is enclosed.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

PAGE 4/22 * RCVD AT 4/30/2007 3:10:46 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID:2125295132 * DURATION (mm-ss):06-30

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time.

Dated: April 25, 2007

Respectfully submitted,

By: _____

Michael J. Mauriel
Registration No. 44,226

Mauriel Patent Practice
168 Second Avenue, Box 352
New York, NY 10003
Telephone: (212) 529-5131
Facsimile: (212) 529-5132

PAGE 5/22 * RCVD AT 4/30/2007 3:10:46 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID:2125295132 * DURATION (mm-ss):06-30

PTO/SB/08A (09-06)
Approved for use through 03/31/2007. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	~~2626~~ 2421
Examiner Name	~~C.C. Grant~~
Attorney Docket Number	1004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/C.S./	1	US- 5,945,988	08/31/1999	Williams et al.	col. 8 line 56-col. 9 line 30;
/C.S./	2	US- 2002/0010919 A1	01/24/2002	Lu et al.	Paragraphs 0038-0041
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
/C.S./	3	International Search	05/27/2005		Pages 1-14	
/C.S./		Report for PCT/US05/18934				

Examiner Signature	/Chenea Smith/	Date Considered	11/18/2009

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 11/18/2009

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
#23
New York, NY 10003

EXAMINER	
SMITH, CHENEA	
ART UNIT	PAPER NUMBER
2421	
MAIL DATE	DELIVERY MODE
11/18/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Interview Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	CHENEA P. SMITH	2421	

All participants (applicant, applicant's representative, PTO personnel):

(1) *CHENEA P. SMITH*.

(2) *Michael Mauriel*.

(3)*Jonathan Steuer*.

(4)*Christopher Otto (phone)*.

Date of Interview: *09 November 2009*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☒ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *1*.

Identification of prior art discussed: *Lu (of record)*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Applicants' arguments appear to overcome the art rejection of record, however further search and consideration is required*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Reuben M. Brown/ Patent Examiner, Art Unit 2424	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

———

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Attorney Docket No.: 10004-2000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:
Jonathan S. Steuer

Application No.: 11/139,330 Group Art Unit: 2421

Filing Date: May 26, 2005 Examiner: C. Smith

Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

INTERVIEW SUMMARY

Mail Stop
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Applicants and Applicants' attorney met with Examiner Smith at the USPTO at 11:00AM on Tuesday November 10, 2009. Inventor Jonathan Steuer and the undersigned attorney were present in person with Examiner Smith; inventor Christopher Otto joined by telephone. Applicants thank the Examiner for taking the time to discuss this case.

The claimed invention was discussed relative to Lu, the primary reference relied upon by Examiner Graham in the Final Office Action dated 4-15-09. The difference between the claimed invention and the reference were discussed. Examiner Smith indicated on a preliminary basis that Applicants' arguments discussed during the interview, which had also been presented in writing with the RCE filed on September 15, 2009, appeared persuasive. Examiner Smith indicated that if further review of Lu by the Examiner altered this preliminary indication, the Examiner would attempt to reach Applicants' attorney before issuing a next office action in this matter. The

Examiner indicated that if further review did not raise unforeseen additional issues with the present claim language relative to Lu, the next office action would probably be forthcoming in approximately two weeks.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: November 12, 2009

Respectfully submitted,

By _____
Michael Mauriel
Registration No.: 44,226
Mauriel Kapouytian & Treffert LLP
151 First Avenue #23
New York, New York 10003
(212) 529-5131
Attorney(s) for Applicant

Electronic Acknowledgement Receipt	
EFS ID:	6445427
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	12-NOV-2009
Filing Date:	26-MAY-2005
Time Stamp:	18:42:27
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant summary of interview with examiner	1000420001InterviewSummary.pdf	2185473 4db6e2f735a02b06370dbd0987471fb20f9dd173	no	2

Warnings:
Information:

Total Files Size (in bytes):	2185473

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc code: RCEX
Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	11/139,330	Filing Date	2005-05-26	Docket Number (if applicable)	10004-2000100	Art Unit	2426
First Named Inventor	Jonathan S. Steuer			Examiner Name	C. Smith		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 504242

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

PTO/SB/30EFS (07-09)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Signature of Registered U.S. Patent Practitioner			
Signature	/Michael Mauriel/	Date (YYYY-MM-DD)	2009-09-15
Name	Michael Mauriel	Registration Number	44226

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/22 (07-09)
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U.S. Patent and Trademark Office; U.S. DEPARMENT OF COMMERCE
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) **FY 2009** ***(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)***	Docket Number (Optional) 10004-2000100
Application Number 11/139,330	Filed May 26, 2005
For MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD	
Art Unit 2426	Examiner C. Smith

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	
☐	One month (37 CFR 1.17(a)(1))	$130	$65	$
☑	Two months (37 CFR 1.17(a)(2))	$490	$245	$ 245.00
☐	Three months (37 CFR 1.17(a)(3))	$1110	$555	$
☐	Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐	Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☑ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-4242.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration Number 44,226

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

/Michael Mauriel/	September 15, 2009
Signature	Date
Michael Mauriel	(212) 529-5131
Typed or printed name	Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☑ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/SB/22 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARMENT OF COMMERCE
Under the paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) **FY 2009** ***(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)***	Docket Number (Optional) 10004-2000100
Application Number 11/139,330	Filed May 26, 2005
For MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD	
Art Unit 2426	Examiner C. Smith

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

		Fee	Small Entity Fee	
☐	One month (37 CFR 1.17(a)(1))	$130	$65	$
☑	Two months (37 CFR 1.17(a)(2))	$490	$245	$ 245.00
☐	Three months (37 CFR 1.17(a)(3))	$1110	$555	$
☐	Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐	Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☑ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-4242.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration Number 44,226

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

/Michael Mauriel/	September 15, 2009
Signature	Date
Michael Mauriel	(212) 529-5131
Typed or printed name	Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☑ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Attorney Docket No.: 10004-2000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:
Jonathan STEUER et al.

Application No.: 11/139,330 Group Art Unit: 2426

Filing Date: May 26, 2005 Examiner: C. Smith

Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

RESPONSE UNDER 37 CFR § 1.114

Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

This is in response to the Office Action dated April 15, 2009 (Paper No. 20090330) for which a response was due on July 15, 2009. A petition and fee for a two month extension of time is submitted herewith. Accordingly, this response is timely filed. A Request for Continued Examination is also submitted herewith. Reconsideration and allowance of the pending claims in light of the remarks presented herein are respectfully requested.

A listing of the Claims begins on page 2 of this paper.

Remarks begin on page 7 of this paper.

CLAIMS

Claim 1 (Previously Amended): A media measurement method comprising:

submitting data samples corresponding to portions of audio data captured at a monitoring device of an audience member for content recognition against known media content; and

using audience data to enhance content identification of a sample, the audience data including one or more of: a media consumption pattern of the audience member and a location of the audience member.

Claim 2 (Previously Amended): The method of claim 1 wherein:

the audience data includes a media consumption pattern of the audience member and;

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 3 (Original): The method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content.

Claim 4 (Previously Amended): The method of claim 1 wherein:

the audience data includes a media consumption pattern of the audience member;

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member; and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 5 (Previously Amended): The method of claim 1 wherein:

the audience data includes a location of the audience member; and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the location of the audience member.

Claim 6 (Previously Amended): The method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 7 (Previously Amended): The method of claim 1 wherein:

the audience data includes a location of the audience member; and

using audience data comprises scrubbing a raw play stream by analyzing known content related to a location of the audience.

Claim 8 (Previously Amended): The method of claim 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member.

Claim 9 (Original): The method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

Claim 10 (Original): The method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm.

Claim 11 (Original): The method of claim 9 wherein an expected content type includes absence of recognized content.

Claim 12 (Original): The method of claim 9 wherein an expected content type includes music audio.

Claim 13 (Original): The method of claim 9 wherein an expected content type includes voice audio.

Claim 14 (Original): The method of claim 9 wherein an expected content type includes music, voice and sound effect audio.

Claims 15-17 (Previously Cancelled).

Claim 18 (Previously Amended): The method of claim 2 wherein the media consumption pattern is determined at least in part by examining log data of a media player of the audience member.

Claims 19-53 (Previously Cancelled).

Claim 54 (Previously Amended): A computer program product for measuring media usage, the computer program product comprising executable instruction code in an electronically readable medium for at least:

submitting data samples corresponding to portions of audio data captured at a monitoring device of an audience member for content recognition against known media content; and

using audience data to enhance content identification of a sample, the audience data including one or more of: a media consumption pattern of the audience member and a location of the audience member.

Claim 55 (Previously Amended): The computer program product of claim 54 wherein audience data includes the media consumption patter of the audience member and the executable instruction code is also for at least:

performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of the audience member.

Claim 56 (Previously Amended): The computer program product of claim 54 wherein the audience data includes a media consumption pattern of the audience member and the executable instruction code is also for at least:

determining the media consumption pattern of the audience member by using a media consumption pattern of persons sharing characteristics of the audience member; and

performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member.

Claim 57 (Original): The computer program product of claim 54 wherein the executable instruction code is also for at least:

selecting from multiple content recognitions algorithms based upon expected content type to optimize recognition performance.

Claim 58 (Original): The computer program product of claim 54 wherein the executable instruction code is also for at least

selecting from multiple settings of a content recognition algorithm.

Claim 59 (Previously Amended): The computer program product of claim 55 wherein the executable instruction code is also for at least:

performing an identification attempt by testing samples against content identified using log data from a media player associated with the audience member.

Claim 60 (Previously Amended): The computer program product of claim 55 wherein the executable instruction code is also for at least:

determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member; and

using channel data to perform an identification attempt by testing a submitted sample against content corresponding to content of the channel.

Claims 61-62 (Previously Cancelled).

REMARKS

Claims 1-14, 18 and 54-60 were and remain pending. Of those, none are currently amended.

Consistency of Status Identifiers

In the Office Action, the Examiner notes the inconsistency in status identifiers for claim 14. The Examiner correctly assumed that claim 14 remains pending. Applicants thank the Examiner for bringing this inconsistency to their attention and the inconsistency has been removed from the current claim listing to make clear that claim 14 remains pending.

Examiner's response to Applicants' prior arguments

In the Office Action, the Examiner states: "With respect to argument that 'detectors are not associated with particular audience members . . .'; this argument is moot given that is not claimed." Office Action at page 2. Applicants respectfully point out that the Examiner apparently overlooked the relevant portion of the Applicants Amendment dated January 21, 2009. In that Amendment, Applicants added the language "of an audience member" after the words "monitoring device" to make clear that in the claim, unlike in Lu, the monitoring device that captures audio data is associated with an audience member. By contrast, in Lu, the monitoring devices that capture audio data are associated with particular media playing devices, not with any audience member. See Lu Figure 2 (showing separate monitoring devices for each media playing device), also see the Remarks section of Applicants Amendment of January 21, 2009 at pages 8-9.

Applicants respectfully submit that the Examiner improperly ignored the added language. Because the added language defines a feature not disclosed in Lu, the rejections over Lu should be removed for at least this reason.

Claim rejections under 35 U.S.C. § 102

In the Office Action, claims 1-14, 18, and 54-60 are rejected again under 35 U.S.C. 102(b) as being anticipated by Lu et al. (US 2002/0010919 A1).

As to claims 1 and 54, the only pending independent claims, the Examiner states that Lu discloses "using audience data to enhance identification of a sample, the audience data including one or more of: a media consumption pattern of the audience member and a location of the audience member (see Lu, [78], audience data such as the on state of viewing equipment enhances identification of sample, allowing the sample to be received and monitored, tuned program is content identified using audience data, a media consumption pattern (tuning to a particular channel) included." Office Action, at page 4 (regarding claim 1) and at page 5 (regarding claim 54). Applicants are confused by the Examiner's statement. The claim expressly recites that audience data includes "one or more of; a media consumption pattern of the audience member and a location of the audience member." The Examiner appears to be stating that the "on-state of viewing equipment" is audience data. However, the Examiner also links "tuning to a particular channel" to "media consumption pattern." In any event, the Examiner does nothing to show how either the on-state of viewing equipment or tuning to a particular channel can be "audience data." Applicants respectfully submit the Examiner is required to do this because the plain meaning of the phrase "audience data" indicates data related to an audience member. The "on state of viewing equipment" and/or the channel to which the equipment is tuned are by definition related to viewing equipment rather than to an audience member. The Examiner points to nothing in Lu, and Applicant cannot find anything in Lu, to suggest otherwise.

Moreover, the claim specifies that audience data includes "one or more of: a media consumption pattern of the audience member and a location of an audience member." (Emphasis added). The word pattern at minimum indicates something based on a composite or collection of data items. By definition neither "the on-state of viewing equipment" nor a single instance of channel tuning of the equipment can be a "pattern" as each simply references a single data element. Furthermore, as already indicated, neither are "of an audience member" as claimed because both relate to viewing equipment, not audience members. I.e., in Lu an audience member is not "on" or

"off" or "tuned to a particular channel." These are characteristics of viewing equipment, not "of the audience member."

Applicants further note that channel tuning in Lu cannot be the claimed audience data for the additional reason that Lu does not teach using channel tuning information "to enhance content identification." In fact, Lu teaches precisely the reverse. Specifically, Lu uses content codes to help identify channel-tuning. For example, Lu states that when the audio data includes a program identifying code, that code "is expected to identify the program tuned by the monitored television." Lu at **[0078]**. Lu states that when such a code is not present: "The balance of the measurement system (e.g., the audio signal methods employed by any of the other embodiments 60, 200, and 400 described above) is relied on in order to identify the tuning." Lu at **[0079]** (emphasis added). In other words, Lu uses audio data to identify content being played by a particular media playing device and then uses that identification to attempt to determine the "tuning" of the device. Thus channel tuning in Lu is simply not used to "enhance content identification;" rather, in Lu content identification is used to help identify channel tuning.

With respect to the recitation of "location of the audience member," the Examiner cites Lu's reference to "face recognition." Office Action at page 3. However, the claim requires using the audience data "to enhance content identification." Lu does not use "face recognition" of an audience member to help identify content. Rather Lu simply uses face recognition to determine who, if anyone, is in the vicinity of a television set. (See Lu at [0038]). The Office Action does not even attempt to link face recognition in Lu to identifying content because Lu shows no such link. Therefore, Lu's disclosure of face recognition does not teach or even suggest the invention claimed.

Applicants respectfully submit for the reasons stated above that the Office Action does not establish that Lu anticipates claims 1 and 54 as previously presented, even under the broadest reasonable interpretation of the claim language.

For the reasons stated above, Applicants respectfully request that the rejection of claims 1 and 54 over Lu be withdrawn.

Claims 2-11 and 18 depend from claim 1 and claims 55-60 depend from claim 54. Therefore, Applicants respectfully request that the rejections of those claims be withdrawn for at least the same reasons.

Claim rejections under 35 USC § 103

In the Office Action, claims 12, 13, and 14 are rejected under 35 U.S.C. 103(a) as being obvious over Lu et al. (US 2002/0010919 A1) in view of Williams et al. (USP 5,945,988). Claims 12-14 depend from claim 9 which in turn depends from claim 1. Examiner's basis for rejecting claims 12-14 over Lu in view of Williams depends on the basis for rejecting claim 9 over Lu which in turn depends on the basis for rejecting claim 1 over Lu. Because Applicants respectfully submit that claims 1 and 9 are now allowable over Lu for the reasons already set forth above, Applicants respectfully request that the rejection of claims 12-14 be withdrawn for at least the same reasons.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conversation would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: September 15, 2009

Respectfully submitted,

By _____

Michael Mauriel
Registration No.: 44,226
Mauriel Kapouytian & Treffert LLP
151 First Avenue #23
New York, NY 10003
(212) 529-5131
Attorney(s) for Applicant

Electronic Patent Application Fee Transmittal

Application Number:	11139330
Filing Date:	26-May-2005
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Filer:	Michael John Mauriel/Victoria Wilson
Attorney Docket Number:	10004-2000100

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with $0 paid	2252	1	245	245

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for continued examination	2801	1	405	405
		Total in USD ($)		**650**

Electronic Acknowledgement Receipt	
EFS ID:	6078395
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	15-SEP-2009
Filing Date:	26-MAY-2005
Time Stamp:	17:31:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Electronic Funds Transfer
Payment was successfully received in RAM	$650
RAM confirmation Number	4012
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Request for Continued Examination (RCE)	1000420001RCETrnsmtl.pdf	2109957 b186183c2b882d7eea8c2b9b1730a97b89ac942c	no	2
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
2	Extension of Time	1000420001PetitionExtensionTime.pdf	1055663 021f936123aa4ff6eaf17d6c40bf2c747a4ea674	no	1
Warnings:					
Information:					
3		1000420001ResponsewRCE.pdf	11602257 392efcef61fb7849164086df6521e2008f909443	yes	11

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment Submitted/Entered with Filing of CPA/RCE	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	11

Warnings:					
Information:					
4	Fee Worksheet (PTO-875)	fee-info.pdf	31685 c77289bf31d0a7782f12920ee8e1ff6f6cd32bb4	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	14799562	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/139,330	05/26/2005	

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT		(Column 1)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
	09/15/2009	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 22	Minus	** 62	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 2	Minus	***7	= 0	X $110 =	0	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT		(Column 1)		(Column 2)	(Column 3)					
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/DIANE WILLIAMS/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTOL-413A (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Applicant Initiated Interview Request Form

Application No.: 11/139,330 First Named Applicant: Jonathan S. STEUER

Examiner: Paul J. Graham Art Unit: 2426 Status of Application: After Final

Tentative Participants:

(1) Michael Mauriel (Attorney) (2) Paul J. Graham

(3) Vivek Srivastava (Supervisory Patent Examiner) (4) Jonathan S. Steuer

Proposed Date of Interview: Monday September 14th **Proposed Time:** 2:00PM AM/PM

Type of Interview Requested:

(1) ☑ Telephonic (2) ☐ Personal (3) ☐ Video Conference

Exhibit To Be Shown or Demonstrated: ☐ YES ☑ NO

If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) Rejection	Claim 1	Lu	☐	☐	☐
(2)			☐	☐	☐
(3)			☐	☐	☐
(4)			☐	☐	☐

☐ Continuation Sheet Attached

Brief Description of Argument to be Presented:

1.The final rejection (p.2) inaccurately states that detectors being associated with audience members "is not claimed."

2.The final rejection ignores at least the word "pattern" in finding Lu discloses using a media consumption pattern.

3. Discuss proposed language for after-final amendment to further specify in the claim how audience data is used.

An interview was conducted on the above-identified application on _____.

NOTE: This form should be completed by applicant and submitted to the examiner in advance of the interview (see MPEP § 713.01).

This application will not be delayed from issue because of applicant's failure to submit a written record of this interview. Therefore, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible.

Applicant/Applicant's Representative Signature

Michael Mauriel

Typed/Printed Name of Applicant or Representative

44,226

Registration Number, if applicable

Examiner/SPE Signature

This collection of information is required by 37 CFR 1.133. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Mauriel Kapouytian & Treffert LLP

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Fax: 415-992-3421
Email: akapouytian@mktllp.com

www.mktllp.com

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FAX COVER SHEET

DATE:	September 10, 2009
TO:	**Attn: Supervisory Patent Examiner Vivek Srivastava Group Art Unit 2426**
COMPANY:	**US Patent and Trademark Office**
FAX:	**(571) 273-8300**
FROM:	Michael Mauriel
RE:	**Application No. #11/139,330**
PAGES:	**2** (including cover)

Contents:

Interview request form

PAGE 1/2 * RCVD AT 9/10/2009 5:48:02 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/33 * DNIS:2738300 * CSID:2125295132 * DURATION (mm-ss):00-28

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 04/15/2009

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
#23
New York, NY 10003

EXAMINER	
GRAHAM, PAUL J	
ART UNIT	**PAPER NUMBER**
2426	

MAIL DATE	DELIVERY MODE
04/15/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	PAUL GRAHAM	2426	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14,18 and 54-60* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14,18,54-60* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant argues:

Portion of Lu cited does not teach claim 1 as filed.

The Examiner respectfully disagrees. In fact, Lu does teach audience data to enhance identification of sample, for example a tuning to a particular channel or program is meaningless without the equipment in an on state. With respect to the argument that "it does nothing to compare…" is moot, given that this is not claimed.

With respect to the argument that Lu does not teach content identification, it is shown in Lu that audience members tune to a program or channel, which *is content*; therefore anything that aids identification of same enhances identification.

With respect to argument that "detectors are not associated with particular audience members…"; this argument is moot given that it is not claimed.

With respect to arguments about 103 rejection, see base independent claim responses above.

The applicant's arguments have been fully considered and are not persuasive. Claims 1-14, 18, 54-60 stand rejected.

Claim Objections

2. As of the Amendments to the Claims document (1/21/09), claim 14 has conflicting status indicators. It is listed as "original" as well as "cancelled" on page 4 of the document. The Remarks document (1/21/09) notes that claims 15-17 have been cancelled, the

working assumption is that claim 14 is still pending and has not been cancelled. Please make certain claim status identifiers are in order for both the Remarks and Amended Claims documents.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-11, 18, 54-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu et al. (US 2002/0010919 A1).

As to claim 1, Lu discloses a media measurement method comprising (see Lu, [14]):

submitting data samples corresponding to portions of audio data captured at a monitoring device of an audience member for content recognition against known media content (see Lu, [16, 34-35, 78], fig. 2 submitting data samples such as audio component at monitoring device (TV audience measurement system with means, which is of an audience member, fig. 4, [43, 48]) for content recognition against known media (using program id codes or signatures compared against the known [3, 55,63]); and

using audience data to enhance content identification of a sample, the audience data including one or more of: a media consumption pattern of the audience member and a location of the audience member (see Lu, [78], audience data such as the on state of viewing equipment enhances identification of sample, allowing sample to be received and monitored, tuned program is content identified using audience data, a media consumption pattern (tuning to particular channel) included).

As to claim 54, Lu discloses a computer program product for measuring media usage (see Lu, [14, 19]):

the computer program product comprising executable instruction code in an electronically readable medium for at least (see Lu, [14, 19, 81] logging program data is executed instruction as well as other operating tasks):

submitting data samples corresponding to portions of audio data captured at a monitoring device of an audience member for content recognition against known media content (see Lu, [16, 34-35, 78], fig. 2 submitting data samples such as audio component at monitoring device (TV audience measurement system with means, which is of an audience member, fig. 4, [43, 48]) for content recognition against known media (using program id codes or signatures compared against the known [3, 55,63]); and

using audience data to enhance content identification of a sample, the audience data including one or more of: a media consumption pattern of the audience member and a location of the audience member (see Lu, [78], audience data such as the on state of viewing equipment enhances identification of sample, allowing sample to be received and monitored, tuned program is content identified using audience data, a media consumption pattern (tuning to particular channel) included).

As to claim 3, Lu discloses the method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content (see Lu [39-40, 55, 79], provided that On state is new status (not successful in that nothing else is discerned), the *balance of the measurement system* is relied on to identify the tuning, said balance includes program id by audio scanning of baseband, comparisons with previously collected references, a larger portion of the known content).

As to claim 4, Lu discloses the method of claim 1 wherein:
the audience data includes a media consumption pattern of the audience member (see Lu, [78], tuned program is content identified using audience data, a media consumption pattern (tuning to particular channel) included);
the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member (see Lu,

[78], tuned program is content identified using audience data, a media consumption pattern (tuning to particular channel) included) ; and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the media consumption pattern of persons sharing characteristics of the audience member (see Lu, [38], audience data such as head location/ face recognition leads to more demographic data of persons sharing characteristics of audience member (other viewers) using the monitoring device).

As to claim 5, Lu discloses the method of claim 1 wherein:
the audience data includes a location of the audience member (see Lu, [38], audience data such as head location/ face recognition); and
using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to the location of the audience member (see Lu, [37-38], home unit is in relation to audience member's location).

As to claim 6, Lu discloses the method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device being used by a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device used by

the first audience member (see Lu, [38, 86] a first audience member is determined (via face recognition or keyboard recognition) as well as a second member determined in similar viewing group (note, "identification of viewing persons")).

As to claim 7, Lu discloses the method of claim 1 wherein:
the audience data includes a location of the audience member (see Lu, [38], audience data such as head location/ face recognition);
using audience data comprises scrubbing a raw play stream by analyzing known content related to a location of the audience (see Lu, [37-38], home unit is in relation to audience member's location).

As to claim 8, Lu discloses the method of claim 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device of the first audience member (see Lu, [38, 86] a first audience member is determined (via face recognition or keyboard recognition) as well as a second member determined in similar viewing group (note, "identification of viewing persons")).

As to claim 9, Lu discloses the method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based

upon expected content type to optimize recognition performance (see Lu, [14-19], fig. 6/7 note that multiple content recognition algorithms (such as analog TV, DTV or PC) are based upon expected content type to optimize recognition performance).

As to claim 10, Lu discloses the method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm (see Lu, [1-19], fig. 6 and 7 note multiple settings, STB for analog, or DTV for digital).

As to claim 11, Lu discloses the method of claim 9 wherein an expected content type includes absence of recognized content (see Lu, [54-55], expected content type is absence of a program id code (recognized content), expected because alternative (scanning baseband) is made available).

As to claim 18, Lu discloses the method of claim 2 wherein the media consumption pattern is determined at least in part by examining log data of a media player of the audience member (see Lu, [82-84], fig. 7 shows use of log data of media player of audience member (TV or PC)).

As to claim 60, Lu discloses the method of claim 55 wherein the executable instruction code is also for at least:

determining the media consumption pattern at least in part by using channel data relating to a channel experienced by an audience member using the monitoring device (see Lu, [14-16, 34] using channel data related to channel experienced by audience is using *tuned* info);

using channel data to perform an identification attempt by testing a submitted sample against content corresponding to at least a portion of channel content (see Lu, [14-16, 34] using channel data is using *tuned* info, testing against content of channel is considering program id codes and audio portion signature).

As to claims 55-59, they are analyzed similar to claims 2, 4, 9, 10, 18, respectively.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 12, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu et al. (US 2002/0010919 A1) in view of Williams et al. (US 5 945 988).

As to claim 12, Lu discloses the method of claim 9; Lu teaches that an expected type is audio (see Lu, [11]), but is unclear wherein an expected content type includes music audio.

Williams, who discloses a system of determining and updating preferences in an entertainment network does teach music audio (see Williams, col. 15, ll. 10-40, fig. 7 shows music audio type).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the system of Lu with the system of Williams in order to allow the user access to audio of different types of content (including music) (see Williams, col. 15, ll. 10-35, fig. 7).

As to claim 13, Lu and Williams (as combined) disclose the method of claim 9 wherein an expected content type includes voice audio (see Williams, col. 9, l. 30-col. 10, l. 60, setup of recognition system uses voice audio, an expected content).

As to claim 14, Lu and Williams (as combined) disclose the method of claim 9 wherein an expected content type includes music, voice and sound effect audio (see Williams, fig. 7, a movie inherently includes all the content types listed: music, voice, and sound effect audio).

Conclusion

Applicant's amendment necessitated the ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul J. Graham whose telephone number is 571-270-1705. The examiner can normally be reached on Monday-Friday 8:00a-5:00p EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

pjg
3/30/2009

/VIVEK SRIVASTAVA/

Supervisory Patent Examiner, Art Unit 2426

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
	Paul J Graham	2426

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008	03/30/2009							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
	13	✓	✓							
	14	✓	✓							
	15	✓	-							
	16	✓	-							
	17	✓	-							
	18	✓	✓							
	19	N	N							
	20	N	N							
	21	N	N							
	22	N	N							
	23	N	N							
	24	N	N							
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	26	N	N							
	27	N	N							
	28	N	N							
	29	N	N							
	30	N	N							
	31	N	N							
	32	N	N							
	33	N	N							
	34	N	N							
	35	N	N							
	36	N	N							

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
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☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008	03/30/2009							
	37	N	N							
	38	N	N							
	39	N	N							
	40	N	N							
	41	N	N							
	42	N	N							
	43	N	N							
	44	N	N							
	45	N	N							
	46	N	N							
	47	N	N							
	48	N	N							
	49	N	N							
	50	N	N							
	51	N	N							
	52	N	N							
	53	N	N							
	54	✓	✓							
	55	✓	✓							
	56	✓	✓							
	57	✓	✓							
	58	✓	✓							
	59	✓	✓							
	60	✓	✓							
	61	✓	-							
	62	✓	-							

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
	Paul J Graham	2426

SEARCHED			
Class	Subclass	Date	Examiner
725	9, 11, 12, 24, 27, 98	4/30/08	pjg
704	231	4/30/08	pjg

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Name Search and Continuity Search	4/28/08	pjg
EAST search	4/28/08	pjg
updated search	9/4/08	pjg
update search	3/30/09	pjg

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6	11/139,330	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/03/30 11:35
L2	30	("20020010919" | "20020010919" | "20020059577" | "20020072982" | "20020161741" | "20040122679" | "20060059277" | "3919479" | "4677466" | "4697209" | "5594934" | "5778137" | "5945988" | "6513161" | "6990453").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2009/03/30 11:39

3/30/2009 1:52:16 PM
C:\Documents and Settings\pgraham\My Documents\EAST\Workspaces\Steuer_11139330_R.wsp

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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 01/23/2009

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
#23
New York, NY 10003

EXAMINER	
GRAHAM, PAUL J	
ART UNIT	**PAPER NUMBER**
2426	

MAIL DATE	DELIVERY MODE
01/23/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Interview Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	PAUL GRAHAM	2426	

All participants (applicant, applicant's representative, PTO personnel):

(1) *PAUL GRAHAM*.

(2) *Annan Shang*.

(3)*Mike Mauriel #44,226*.

(4)*Jonathan Steuer*.

Date of Interview: *13 January 2009*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *orig. claim 1, 5*.

Identification of prior art discussed: *prior art of record*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Better definition to broad claim language and the merits of the rigors of an interview agenda were discussed*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Annan Q Shang/ Primary Examiner, Art Unit 2424	

Attorney Docket No.: 10004-2000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:
Jonathan STEUER et al.

Application No.: 11/139,330 Group Art Unit: 2426

Filing Date: May 26, 2005 Examiner: P. Graham

Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

AMENDMENT UNDER 37 CFR § 1.111

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

This is in response to the Office Action dated October 21, 2008 (Paper No. 20081007) for which a response is due on January 21, 2009. Accordingly, this response is timely filed. Reconsideration and allowance of the pending claims, as amended, in light of the remarks presented herein are respectfully requested.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 7 of this paper.

A replacement drawing sheet is provided with this paper.

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows, where additions are underlined and deletions are indicated by ~~strikethrough~~ or enclosed in [[double brackets]]:

Claim 1 (Currently Amended). A media measurement method comprising:

submitting data samples corresponding to portions of audio data captured at a monitoring device of an audience member for content recognition against known media content; and

using audience data to enhance content identification of a sample~~.~~, the audience data including one or more of: a media consumption pattern of the audience member and a location of the audience member.

Claim 2 (Currently Amended). The method of claim 1 wherein:

the audience data includes a media consumption pattern of the audience member and;

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to ~~a~~ the media consumption pattern of ~~an~~ the audience member ~~using the monitoring device~~.

Claim 3 (Original). The method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content.

Claim 4 (Currently Amended). The method of claim 1 wherein:

the audience data includes a media consumption pattern of the audience member;

the media consumption pattern of the audience member is determined by using a media consumption pattern of persons sharing characteristics of the audience member; and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to ~~a~~the media consumption pattern of persons sharing characteristics of ~~an~~the audience member ~~using the monitoring device~~.

Claim 5 (Currently Amended). The method of claim 1 wherein:

the audience data includes a location of the audience member; and

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to ~~a~~the location of ~~an~~the audience member ~~using the monitoring device~~.

Claim 6 (Currently Amended). The method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device ~~being used by~~of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device ~~used by~~of the first audience member.

Claim 7 (Currently Amended). The method of claim 1 wherein:

the audience data includes a location of the audience member; and

using audience data comprises scrubbing a raw play stream by analyzing known content related to a location of ~~an~~the audience ~~member using the monitoring device~~.

Claim 8 (Currently Amended). The method of claim 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device ~~being used by~~of a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device ~~used by~~of the first audience member.

Claim 9 (Original). The method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

Claim 10 (Original). The method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm.

Claim 11 (Original). The method of claim 9 wherein an expected content type includes absence of recognized content.

Claim 12 (Original). The method of claim 9 wherein an expected content type includes music audio.

Claim 13 (Original). The method of claim 9 wherein an expected content type includes voice audio.

Claim 14 (Original). The method of claim 9 wherein an expected content type includes music, voice and sound effect audio.

Claims 14-17 (Cancelled).

Claim 18 (Currently Amended). The method of claim 2 wherein the media consumption pattern is determined at least in part by examining log data of a media player of ~~an~~the audience member ~~using the monitoring device~~.

Claims 19-53 (Cancelled).

Claim 54 (Currently Amended). A computer program product for measuring media usage, the computer program product comprising executable instruction code in an electronically readable medium for at least:

submitting data samples corresponding to portions of audio data captured at a monitoring device of an audience member for content recognition against known media content; and

using audience data to enhance content identification of a sample~~.~~, the audience data including one or more of: a media consumption pattern of the audience member and a location of the audience member.

Claim 55 (Currently Amended). The computer program product of claim 54 wherein audience data includes the media consumption patter of the audience member and the executable instruction code is also for at least:

performing an identification attempt by testing a submitted sample against a portion of the known content related to ~~a~~the media consumption pattern of ~~an~~the audience member ~~using the monitoring device~~.

Claim 56 (Currently Amended). The computer program product of claim 54 wherein the audience data includes a media consumption pattern of the audience member and the executable instruction code is also for at least:

determining the media consumption pattern of the audience member by using a media consumption pattern of persons sharing characteristics of the audience member; and

performing an identification attempt by testing a submitted sample against a portion of the known content related to ~~a~~the media consumption pattern of persons sharing characteristics of ~~an~~the audience member ~~using the monitoring device~~.

Claim 57 (Original). The computer program product of claim 54 wherein the executable instruction code is also for at least:

selecting from multiple content recognitions algorithms based upon expected content type to optimize recognition performance.

Claim 58 (Original). The computer program product of claim 54 wherein the executable instruction code is also for at least

selecting from multiple settings of a content recognition algorithm.

Claim 59 (Currently Amended). The computer program product of claim ~~54~~55 wherein the executable instruction code is also for at least:

performing an identification attempt by testing samples against content identified using log data from a media player associated with ~~an~~the audience member ~~using the monitoring device~~.

Claim 60 (Currently Amended). The computer program product of claim ~~54~~55 wherein the executable instruction code is also for at least:

determining the media consumption pattern at least in part by using channel data relating to a channel experienced by the audience member; and

using channel data to perform an identification attempt by testing a submitted sample against content corresponding to content of the channel.

Claim 61 (Cancelled). ~~A media measurement system comprising:~~

~~content recognition means for attempting identification of a media sample; and~~

~~means for enhancing identification of the media sample using information exogenous to the media sample.~~

Claim 62 (Cancelled). ~~A media measurement method comprising:~~

~~recognition steps for attempting identification of a media sample; and~~

~~steps for enhancing identification of the media sample using information exogenous to the media sample.~~

REMARKS

Claims 1–62 were pending in the present application. Claims 19–53 were previously withdrawn from consideration in response to a restriction requirement and are now canceled because those claims are being pursued in various divisional applications. Claims 15–17 and 61–62 have also been cancelled. Therefore, Claims 1–14, 18 and 54–60 are pending. Of those, claims 1–2, 4–8, 18, 54–56, 59, and 60 are currently amended.

Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added. Entry of the above-mentioned amendments is respectfully requested.

Summary of Telephone Interview of January 13, 2009

On January 13, 2009 the Applicant and the undersigned attorney met for an interview via telephone with the Examiner and the Supervisory Examiner. Applicant thanks the Examiner and the Supervisory Examiner for taking the time to conduct the interview.

Issues regarding the rejection of claim 1 over Lu were discussed. The Examiner and the Supervisory Examiner suggested that the Applicant consider adding further language to claim 1 to more clearly define the distinctions between Lu and the invention claimed, particularly with respect to "audience data."

Corrected Drawings under 37 CFR 1.121(d)

The Examiner required correction of the spelling error in Figure 2. Applicant thanks Examiner for bringing this to Applicant's attention. A replacement drawing sheet in compliance with 37 CFR 1.121(d) is provided with this Amendment to correct the spelling of "transmission" in block 210 of Figure 2.

Claim rejections under 35 U.S.C. § 102

In the Office Action, claims 1-11, 15-18, 54-62 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu et al. (US 2002/0010919 A1).

As to claim 1, the Examiner states that Lu discloses "using audience data to enhance identification of a sample." Examiner references "Lu, [78]" and states Lu discloses that "audience data such as the on state of viewing equipment enhances the identification of sample, allowing sample to be received and monitored." Applicant respectfully submits that the portion of Lu which the Examiner cites does not teach claim 1 as originally filed for two reasons. First, "the on state of viewing equipment" is not audience data because it does nothing to compare or distinguish one audience member from other audience members and does not determine anything about the actions or characteristics of an audience member. Second, in Lu, the "on-state of viewing equipment" is not used to facilitate content identification.

However, in order to more clearly define the invention as recommended by the Examiner and the Supervisory Examiner, Applicant has amended claim 1 to recite that audience data includes "one or more of: a media consumption pattern of the audience member and a location of the audience member." Applicant has also amended claim 1 to make clear that the media monitoring device is associated with the audience member and that the audience data is used to enhance "content" identification. Nowhere does Lu disclose capturing audio at a monitoring device of the audience member and then using a media consumption pattern and/or a location of the audience member "to enhance content identification of a sample."

Lu's teachings are fundamentally different than Applicant's invention. As an initial matter, Lu's system relies on monitoring devices associated with particular media playing devices rather than monitoring devices associated with the audience member. For example, in the primary embodiment as shown in Figure 2 of Lu, each media device has a separate detector. Analog TV 70 is monitored by detector 68; digital television set 66 is monitored by detector 64, and computer 80 is

monitored by detector 78. (Lu [0034]-[0035]). That these detectors are not associated with particular audience members is made abundantly clear by the fact that Lu must rely on a "person identifier 98" in the vicinity of the particular media playing device to determine if anyone is watching the device and, if so, who. (Lu [0038]). Furthermore, any data collected by Lu through the "person identifiers" is NOT used to assist in content identification of the captured audio data. Rather, any data collected by the "person identifiers" in Lu is simply used to determine the identity of the people watching a particular media playback device. (Lu [0038]). Nowhere does Lu suggest that this data or any other data about an audience member is used to help identify content. Rather, Lu identifies Television programs only through use of audio data itself, for example, by using "television program-identifying codes" embedded in the audio data and detected by one of the detectors. (Lu [0037]).

In view of the current amendment of claim 1 and for the reasons stated above, Applicant respectfully requests that the rejection of claim 1 over Lu be withdrawn.

Claims 2-11 and 18 depend from claim 1. Therefore, Applicant respectfully requests that the rejections of those claims be withdrawn for at least the same reasons.

Applicant notes that the amendments to claims 2, 4, 5, 6, 7, 8, and 18 are necessary only to make these claims consistent with the changes to claim 1.

As to claim 54, the issues raised by the Examiner are the same as the issues raised with respect to claim 1. Claim 54 and claim 1 have been amended in the same manner. Therefore, for the same reasons stated above with respect to claim 1, Applicant respectfully requests that the rejection of claim 54 over Lu be withdrawn.

Claims 55-60 depend from claim 54. Therefore, Applicant respectfully requests that the rejections of those claims be withdrawn for at least the same reasons.

Claim rejections under 35 USC § 103

In the Office Action, claims 12, 13, and 14 are rejected under 35 U.S.C. 103(a) as being

obvious over Lu et al. (US 2002/0010919 A1) in view of Williams et al. (USP 5,945,988). Claims 12-14 depend from claim 9 which in turn depends from claim 1. Examiner's basis for rejecting claims 12-14 over Lu in view of Williams depends on the basis for rejecting claim 9 over Lu which in turn depends on the basis for rejecting claim 1 over Lu. Because Applicant respectfully submits that claims 1 and 9 are now allowable over Lu for the reasons already set forth above, Applicant respectfully requests that the rejection of claims 12-14 be withdrawn for at least the same reasons.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conversation would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: January 21, 2009

Respectfully submitted,

By _____

Michael Mauriel
Registration No.: 44,226
Mauriel Kapouytian & Treffert LLP
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Attorney(s) for Applicant

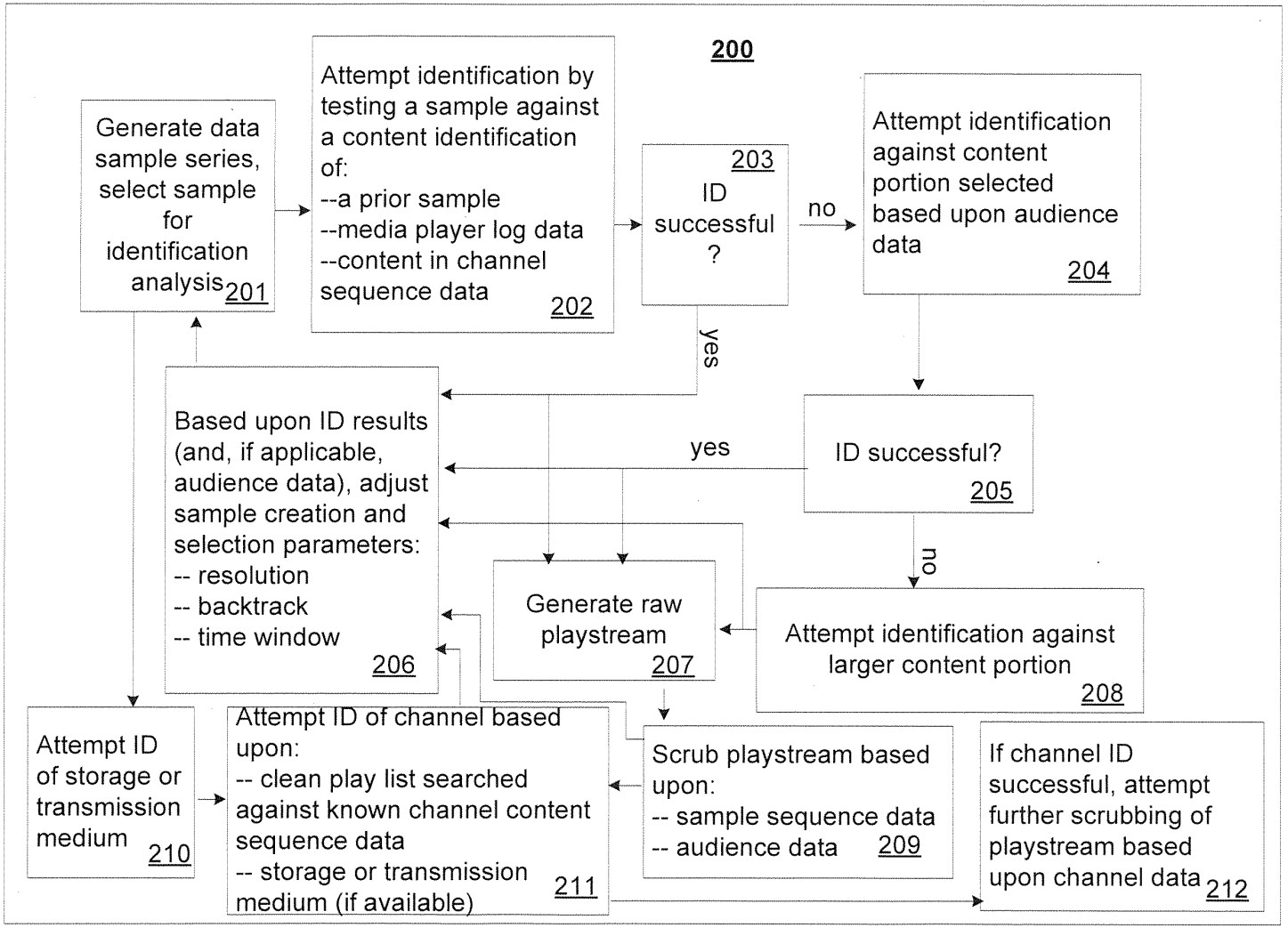


FIG. 2

REPLACEMENT DRAWING
Title: Media Measurement System and Method
Application No.: 11/139,330
Inventor(s): Jonathan STEUER et al.
Attorney Docket No.: 10004-200100
Sheet 1 of 1

Electronic Acknowledgement Receipt	
EFS ID:	4652224
Application Number:	11139330
International Application Number:	
Confirmation Number:	1039
Title of Invention:	Media usage monitoring and measurement system and method
First Named Inventor/Applicant Name:	Jonathan S. Steuer
Customer Number:	51417
Filer:	Michael John Mauriel/Victoria Wilson
Filer Authorized By:	Michael John Mauriel
Attorney Docket Number:	10004-2000100
Receipt Date:	21-JAN-2009
Filing Date:	26-MAY-2005
Time Stamp:	18:28:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	1000420001RespOATrnsmtl.pdf	136476 415d0f77f1c451d9ef4f12e2f4c2aeec409e98d0	no	1
Warnings:					
Information:					

2		1000420001ResponseOA.pdf	863568 3ce94c3a477e5560cdbb6d00449af58203b9a0d7	yes	10

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	10

Warnings:					
Information:					
3	Drawings-only black and white line drawings	1000420001ReplacementDrwg.pdf	109497 c5cd4ce934e1f5886f3f6b09ac6a19d6801a3688	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	1109541		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/21 (12-08)
Approved for use through 01/31/2009. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	12

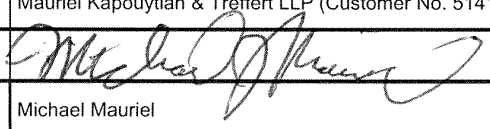
Application Number	11/139,330
Filing Date	May 26, 2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2426
Examiner Name	P. Graham
Attorney Docket Number	10004-2000100

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☑ Amendment/Reply - 10 pages
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☑ Drawing(s) (Replacement) - 1 Sheet
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☐ Other Enclosure(s) (please Identify below):

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Mauriel Kapouytian & Treffert LLP (Customer No. 51417)		
Signature			
Printed name	Michael Mauriel		
Date	January 21, 2009	Reg. No.	44,226

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature			
Typed or printed name		Date	

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
11/139,330	05/26/2005	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 01/21/2009	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 22	Minus	** 62	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 2	Minus	***7	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =		OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

Legal Instrument Examiner:
/STELLA LITTLE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	10004-2000100	1039

51417 7590 10/21/2008

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
#23
New York, NY 10003

EXAMINER	
GRAHAM, PAUL J	

ART UNIT	PAPER NUMBER
2426	

MAIL DATE	DELIVERY MODE
10/21/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	PAUL J. GRAHAM	2426	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-62* is/are pending in the application.

4a) Of the above claim(s) *19-53* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18 and 54-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 May 2008* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/17/06,6/2/06,4/30/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The references listed on the Information Disclosure statement filed 4/30/07, 6/2/06, 3/17/06 have been considered by examiner (see attached PTO-1449).

Election/Restrictions

2. Applicant's election without traverse of Group I (claims 1-18, 54-62) in the reply filed on 7/24/08 is acknowledged.

Drawings

3. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Figure 2 has mis-spelled "***transmission***". Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-11, 15-18, 54-62 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu et al. (US 2002/0010919 A1).

As to claim 1, Lu discloses a media measurement method comprising (see Lu, [14]):

submitting data samples corresponding to portions of audio data captured at a monitoring device for content recognition against known media content (see Lu, [16, 34-35, 78], fig. 2 submitting data samples such as audio component at monitoring device (TV audience measurement system with means) for content recognition against known media (using program id codes or signatures compared against the known [3, 55,63]); and

using audience data to enhance identification of a sample (see Lu, [78], audience data such as the on state of viewing equipment enhances identification of sample, allowing sample to be received and monitored).

As to claim 54, Lu discloses a computer program product for measuring media usage (see Lu, [14, 19]):

the computer program product comprising executable instruction code in an electronically readable medium for at least (see Lu, [14, 19, 81] logging program data is executed instruction as well as other operating tasks):

submitting a data samples corresponding to portions of audio data captured at a monitoring device for content recognition against known media content (see Lu, [16, 34-35, 78], fig. 2 submitting data samples such as audio component at monitoring device (TV audience measurement system with means) for content recognition against known media (using program id codes or signatures compared against the known [3, 55, 63]); and

using audience data to enhance identification of a sample (see Lu, [78], audience data such as the on state of viewing equipment enhances identification of sample, allowing sample to be received and monitored).

As to claim 61, Lu discloses a media measurement system comprising (see Lu, [14]):

content recognition means for attempting identification of a media sample (see Lu, [16, 34-35, 78], software agent is a means, fig. 2 submitting data samples such as audio component at monitoring device (TV audience measurement system with means) for content recognition against known media (using program id codes or signatures compared against the known [3, 55,63]); and

means for enhancing identification of the media sample using information exogenous to the media sample (see Lu, [77-80], software agent is a means, audience data such as the

on state of viewing equipment enhances identification of sample, allowing sample to be received and monitored, On state of equipment is exogenous to media sample).

As to claim 62, Lu discloses a media measurement method comprising (see Lu, [14]):

recognition steps for attempting identification of a media sample (see Lu, [16, 34-35, 78], fig. 2 submitting data samples such as audio component at monitoring device (TV audience measurement system with means) for content recognition against known media (using program id codes or signatures compared against the known [3, 55, 63]); and

steps for enhancing identification of the media sample using information exogenous to the media sample (see Lu, [77-80], note steps in Fig. 7, audience data such as the on state of viewing equipment enhances identification of sample, allowing sample to be received and monitored, On state of equipment is exogenous to media sample).

As to claim 2, Lu discloses the method of claim 1 wherein: using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of an audience member using the monitoring device (see Lu, [17—18,37-39, 80], once on-state is determined, agent may determine if packet label from data is same as previously determined (known) packet).

As to claim 3, Lu discloses the method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content (see Lu [39-40, 55, 79], provided that On state is new status (not successful in that nothing else is discerned), the *balance of the measurement system* is relied on to identify the tuning, said balance includes program id by audio scanning of baseband, comparisons with previously collected references, a larger portion of the known content).

As to claim 4, Lu discloses the method of claim 1 wherein: using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of persons sharing characteristics of an audience member using the monitoring device (see Lu, [38], audience data such as head location/ face recognition leads to more demographic data of persons sharing characteristics of audience member (other viewers) using the monitoring device).

As to claim 5, Lu discloses the method of claim 1 wherein: using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to a location of an audience member using the monitoring device (see Lu, [37-38], home unit is in relation to audience member's location) ; sic [and]

As to claim 6, Lu discloses the method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device being used by a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device used by the first audience member (see Lu, [38, 86] a first audience member is determined (via face recognition or keyboard recognition) as well as a second member determined in similar viewing group (note, "identification of viewing persons")).

As to claim 7, Lu discloses the method of claim 1 wherein using audience data comprises scrubbing a raw play stream by analyzing known content related to a location of an audience member using the monitoring device (see Lu, [37-38], home unit is in relation to audience member's location).

As to claim 8, Lu discloses the method of 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device being used by a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device used by the first audience member (see Lu, [38, 86] a first audience member is determined (via

face recognition or keyboard recognition) as well as a second member determined in similar viewing group (note, "identification of viewing persons")).

As to claim 9, Lu discloses the method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance (see Lu, [14-19], fig. 6/7 note that multiple content recognition algorithms (such as analog TV, DTV or PC) are based upon expected content type to optimize recognition performance).

As to claim 10, Lu discloses the method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm (see Lu, [1-19], fig. 6 and 7 note multiple settings, STB for analog, or DTV for digital).

As to claim 11, Lu discloses the method of claim 9 wherein an expected content type includes absence of recognized content (see Lu, [54-55], expected content type is absence of a program id code (recognized content), expected because alternative (scanning baseband) is made available).

As to claim 15, Lu discloses the method of claim 1 wherein using audience data comprises using channel data relating to a channel experienced by an audience member using the monitoring device (see Lu, [14-16, 34] using channel data is using *tuned* info).

As to claim 16, Lu discloses the method of claim 2 wherein the media consumption pattern is determined at least in part by using channel data relating to a channel experienced by an audience member using the monitoring device (see Lu, [14-16, 34] using channel data related to channel experienced by audience is using *tuned* info).

As to claim 17, Lu discloses the method of claim 15 wherein using channel data comprises performing an identification attempt by testing a submitted sample against content corresponding to at least a portion of channel content (see Lu, [14-16, 34] using channel data is using *tuned* info, testing against content of channel is considering program id codes and audio portion signature).

As to claim 18, Lu discloses the method of claim 2 wherein the media consumption pattern is determined at least in part by examining log data of a media player of an audience member using the monitoring device (see Lu, [82-84], fig. 7 shows use of log data of media player (TV or PC)).

As to claims 55-60, they are analyzed similar to claims 2, 4, 9, 10, 18, 16, respectively.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 12, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu et al. (US 2002/0010919 A1) in view of Williams et al. (US 5 945 988).

As to claim 12, Lu discloses the method of claim 9; Lu teaches that an expected type is audio (see Lu, [11]), but is unclear wherein an expected content type includes music audio.

Williams, who discloses a system of determining and updating preferences in an entertainment network does teach music audio (see Williams, col. 15, ll. 10-40, fig. 7 shows music audio type).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the system of Lu with the system of Williams in order to allow the user access to audio of different types of content (including music) (see Williams, col. 15, ll. 10-35, fig. 7).

As to claim 13, Lu and Williams (as combined) disclose the method of claim 9 wherein an expected content type includes voice audio (see Williams, col. 9, l. 30-col. 10, l. 60, setup of recognition system uses voice audio, an expected content).

As to claim 14, Lu and Williams (as combined) disclose the method of claim 9 wherein an expected content type includes music, voice and sound effect audio (see Williams, fig. 7, a movie inherently includes all the content types listed: music, voice, and sound effect audio).

Inquiries

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul J. Graham whose telephone number is 571-270-1705. The examiner can normally be reached on Monday-Friday 8:00a-5:00p EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

pjg
9/8/2008

/Vivek Srivastava/

Supervisory Patent Examiner, Art Unit 2426

Notice of References Cited	Application/Control No. 11/139,330	Applicant(s)/Patent Under Reexamination STEUER ET AL.	
	Examiner PAUL J. GRAHAM	Art Unit 2426	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,945,988	08-1999	Williams et al.	715/747
*	B	US-2002/0010919	01-2002	Lu et al.	725/18
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

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	N					
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	P					
	Q					
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	S					
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Sheet 1 of 1

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2623
Examiner Name	C.C. Grant
Attorney Docket Number	1004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US- 5,945,988	08/31/1999	Williams et al.	col. 8 line 56-col. 9 line 30;
	2	US- 2002/0010919 A1	01/24/2002	Lu et al.	Paragraphs 0038-0041
		US-			
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	3	International Search Report for PCT/US05/18934	05/27/2005		Pages 1-14	

Examiner Signature	/Paul Graham/	Date Considered	09/08/2008

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	Art Unit
	Paul J Graham	2426

SEARCHED			
Class	Subclass	Date	Examiner
725	9, 11, 12, 24, 27, 98	4/30/08	pjg
704	231	4/30/08	pjg

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Name Search and Continuity Search	4/28/08	pjg
EAST search	4/28/08	pjg
updated search	9/4/08	pjg

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	11/139,330	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/17 12:44
S2	829	(704/231).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/04/17 12:45
S3	458	(725/9).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/04/30 20:34
S4	40	(725/11).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/04/30 20:34
S5	85	(725/12).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/04/30 20:34
S6	147	(725/24).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/04/30 20:34
S7	83	(725/27).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/04/30 20:34
S8	153	(725/98).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/04/30 20:34
S9	30	("20020010919" | "20020059577" | "20020072982" | "20020161741" | "20040122679" | "20060059277" | "3919479" | "4677466" | "4697209" | "5594934" | "5778137" | "5945988" | "6513161" | "6990453").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2008/04/30 20:46
S10	1118	(725/9-19).CCLS.	US-PGPUB; USPAT	OR	OFF	2008/09/04 14:13

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SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
11/139,330	05/26/2005 RULE	704	2426	10004-2000100

APPLICANTS

Jonathan S. Steuer, New York, NY;
Christopher W. Otto, Fremont, CA;

**** CONTINUING DATA ***************************

This appln claims benefit of 60/574,836 05/27/2004

**** FOREIGN APPLICATIONS ***************************

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06/20/2005

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /PAUL J GRAHAM/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		NY	7	62	9

ADDRESS

Mauriel Kapouytian & Treffert LLP
151 1st Avenue
#23
New York, NY 10003
UNITED STATES

TITLE

Media usage monitoring and measurement system and method

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	11139330	STEUER ET AL.
	Examiner	**Art Unit**
	Paul J Graham	2426

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	09/08/2008								
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CLAIM		DATE								
Final	Original	09/08/2008								
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Sheet 1 of 1 (First Supplemental)

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2655
Examiner Name	
Attorney Docket Number	1004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 2006/0059277 A1	03-16-2006	Tom ZITO et al.	All
		US-			
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Examiner Signature	/Paul Graham/	Date Considered	10/07/2008

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Sheet 1 of 2

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Application Number	11/139,330
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First Named Inventor	Jonathan S. STEUER
Art Unit	2655
Examiner Name	
Attorney Docket Number	1004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 6,990,453 B2	06-27-2002	Avery Li-CHun WANG	All
		US- 4,697,209	09-29-1987	David KIEWIT et al.	All
		US- 4,677,466	06-30-1987	John LERT et al.	All
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		US- 5,594,934	01-14-1997	Daozhen LU et al.	All
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		US- 2004/0122679 A1	06-24-2004	Alan NEUHAUSER et al.	All
		US- 3,919,479	11-11-1975	Warren D. MOON et al.	All
		US- 2002/0059577 A1	05-16-2002	Daozheng LU et al.	All
		US- 2002/0072982 A1	06-13-2002	Christopher BARTON et al.	All
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		WO 2004/040475 A2	05-13-2004	Koninklijke Philips N.V.	All	
		WO 03/091990 A1	11-06-2003	Shazam Entertainment, LTD	All	
		WO 02/27600 A2	04-04-2002	Shazam Entertainment, LTD	All	

Examiner Signature	/Paul Graham/	Date Considered	10/07/2008

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Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2655
Examiner Name	
Attorney Docket Number	1004-2000100

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		Ashwin PINTO, "Mediawatch meters a complex mix of media, passively," www. Indian television.com/headlines/y2k5/feb/feb177.htm, February 19, 2005 (5 pages)	
		Michael HEDGES, "New measurement devices raise new questions. Will we ever know who's listening?" www.follwthemedia.com/number/devices01082004.htm, August 1, 2004 (5 pages)	
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		Philips Research, "Audio Fingerprinting for automatic music recognition," brochure, www.content.identification.philips.com, downloaded March 9, 2005 (2 pages)	
		GFK AG, "Gfk unveils its multi-talented new MediaWatch," press release, June 14, 2004 (2 pages)	

Examiner Signature	/Paul Graham/	Date Considered	10/07/2008

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.
1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.
This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /P.G./

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Fax: 415-992-3421
Email: akapouytian@mktllp.com

www.mktllp.com

FAX COVER SHEET

DATE: July 24, 2008

TO: **MS AMENDMENT**
US Patent and Trademark Office

FAX: **(571) 273-8300**

FROM: Michael Mauriel
Reg. No. 44,226

PAGES: **4** (including cover)

Application No.: 11/139,330
Inventors: Jonathan STEUER et al.
Filing Date: May 26, 2005
Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Contents:

1. Transmittal – 1 page
2. Response to Restriction Requirement – 2 pages

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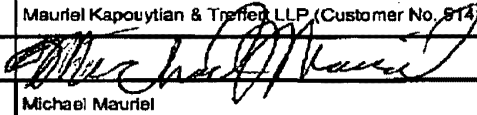
Application Number	11/139,330
Filing Date	May 26, 2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2623
Examiner Name	P. Graham
Attorney Docket Number	10004-2000100

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☑ Amendment/Reply (Restriction Requirement-2pg)
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation
- ☐ Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please identify below):
  1. Fax Cover Sheet

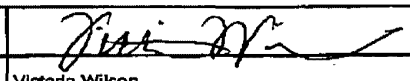
Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Mauriel Kapouytian & Treffert LLP (Customer No. 91417)		
Signature			
Printed name	Michael Mauriel		
Date	July 24, 2008	Reg. No.	44,226

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Signature			
Typed or printed name	Victoria Wilson	Date	July 24, 2008

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Dated: July 24, 2008 Signature: _____ (Victoria Wilson)

Attorney Docket No.: 10004-2000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:
Jonathan S. STEUER et al.

Application No.: 11/139,330 Group Art Unit: 2623

Filing Date: May 26, 2005 Examiner: P. Graham

Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

RESPONSE TO RESTRICTION REQUIREMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

This is in response to the Restriction Requirement dated June 27, 2008 (Paper No. 20080619) for which a response was due on July 27, 2008. Accordingly, this response is timely filed. Reconsideration and allowance of the pending claims are respectfully requested.

Applicant elects Group I (claims 1-18 and 54-62) without traverse.

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Application Serial No.: 11/139,330 Attorney Docket No.: 10004-2000100

REMARKS

By virtue of this response, Claims 19-53 have been withdrawn. Therefore, Claims 1-18 and 54-62 are pending and currently under consideration.

Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented. No new matter has been added.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time. The Director is hereby authorized to charge any fees which may be required by this paper to **Deposit Account No. 50-4242**, referencing docket no. **10004-2000100**.

Dated: July 24, 2008

Respectfully submitted,

By _____
Michael Mauriel
Registration No.: 44,226
Mauriel Kapouytian & Treffert LLP
151 First Avenue #23
New York, NY 10003
(212) 529-5131
Attorney(s) for Applicant

PAGE 4/4 * RCVD AT 7/24/2008 3:23:05 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/46 * DNIS:2738300 * CSID: * DURATION (mm-ss):00-54

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/139,330	05/26/2005	Jonathan S. Steuer	1004-2000100	1039

7590 06/27/2008

Michael J. Mauriel
Mauriel Patent Practice
168 Second Avenue
Box 352
New York, NY 10003

EXAMINER	
GRAHAM, PAUL J	
ART UNIT	**PAPER NUMBER**
2623	

MAIL DATE	DELIVERY MODE
06/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	11/139,330	STEUER ET AL.	
	Examiner	Art Unit	
	PAUL J. GRAHAM	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-62* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-18 and 54-62, drawn to measuring media usage which uses audience data, classified in class 725, subclass 9

   II. Claims 19-34, drawn to method which determines samples based on evaluating prior samples, classified in class 725, subclass 12.

   III. Claims 35-39, drawn to method which corrects content identification of samples, classified in class 725, subclass 11.

   IV. Claims 40-43, drawn to method which identifies the channels that correspond to samples, classified in class 725, subclass 27.

   V. Claims 44-47, drawn to method which uses sampled sequence data to deduce play altering actions of a monitored member, classified in class 725, subclass 24.

   VI. Claims 48-53, drawn to a system where sample data from multiple monitoring devices is wirelessly transmitted to a processing system, classified in class 725, subclass 98.

   The inventions are distinct, each from the other because of the following reasons:

2. Inventions I, II, III, IV, V and VI are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination

is separately usable. In the instant case, subcombination I, measuring media usage which uses audience data has separate utility from subcombinations II, III, IV, V and VI such as collecting audience data through an audible survey of the crowd. Subcombination II, method which determines samples based on evaluating prior samples, has separate utility from subcombinations III, IV, V and VI such as determining samples based on evaluating prior samples with the use of techniques such as regression analysis. Subcombination III, method which determines samples based on evaluating prior samples, has separate utility from subcombinations IV, V and VI such as correction of content identification of samples may include techniques such as data scrubbing for re-analysis. Subcombination IV, method which identifies the channels that correspond to samples, has separate utility from subcombinations V and VI such as identifying channels that correspond to samples using data source verification methods as in professional journal referee-ing. Subcombination V, method which uses sampled sequence data to deduce play altering actions of a monitored member, has separate utility from subcombination VI such as networking decision-making based on traffic and load balance information that borders on fuzzy logic. See MPEP § 806.05(d).

3. The examiner has required restriction between subcombinations usable together. Where applicant elects a subcombination and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation

or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

4. Restriction for examination purposes as indicated is proper because all of these invention listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if the restriction were not required because one or more of the following reasons apply:

(a) the inventions have acquired a separate status in the art in view of their difference classification;

(b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;

(c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);

(d) the prior art applicable to one invention would not likely be applicable to another invention;

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be

traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention.**

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144.

If claims are added after the election, applicant must indicate with of these claims are readable on the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

5. A telephone call was made to Michael Mauriel on 6/17/2008 to request an oral election to the above restriction requirement, but did not result in an election being made.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the

currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul J. Graham whose telephone number is 571-270-1705. The examiner can normally be reached on Monday-Friday 8:00a-5:00p EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on 571-272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

pjg
6/19/2008

/Vivek Srivastava/

Supervisory Patent Examiner, Art Unit 2623

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Email: akapouytian@mktllp.com

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FAX COVER SHEET

DATE: June 13, 2008

TO: **Commissioner for Patents**
US Patent and Trademark Office

FAX: **(571) 273-8300**

FROM: Michael Mauriel
Reg. No. 44,226

PAGES: **4** (including cover)

Application No.: 11/139,330
Inventors: Jonathan STEUER et al.
Filing Date: May 26, 2005
Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Contents:

1. Transmittal – 1 page
2. Power of Attorney and Correspondence Address Indication Form – 1 page
3. Statement Under 37 CFR 3.73(b) – 1 page

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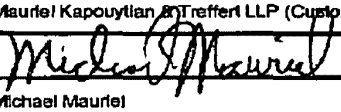
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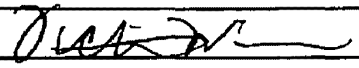
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Mauriel Kapouytian & Treffert LLP (Customer No. 51417)		
Signature			
Printed name	Michael Mauriel		
Date	June 13, 2008	Reg. No.	44,226

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Signature			
Typed or printed name	Victoria Wilson	Date	June 13, 2008

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POWER OF ATTORNEY and CORRESPONDENCE ADDRESS INDICATION FORM

Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Title	Media Usage Monitoring and...
Art Unit	2623
Examiner Name	C.C. Grant
Attorney Docket Number	10004-2000100

I hereby revoke all previous powers of attorney given in the above-identified application.

I hereby appoint:

☑ Practitioners associated with the Customer Number: 51417

OR

☐ Practitioner(s) named below:

Name	Registration Number

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

☑ The address associated with the above-mentioned Customer Number:

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the:

☐ Applicant/Inventor.

☑ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Signature		Date	4/24/2008
Name	Jonathan S. Steuer	Telephone	8662952666 x705
Title and Company	Manager and Chief Executive, Anonymous Media, LLC		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Jonathan S. STEUER et al.

Application No./Patent No.: 11/139,330 Filed/Issue Date: May 26, 2005

Entitled: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Anonymous Media, LLC, a corporation
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. [x] the assignee of the entire right, title, and interest; or

2. [ ] an assignee of less than the entire right, title and interest
(The extent (by percentage) of its ownership interest is_____ %)

In the patent application/patent identified above by virtue of either:

A. [x] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 016861, Frame 0088, or for which a copy thereof is attached.

OR

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

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[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[x] As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

_____	6/13/2007
Signature	Date
Jonathan S. Steuer	866 295 6606 x205
Printed or Typed Name	Telephone Number
Manager and Chief Executive	
Title	

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PAGE 1/5 * RCVD AT 6/13/2008 6:07:16 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/24 * DNIS:2738300 * CSID: * DURATION (mm-ss):01-08

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Email: akapouytian@mktllp.com

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DATE: June 13, 2008

TO: **Commissioner for Patents**
US Patent and Trademark Office

FAX: **(571) 273-8300**

FROM: Michael Mauriel
Reg. No. 44,226

PAGES: **4** (including cover)

Application No.: 11/139,330
Inventors: Jonathan STEUER et al.
Filing Date: May 26, 2005
Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Contents:

1. Transmittal – 1 page
2. Power of Attorney and Correspondence Address Indication Form – 1 page
3. Statement Under 37 CFR 3.73(b) – 1 page

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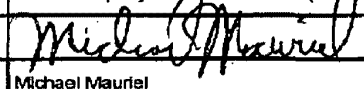
Application Number	11/139,330
Filing Date	May 26, 2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2623
Examiner Name	P. Graham
Attorney Docket Number	10004-2000100

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☑ Power of Attorney, Revocation Change of Correspondence Address - 1 page
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please identify below):
  1. Statement Under 37 CFR 3.73(b) - 1 page

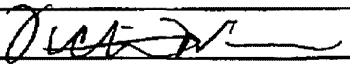
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Mauriel Kapouytian & Treffert LLP (Customer No. 51417)		
Signature			
Printed name	Michael Mauriel		
Date	June 13, 2008	Reg. No.	44,226

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Typed or printed name	Victoria Wilson	Date	June 13, 2008

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Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Title	Media Usage Monitoring and...
Art Unit	2623
Examiner Name	C.C. Grant
Attorney Docket Number	10004-2000100

I hereby revoke all previous powers of attorney given in the above-identified application.

I hereby appoint:

☑ Practitioners associated with the Customer Number: 51417

OR

☐ Practitioner(s) named below:

Name	Registration Number

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

☑ The address associated with the above-mentioned Customer Number:

OR

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Address					
City		State		Zip	
Country					
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I am the:

☐ Applicant/Inventor.

☑ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Signature		Date	4/24/2008
Name	Jonathan S. Steuer	Telephone	866 295 2666 x705
Title and Company	Manager and Chief Executive, Anonymous Media, LLC		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Jonathan S. STEUER et al.

Application No./Patent No.: 11/139,330 Filed/Issue Date: May 26, 2005

Entitled: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Anonymous Media, LLC, a corporation
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

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OR

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____
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[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[x] As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

_____ 4/24/2007
Signature Date

Jonathan S. Steuer 866 295 6606 x205
Printed or Typed Name Telephone Number

Manager and Chief Executive
Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Victoria A. Wilson

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Jonathan STEUER et al.

Serial No.: 11/139,330

Filing Date: May 26, 2005

For: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Examiner: C.C. Grant

Group Art Unit: 2623

INFORMATION DISCLOSURE STATEMENT – SECOND SUPPLEMENTAL UNDER 37 C.F.R. § 1.97 & 1.98

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, and supplemental to the Information Disclosure Statement filed in this matter May 30, 2006, Applicants submit for consideration in the above-identified application the additional documents listed on the attached Form PTO/SB/08a/b. These documents were cited in an International Search Report dated October 26, 2006 for related international application PCT/US05/18934, filed May 27, 2005. The Examiner is requested to make these documents of record. Copies of the U.S. patent document and US published application are not required and are thus not included herein.

This Information Disclosure Statement is submitted:

☐ With the application; accordingly, no fee or separate requirements are required.

☒ **Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.**

☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.

- ☐ A fee is required. A check in the amount of * is enclosed.
- ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly; no fee is believed to be due.

☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.

- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a check in the amount of * is enclosed.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

PAGE 4/22 * RCVD AT 4/30/2007 3:10:46 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID:2125295132 * DURATION (mm-ss):06-30

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time.

Dated: April 25, 2007

Respectfully submitted,

By: _____

Michael J. Mauriel
Registration No. 44,226

Mauriel Patent Practice
168 Second Avenue, Box 352
New York, NY 10003
Telephone: (212) 529-5131
Facsimile: (212) 529-5132

PAGE 5/22 * RCVD AT 4/30/2007 3:10:46 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID:2125295132 * DURATION (mm-ss):06-30

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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2623
Examiner Name	C.C. Grant
Attorney Docket Number	1004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US- 5,945,988	08/31/1999	Williams et al.	col. 8 line 56-col. 9 line 30;
	2	US- 2002/0010919 A1	01/24/2002	Lu et al.	Paragraphs 0038-0041
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
	3	International Search Report for PCT/US05/18934	05/27/2005		Pages 1-14	

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

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(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

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_____	4/30/2007
Signature	Date
Jonathan S. Steuer	866 295 6666 x205
Printed or Typed Name	Telephone Number
Manager and Chief Executive	
Title	

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Mauriel & Kapouytian LLP

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www.mauriel.com

FAX COVER SHEET

DATE: April 30, 2007

TO: **MS AMENDMENT**
US Patent and Trademark Office

FAX: **(571) 273-8300**

FROM: Michael Mauriel
Reg. No. 44,226

RE: **Supplemental Information Disclosure Statement**

PAGES: **22** (including cover)

Application No.: 11/139,330

Inventors: Jonathan STEUER et al.

Filing Date: May 26, 2005

Title: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Contents:

1. Transmittal – 1 page
2. Supplemental Information Disolosure Statement – 3 pages
3. Form PTO/SB/08a/b – 1 page
4. 1 Reference (copy of International Search Report for PCT/US05/18934) – 14 pages
5. Power of Attorney – 1 page
6. Statement Under 3.73b – 1 page

PTO/SB/21 (09-06)
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TRANSMITTAL FORM

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Total Number of Pages In This Submission: 21

Application Number	11/139,330
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First Named Inventor	Jonathan S. STEUER
Art Unit	2623
Examiner Name	C.C. Grant
Attorney Docket Number	10004-2000100

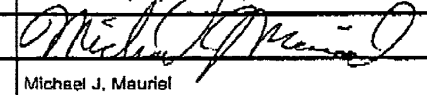
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ENCLOSURES (Check all that apply)

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☑ Information Disclosure Statement - 3 pages
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☑ Power of Attorney, Revocation Change of Correspondence Address - 1 page
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please identify below):
  1. Form PTO/SB/08a/b - 1 page
  2. 1 Reference (International Search Report for PCT/US05/18934 - 14 pages
  3. Statement Under 3.73(b) - 1 page
  4. Fax Cover Sheet.

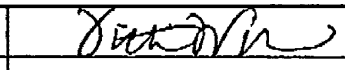
Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Mauriel & Kapouytian LLP (Customer No. 51417)		
Signature			
Printed name	Michael J. Mauriel		
Date	April 30, 2007	Reg. No.	44,226

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Signature			
Typed or printed name	Victoria A. Wilson	Date	April 30, 2007

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Jonathan S. Steuer et al.		
Serial No.:	11/139,330	ART UNIT:	2655
Filed:	May 26, 2005	EXAMINER:	(not yet assigned)
Entitled:	MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD		

Attorney Docket No.: 1004-2000100
September 18, 2006

Mail Stop, Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT TRANSMITTAL

1. Preliminary Amendment (12 pages)
2. Return Receipt Postcard (1 page)

Respectfully submitted,

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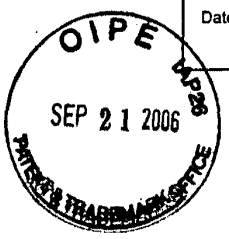
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September 18, 2006
Date

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Dated: September 18, 2006 Signature: Michael J. Maurieli



Docket No.: 1004-2000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Jonathan S. Steuer et al.		
Serial No.:	11/139,330	ART UNIT:	2655
Filed:	May 26, 2005	EXAMINER:	(not yet assigned)
Entitled:	MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD		

PRELIMINARY AMENDMENT

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Prior to examination on the merits, please amend the above-identified U.S. patent application as follows:

AMENDMENTS TO THE CLAIMS

What is claimed is:

Claim 1 (original) A media measurement method comprising:

submitting data samples corresponding to portions of audio data captured at a monitoring device for content recognition against known media content; and

using audience data to enhance identification of a sample.

Claim 2 (original) The method of claim 1 wherein:

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of an audience member using the monitoring device.

Claim 3 (original) The method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content.

Claim 4 (original) The method of claim 1 wherein:

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of persons sharing characteristics of an audience member using the monitoring device.

Claim 5 (currently amended) The method of claim 1 wherein:

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to a location of an audience member using the monitoring device[[; and]].

Claim 6 (original) The method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device being used by a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device used by the first audience member.

Claim 7 (original) The method of claim 1 wherein using audience data comprises scrubbing a raw play stream by analyzing known content related to a location of an audience member using the monitoring device.

Claim 8 (original) The method of 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device being used by a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device used by the first audience member.

Claim 9 (original) The method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

Claim 10 (original) The method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm.

Claim 11 (original) The method of claim 9 wherein an expected content type includes absence of recognized content.

Claim 12 (original) The method of claim 9 wherein an expected content type includes music audio.

Claim 13 (original) The method of claim 9 wherein an expected content type includes voice audio.

Claim 14 (original) The method of claim 9 wherein an expected content type includes music, voice and sound effect audio.

Claim 15 (original) The method of claim 1 wherein using audience data comprises using channel data relating to a channel experienced by an audience member using the monitoring device.

Claim 16 (original) The method of claim 2 wherein the media consumption pattern is determined at least in part by using channel data relating to a channel experienced by an audience member using the monitoring device.

Claim 17 (original) The method of claim 15 wherein using channel data comprises performing an identification attempt by testing a submitted sample against content corresponding to at least a portion of channel content.

Claim 18 (original) The method of claim 2 wherein the media consumption pattern is determined at least in part by examining log data of a media player of an audience member using the monitoring device.

Claim 19 (original) A media measurement method comprising:

receiving audio data from a monitoring device, the audio data being divisible into a series of samples; and

determining a sample for attempted identification based at least in part upon a result of an attempt to identify a prior sample against known content.

Claim 20 (original) The method of claim 19 wherein determining comprises selecting a format of a sample.

Claim 21 (original) The method of claim 20 wherein:

format includes length of a sample time window; and

determining comprises adjusting the time window for a sample subsequent to an n'th sample based at least in part upon an identification result corresponding to the n'th sample.

Claim 22 (original) The method of claim 20 wherein:

format includes audio parameters corresponding to requirements of a content recognition algorithm; and

determining comprises, for a sample subsequent to an n'th sample, selecting audio parameters corresponding to one of a plurality of available content recognition algorithms based at least in part upon an identification result corresponding to the n'th sample.

Claim 23 (original) The method of claim 20 wherein:

format includes audio parameters corresponding to settings of a content recognition algorithm; and

determining comprises, for a sample subsequent to an n'th sample, selecting a setting from a plurality of settings of a content recognition algorithm based at least in part upon an identification result corresponding to the n'th sample.

Claim 24 (original) The method of claim 19 wherein:

determining a sample comprises, for an (n+r)'th sample submitted for content recognition, determining r at least in part based upon an identification result corresponding to the n'th sample.

Claim 25 (original) The method of claim 24 wherein the value of r is increased from a prior value if the identification result corresponding to the n'th sample does not indicate an identification.

Claim 26 (original) The method of claim 24 wherein the value of r is increased from a prior value if the identification result corresponding to the n'th sample indicates absence of any media content.

Claim 27 (original) The method of claim 19 wherein determining comprises, depending upon identification results corresponding to an n'th and an (n+r)'th sample, determining whether any samples captured between the n'th and the (n+r)'th sample should be submitted for a content recognition attempt.

Claim 28 (original) The method of claim 27 further comprising:

submitting one or more samples captured between the n'th and the (n+r)'th sample for a content identification attempt if the identification results corresponding to the n'th and (n+r)'th sample do not match.

Claim 29 (original) The method of claim 19 wherein channel data is used in determining the sample, the channel data relating to recently identified samples.

Claim 30 (original) The method of claim 19 wherein content data is used in determining the sample, the content data relating one or more recently identified samples.

Claim 31 (original) The method of claim 30 wherein content data includes at least one of content type and content length.

Claim 32 (original) The method of claim 19 wherein sample sequence data is used in determining the sample, the sample sequence data relating to recently identified samples.

Claim 33 (original) The method of claim 19 wherein log data is used in determining the sample, the log data relating to a media player of an audience member using the monitoring device.

Claim 34 (original) The method of claim 19 wherein location data is used in determining the sample, the location data relating to a media player of an audience member using the monitoring device.

Claim 35 (original) A media measurement method comprising:

generating a raw play stream of content identification results corresponding to a sequence of data samples; and

scrubbing the raw play stream by, with respect to samples that are not identified or appear to be misidentified, analyzing sample sequence data to attempt selection of corrected content identifications.

Claim 36 (original) The method of claim 35 wherein sample sequence data includes at least one of log times, content IDs, and content offsets.

Claim 37 (original) The method of claim 35 wherein:

scrubbing the raw play stream further comprises analyzing channel data as part of attempting selection of corrected content identifications.

Claim 38 (original) The method of claim 35 wherein:

scrubbing the raw play stream further comprises using audience data as part of attempting selection of corrected content identifications.

Claim 39 (original) The media measurement method of claim 35 wherein a clean play list is generated from the scrubbed play stream.

Claim 40 (original) A media measurement method comprising:

generating a raw play stream of content identification results corresponding to a sequence of data samples; and

using sample sequence data to identify a channel corresponding to the samples.

Claim 41 (original) The method of claim 40 further comprising:

converting the raw play stream to a format usable for searching channel data to identify a channel to associate with content of the play stream.

Claim 42 (original) The method of claim 41 wherein the raw play stream is converted to a play list.

Claim 43 (original) The method of claim 41 wherein the raw play stream is converted to a mathematical representation of the content associated with the play stream.

Claim 44 (original) A media measurement method comprising:

generating a raw play stream of content identification results corresponding to a sequence of submitted data samples; and

utilizing sample sequence data including content offset data to deduce play-altering actions of a monitored audience member.

Claim 45 (original) The method of claim 44 further comprising:

generating a play list including content offset data as part of deducing media play-altering actions of a monitored audience member.

Claim 46 (original) The method of claim 44 further comprising:

utilizing sample sequence data together with corresponding channel data to deduce play-altering actions of a monitored audience member.

Claim 47 (original) The media measurement method of claim 44 wherein a clean play list is generated including deduced play-altering actions.

Claim 48 (original) A media measurement system comprising:

a plurality of monitoring devices; and

a system adapted to receive and process audio data received from the monitoring devices, the system being adapted to measure media usage by users of the monitoring devices wherein:

a device of the plurality of monitoring devices is adapted to receive a signal that is received wirelessly by headphones being used by an audience member monitored by the monitoring device.

Claim 49 (original) The system of claim 48 wherein the signal is received wirelessly by the monitoring device.

Claim 50 (original) The system of claim 48 wherein a device of the plurality of monitoring devices is adapted to connect to a media player and headphones associated with an audience member using the monitoring device such that the monitoring device receives an audio signal from the media player and passes the received audio signal to the headphones via wireless transmission.

Claim 51 (original) The system of claim 48 wherein the headphones receive a signal from the media player and pass that signal to the monitoring device.

Claim 52 (original) The system of claim 48 further comprising a synchronizing element adapted to synchronize the headphones and the monitoring device to receive the same wireless signal from a media player.

Claim 53 (original) The system of claim 52 wherein the syncing element synchronizes the headphones and the monitoring device automatically.

Claim 54 (original) A computer program product for measuring media usage, the computer program product comprising executable instruction code in an electronically readable medium for at least:

submitting a data samples corresponding to portions of audio data captured at a monitoring device for content recognition against known media content; and

using audience data to enhance identification of a sample.

Claim 55 (original) The computer program product of claim 54 wherein the executable instruction code is also for at least:

performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of an audience member using the monitoring device.

Claim 56 (original) The computer program product of claim 54 wherein the executable instruction code is also for at least:

performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of persons sharing characteristics of an audience member using the monitoring device.

Claim 57 (original) The computer program product of claim 54 wherein the executable instruction code is also for at least:

selecting from multiple content recognitions algorithms based upon expected content type to optimize recognition performance.

Claim 58 (original) The computer program product of claim 54 wherein the executable instruction code is also for at least

selecting from multiple settings of a content recognition algorithm.

Claim 59 (original) The computer program product of claim 54 wherein the executable instruction code is also for at least:

performing an identification attempt by testing samples against content identified using log data from a media player associated with an audience member using the monitoring device.

Claim 60 (original) The computer program product of claim 54 wherein the executable instruction code is also for at least:

using channel data to perform an identification attempt by testing a submitted sample against content corresponding to content of the channel.

Claim 61 (original) A media measurement system comprising:

content recognition means for attempting identification of a media sample; and

means for enhancing identification of the media sample using information exogenous to the media sample.

Claim 62 (original) A media measurement method comprising:

recognition steps for attempting identification of a media sample; and

steps for enhancing identification of the media sample using information exogenous to the media sample.

REMARKS

No new matter has been added. Claim 5 has been amended to correct a typographical error. Applicant respectfully submits that this change is neither narrowing nor related to patentability.

Dated: September 18, 2006

Respectfully submitted,

By _____

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PTO/SB/03 (12-04)
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875 Effective December 8, 2004

Application or Docket Number: 11/139330

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	150.00		N/A	300.00
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	$250		N/A	$500
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	$100		N/A	$200
TOTAL CLAIMS (37 CFR 1.16(i))	62 minus 20 =	* 42	X$ 25 =	1050	OR	X$50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	9 minus 3 =	* 6	X100 =	600		X200 =	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			+180=			+360=	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	2150		TOTAL	

APPLICATION AS AMENDED – PART II

9-21-06

AMENDMENT A	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 62	Minus	** 62	= 0	X$ 25 =	0	OR	X$50 =	
Independent (37 CFR 1.16(h))	* 7	Minus	*** 7	= 0	X100 =		OR	X200 =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					+180=		OR	+360=	
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT B	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X$ 25 =		OR	X$50 =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X100 =		OR	X200 =	
Application Size Fee (37 CFR 1.16(s))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					+180=		OR	+360=	
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
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JFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Jonathan S. Steuer et al.		
Serial No.:	11/139,330	ART UNIT:	2655
Filed:	May 26, 2005	EXAMINER:	(not yet assigned)
Entitled:	MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD		

Attorney Docket No.: 1004-2000100
May 30, 2006

Mail Stop, Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

UTILITY PATENT APPLICATION TRANSMITTAL

1. Information Disclosure Statement – First Supplemental (4 pages)
2. Return Receipt Postcard

Respectfully submitted,

Michael Mauriel
Registration No. 44,226
Attorney for Applicants
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Fax: (212) 529-5132

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May 30, 2006
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PATENT
Docket No. 10042000100

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Date of Deposit: May 30, 2006

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Michael Mauriel

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Jonathan STEUER et al.

Serial No.: 11/139,330

Filing Date: May 26, 2005

For: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Examiner: To Be Assigned

Group Art Unit: 2655

INFORMATION DISCLOSURE STATEMENT – FIRST SUPPLEMENTAL UNDER 37 C.F.R. § 1.97 & 1.98

May 30, 2006

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, and supplemental to the Information Disclosure Statement filed in this matter March 13 2006, Applicants submit for consideration in the above-identified application the additional document listed on the attached Form PTO-1449. The Examiner is requested to make this documents of record. A copy of the U.S. patent document is not required and is thus not included herein.

This Information Disclosure Statement is submitted:

☐ With the application; accordingly, no fee or separate requirements are required.

☒ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.

☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.

- ☐ A fee is required. A check in the amount of * is enclosed.
- ☐ A fee is required. Accordingly, a Fee Transmittal form (PTO/SB/17) is attached to this submission in duplicate.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below; accordingly; no fee is believed to be due.

☐ After mailing of a final Office Action or Notice of Allowance, but before payment of the issue fee.

- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a check in the amount of * is enclosed.
- ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time.

Dated: May 30, 2006

Respectfully submitted,

By: _____

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OIPE IAP43 JUN 02 2006 PATENT & TRADEMARK OFFICE

PTO/SB/08A (07-05)
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1 (First Supplemental)

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2655
Examiner Name	
Attorney Docket Number	1004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 2006/0059277 A1	03-16-2006	Tom ZITO et al.	All
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]

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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Jonathan S. Steuer et al.		
Serial No.:	11/139,330	ART UNIT:	2655
Filed:	May 26, 2005	EXAMINER:	(not yet assigned)
Entitled:	MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD		

Attorney Docket No.: 1004-2000100
March 13, 2006

Mail Stop, Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

UTILITY PATENT APPLICATION TRANSMITTAL

1. Information Disclosure Statement (5 pages)
2. Copies of listed references (where required) (11 documents, 211 pages total)
3. Return Receipt Postcard

Respectfully submitted,

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The undersigned hereby certifies that this correspondence listed above is being deposited with the United States Postal Service with postage sufficient for first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

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PATENT
Docket No. 10042000100

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Michael Maurel

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Jonathan STEUER et al.

Serial No.: 11/139,330

Filing Date: May 26, 2005

For: MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

Examiner: To Be Assigned

Group Art Unit: 2655

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. § 1.97 & 1.98

March 13, 2006

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.97 and § 1.98, Applicants submit for consideration in the above-identified application the documents listed on the attached Forms PTO-1449. The Examiner is requested to make these documents of record. Copies of the documents, other than U.S. patent documents, are also submitted herewith.

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This Information Disclosure Statement is submitted:

- ☐ With the application; accordingly, no fee or separate requirements are required.
- ☒ Within three months of the application filing date or before mailing of a first Office Action on the merits; accordingly, no fee or separate requirements are required.
- ☐ After receipt of a first Office Action on the merits but before mailing of a final Office Action or Notice of Allowance.
  - ☐ A fee is required. A check in the amount of * is enclosed.
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  - ☐ A Certification under 37 C.F.R. § 1.97(e) is provided below and a Fee Transmittal form (PTO/SB/17 is attached to this submission in duplicate.

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement under 37 C.F.R. § 1.97 is not to be construed as a representation that: (i) a complete search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

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Dated: March 13, 2006

Respectfully submitted,

By: _____

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MAR 17 2006
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PTO/SB/08A (07-05)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2655
Examiner Name	
Attorney Docket Number	1004-2000100

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 6,990,453 B2	06-27-2002	Avery Li-CHun WANG	All
		US- 4,697,209	09-29-1987	David KIEWIT et al.	All
		US- 4,677,466	06-30-1987	John LERT et al.	All
		US- 2002/0161741 A1	10-31-2002	Avery Li-CHun WANG et al.	All
		US- 5,594,934	01-14-1997	Daozhen LU et al.	All
		US- 6,513,161 B2	01-28-2003	Henry WHEELER et al.	All
		US- 2004/0122679 A1	06-24-2004	Alan NEUHAUSER et al.	All
		US- 3,919,479	11-11-1975	Warren D. MOON et al.	All
		US- 2002/0059577 A1	05-16-2002	Daozheng LU et al.	All
		US- 2002/0072982 A1	06-13-2002	Christopher BARTON et al.	All
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		WO 2004/040475 A2	05-13-2004	Koninklijke Philips N.V.	All	
		WO 03/091990 A1	11-06-2003	Shazam Entertainment, LTD	All	
		WO 02/27600 A2	04-04-2002	Shazam Entertainment, LTD	All	

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Sheet 2 of 2

Complete if Known	
Application Number	11/139,330
Filing Date	05/26/2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2655
Examiner Name	
Attorney Docket Number	1004-2000100

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
		Ashwin PINTO, "Mediawatch meters a complex mix of media, passively," www. Indian television.com/headlines/y2k5/feb/feb177.htm, February 19, 2005 (5 pages)	
		Michael HEDGES, "New measurement devices raise new questions. Will we ever know who's listening?" www.follwthemedia.com/number/devices01082004.htm, August 1, 2004 (5 pages)	
		NIELSEN MEDIA RESEARCH, "Summary Report of the Active/Passive (A/P) Meter Regional Test," November 11, 2002 (26 pages)	
		John GERTNER, "Watching What You Watch," New York Times Magazine, April 10, 2005 (12 pages)	
		ARBITRON, "The Portable People Meter System," www.arbitron.com/protable_people_meters/ppm_system.htm, dowloaded on April 25, 2005 (4 pages)	
		NIELSEN MEDIA RESEARCH, "Active/Passive Metering begins July 2004," August 6, 2003 (3 pages)	
		Philips Research, "Audio Fingerprinting for automatic music recognition," brochure, www.content.identification.philips.com, downloaded March 9, 2005 (2 pages)	
		GFK AG, "Gfk unveils its multi-talented new MediaWatch," press release, June 14, 2004 (2 pages)	

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(74) Agent: SCHMITZ, Herman, J., R.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

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(72) Inventor; and

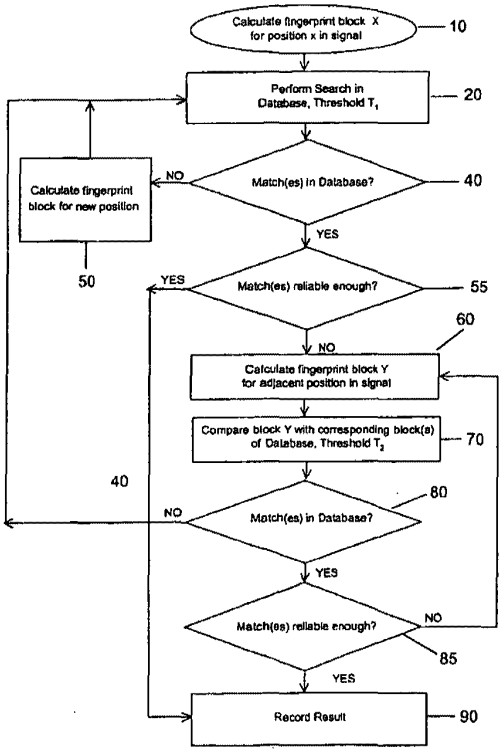
(75) Inventor/Applicant *(for US only)*: HAITSMA, Jaap, A. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: IMPROVEMENTS IN AND RELATING TO FINGERPRINT SEARCHING



(57) Abstract: Methods and apparatus are described for matching a set input fingerprint blocks, each fingerprint block representing at least a part of an information signal, with fingerprints stored in a database that identify respective information signals. The method includes selecting a first fingerprint block of the set of input fingerprint blocks (10), and finding at least one fingerprint block in the database that matches the selected fingerprint block (20, 40). A further fingerprint block is then selected from the set of input blocks (60), at a predetermined position from the first selected fingerprint block. A corresponding fingerprint block is then located in the database at the same predetermined position relative to the found fingerprint block (70), and it is determined if the located fingerprint block matches the selected further fingerprint block (80).

WO 2004/040475 A2

Declaration under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*

Published:

— *without international search report and to be republished upon receipt of that report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Improvements in and relating to fingerprint searching

Field of the Invention

The invention relates to methods and apparatus suitable for matching a fingerprint with fingerprints stored in a database.

Background of the Invention

Hash functions are commonly used in the world of cryptography where they are commonly used to summarise and verify large amounts of data. For instance, the MD5 algorithm, developed by Professor R L Rivest of MIT (Massachusetts Institute of Technology), has as an input a message of arbitrary length and produces as an output a 128-bit "fingerprint", "signature" or "hash" of the input. It has been conjectured that it is statistically very unlikely that two different messages have the same fingerprint. Consequently, such cryptographic fingerprint algorithms are a useful way to verify data integrity.

In many applications, identification of multimedia signals, including audio and/or video content, is desirable. However, multimedia signals can frequently be transmitted in a variety of file formats. For instance, several different file formats exist for audio files, like WAV, MP3 and Windows Media, as well as a variety of compression or quality levels. Cryptographic hashes such as MD5 are based on the binary data format, and so will provide different fingerprint values for different file formats of the same multimedia content. This makes cryptographic hashes unsuitable for summarising multimedia data, for which it is required that different quality versions of the same content yield the same hash, or at least similar hash. Hashes of multimedia content have been referred to as robust hashes (e.g. in "Robust Audio Hashing for Content Identification", Content Based Multimedia Indexing 2001, Brescia, Italy, September 2001, by Jaap Haitsma, Ton Kalker and Job Oostveen) but are now commonly referred to as multimedia fingerprints.

Fingerprints of multimedia content that are relatively invariant to data processing (as long as the processing retains an acceptable quality of the content), are referred to as robust summaries, robust signatures, robust fingerprints, perceptual or robust

hashes. Robust fingerprints capture the perceptually essential parts of audio-visual content, as perceived by the Human Auditory System (HAS) and/or the Human Visual System (HVS).

One definition of a multimedia fingerprint is a function that associates with every basic time-unit of multimedia content a semi-unique bit-sequence that is continuous with respect to content similarity as perceived by the HAS/HVS. In other words, if the HAS/HVS identifies two pieces of audio, video or image as being very similar, the associated fingerprints should also be very similar. In particular, the fingerprints of original content and compressed content should be similar. On the other hand, if two signals really represent different content, the robust fingerprint should be able to distinguish the two signals (semi-unique). Consequently, multimedia fingerprinting enables content identification, which is the basis for many applications.

For instance, in one application, the fingerprints of a large number of multimedia objects, along with the associated meta-data of each object, are stored in a database. The meta-data is normally information about the object, rather than information about the object content e.g. if the object is an audio clip of a song, then the meta-data might include song title, artist, composer, album, length of clip and position of clip in the song.

Typically, a single fingerprint value or term is not calculated for the whole of a complete multimedia signal. Instead, a number of fingerprints (hereinafter referred to as sub-fingerprints) are calculated for each of a number of segments of a multimedia signal e.g. a sub-fingerprint is calculated for each picture frame (or portion of a picture frame), or a time slice of an audio track. Consequently, a fingerprint of an audio track such as a song is simply a list of sub-fingerprints.

A fingerprint-block is a sequence of sub-fingerprints (typically 256) which contains enough information to reliably identify the information source (e.g. a song). In principle a fingerprint block of a song can be any block of subsequent sub-fingerprints of the song. Typically, a number of fingerprint blocks are formed for each song, each block representing a contiguous section of the song.

If multimedia content is subsequently received without any meta-data, then the meta-data of the multimedia content can be determined by computing one or more fingerprint blocks of the multimedia content, and finding the corresponding fingerprint block(s) in the database. Matching of fingerprint blocks, rather than the multimedia content itself, is much more efficient as less memory/storage is required, as perceptual irrelevancies are typically not incorporated within the fingerprints.

Matching of an extracted fingerprint block (from the received multimedia content) to the fingerprint blocks stored in the database can be performed by performing a brute force search, so as to match the fingerprint block (or fingerprint blocks if the length of the received signal is sufficiently long) of the received signal to each of the fingerprint blocks in the database.

The article "Robust Audio Hashing for Content Identification", Content Based Multimedia Indexing 2001, Brescia, Italy, September 2001, by Jaap Haitsma, Ton Kalker and Job Oostveen, describes a suitable audio fingerprint search technique. The described strategy utilises a look up table for all possible sub-fingerprint values. The entries in the table point to the song(s) and the position(s) in that song where the respective sub-fingerprint value occurs. By inspecting the look up table for each of the extracted sub-fingerprint values, a list of candidate songs and positions is generated, so as to efficiently narrow down the scope of the matching of the fingerprint blocks required.

It is an aim of embodiments of the present invention to provide methods and apparatus for allowing efficient searching of a database of fingerprints.

Statements of the Invention

In a first aspect, the present invention provides a method of matching a set of input fingerprint blocks, each fingerprint block representing at least a part of an information signal, with fingerprints stored in a database that identify respective information signals, the method comprising the steps of: selecting a first fingerprint block of said input set of fingerprint blocks; finding at least one fingerprint block in said database that matches the selected fingerprint block; selecting a further fingerprint block from said set of fingerprint blocks at a predetermined position relative to said first selected fingerprint block; locating at least one corresponding fingerprint block in said database at the predetermined position relative to said found fingerprint block; and determining if said located fingerprint block matches said selected further fingerprint block.

Searching in this manner can thus efficiently reduce the search speed and/or increase the robustness, by using an initial match to significantly narrow the scope of the search, and subsequently matching fingerprint blocks in corresponding positions.

In another aspect, the present invention provides a method of generating a logging report for an information signal comprising the steps of: dividing the information signal into similar content segments; generating an input fingerprint block for each segment; and repeating the method steps as described above so as to identify each of said blocks.

In a further aspect, the present invention provides a computer program arranged to perform the method as described above.

In another aspect, the present invention provides a record carrier comprising a computer program as described above.

In a further aspect, the present invention provides a method of making available for downloading a computer program as described above.

In another aspect, the present invention provides an apparatus arranged to match a set of input fingerprint blocks, each fingerprint block representing at least a part of an information signal, with fingerprints stored in a database that identify respective information signals, the apparatus comprising a processing unit arranged to: select a first fingerprint block of said set of input fingerprint blocks; find at least one fingerprint block in said database that matches the selected fingerprint block; select a further fingerprint block from said set of input blocks at a predetermined position relative to said first selected fingerprint block; locate at least one corresponding fingerprint block in said database at the predetermined position relative to said found fingerprint block; and determine if said located fingerprint block matches said selected further fingerprint block.

Further features of the invention are defined in the dependent claims.

Brief Description of the Drawings

For a better understanding of the invention, and to show how embodiments of the same may be carried into effect, reference will now be made, by way of example, to the accompanying diagrammatic drawings in which:

Figure 1 is a flow chart of the method steps of a first embodiment of the present invention;

Figure 2 is a diagram illustrating fingerprint blocks corresponding to segments of an audio signal for selection for searching according to an embodiment of the present invention;

Figure 3 is a flow chart of the method steps of a second embodiment;

Figure 4 is a schematic diagram of an arrangement for generating a fingerprint block value from an input information stream, and subsequently matching the fingerprint block in accordance with a further embodiment of the present invention.

Description of Preferred Embodiments

Typically, identification of fingerprint blocks by matching them with fingerprints stored in a database requires what we will refer to as a full search (e.g. by using the search technique described in "Robust Audio Hashing for Content Identification", Content Based Multimedia Indexing 2001, Brescia, Italy, September 2001, by Jaap Haitsma, Ton Kalker and Job Oostveen).

The present invention exploits the fact that the probability that subsequent (or previous) fingerprint blocks originate from the same information segment (e.g. song or video clip) is high. Consequently, once one fingerprint block has been identified, subsequent fingerprint blocks can be quickly identified by attempting to match them with only the corresponding fingerprint blocks in the database.

Figure 1 illustrates a flow chart of the steps involved in performing such a search in accordance with a first embodiment of the invention.

The search assumes that a database exists that contains a number of fingerprints corresponding to different sections of an information signal. For instance, the database might contain fingerprint blocks of a large number of songs, with each fingerprint block comprising a sequence of sub-fingerprints. A sub-fingerprint corresponds to a short segment (e.g. 11.8 milli-seconds) of the song. Meta-data is associated with each song, indicative of, for instance, song title, song length, performing artist(s), composer, recording company etc.

An information signal (e.g. a song, or portion of a song) is received, and it is desirable to identify the song and/or meta-data associated with the song. This can be achieved by matching fingerprint blocks of the song to corresponding fingerprint blocks in the database.

As indicated in Figure 1, a first fingerprint block X is calculated for a first position x in the information signal (step 10). For instance, in a song, this could relate to a time slice of between 3-5 seconds within the song.

A search is then performed of the database, to identify whether any of the fingerprint blocks in the database match the calculated fingerprint block X (step 20).

Such a search (step 20) could be an exhaustive search of the database, iteratively comparing fingerprint block X with every fingerprint block within the database. Alternatively, a look-up table can be used to select the likeliest matches, as described in the article "Robust Audio Hashing For Content Identification", Content Based Multimedia Indexing 2001, Brescia, Italy, September 2001, by Jaap Haitsma, Ton Kalker and Job Oostveen.

Due to variations in the framing of the signal time slots, and signal degradation due to transmission and/or compression, it is unlikely that the fingerprint block X will exactly match any single fingerprint block stored in the database. However, a match is assumed to occur (step 20) if the similarity between the fingerprint block X and any one of the fingerprint blocks in the database is high enough.

Equivalently, the dissimilarity (e.g. number of differences) between the fingerprint block X and the fingerprint blocks in the database can be compared. If the dissimilarity (the number of differences between the two fingerprint blocks) is below a predetermined threshold T_1 then a match is assumed to have occurred.

If no matching fingerprint blocks are determined to exist in the database (step 40), then a fingerprint block is calculated for a new start position within the signal (step 50), and the search re-performed (steps 20 and 40).

If one or possibly more (this can occur if two songs are very similar) fingerprint blocks are found to be similar, then their positions in the database are noted. If the reliability of the match is large enough (step 55) the result can be recorded (step 90) and the identification process can be stopped. If the match is not reliable enough, a fingerprint block Y can be determined for an adjacent position to position x in the signal (e.g. the previous or subsequent time slice of the audio signal), step 60.

The fingerprint block(s) of the corresponding position(s) in the database are then compared with fingerprint block Y (step 70). For instance, if fingerprint block Y was calculated for the time slot immediately after position x in the audio signal, then the fingerprint block Y would be compared with the fingerprint block(s) in the database that would be expected to occur immediately after the fingerprint block(s) that matched fingerprint block X.

Again, the matching of fingerprint blocks would be performed using a predetermined threshold (T_2) relating to the dissimilarity between the fingerprint blocks. Threshold T_2 could be the same as T_1, or even lower than T_1. Preferably however, T_2 is a slightly higher threshold than T_1. It is extremely unlikely that two adjacent fingerprint blocks will match two adjacent fingerprint blocks in the database, unless the blocks relate to the same information source. If fingerprint block Y does not match the corresponding fingerprint block in the database (this can for instance happen if a new song has started playing) a full search can be performed for fingerprint block Y.

If there are no matches in the database (step 80), then the search process is restarted i.e. a full search is performed of the database for a match of the current block Y (step 20), and the subsequent steps repeated as appropriate.

If one or more of the corresponding fingerprint blocks in the database do match (step 80), it is determined if any of the matches are reliable (step 85) e.g. is any match good enough to reliably identify the information signal. If a match is reliable the result is recorded (step 90) and the identification process is stopped. If not, a new fingerprint block Y determined (step 60) for the next adjacent time slot in the signal (i.e. adjacent to the position of the previous fingerprint block Y).

It will be appreciated that the above embodiment is provided by way of example only. For instance, the embodiment has been described with reference to an information signal being received, and fingerprint blocks being calculated for positions within the information signal (steps 10, 50, 60) as the search is performed. Equally, the search technique is applicable to an information signal being received, and fingerprint blocks calculated (prior to the start of the search) for one or more positions (up to every position) in the signal, the blocks being subsequently selected for use in the search process. Alternatively, simply two or more single fingerprint blocks corresponding to at least a portion of an information signal could be received, and searches performed utilising these fingerprint blocks to identify the original information signal.

The matching thresholds can be varied in dependence upon the search being conducted. For instance if it is anticipated that the information signal is likely to be distorted, the threshold T_1 can be set higher than normal, in order to be more robust against distortions and decrease the false negative rate (a false negative is assumed to have occurred if two fingerprint blocks are determined not to match, even though they relate to the same portion of the information signal). Decreasing the false negative rate generally leads to a higher false positive rate (in which a match is deemed to have occurred between two fingerprint blocks that actually relate to different information). However, the false positive rate can be decreased for the overall search, by taking into account whether the next (or previous) fingerprint block matches to the corresponding blocks in the database.

The above method has assumed that each subsequent fingerprint block selected for matching from the information signal is adjacent (either before or after in sequence) to the previously fingerprint block. However, it will be appreciated that the same method can be used if the information to which the fingerprint block corresponds is adjacent to the information of the previously selected fingerprint block. Equally, any known

relationship between fingerprint blocks of the information signal, or positions of information to which the fingerprint blocks relate can be utilised, as long as the relationship is such that a fingerprint block with a corresponding position can be located within the database. For instance, in an information signal comprising an image a search could be performed upon fingerprint blocks corresponding to image segments along the diagonal of the image.

Embodiments of the invention can also be used to monitor wireless or wireline broadcasts of songs or other musical works. For instance, an audio fingerprinting system can be used to generate a logging report for all time blocks (typically of the order of 3-5 seconds) present in an audio stream, which can consist of multiple songs. The log information for one segment usually includes song, artist, album, and position in the song.

The monitoring process can be done offline i.e. the fingerprint blocks of an audio stream (e.g. a radio station broadcast) are first recorded to a fingerprint file containing for example the fingerprint blocks of an hour of audio. The log for this hour of audio can be generated efficiently by using the above method.

Figure 2 illustrates a fingerprint file 90 including fingerprint blocks for three songs (song 1, song 2, song 3), each song lasting a respective time (t_1, t_2, t_3). Instead of performing a full search on all of the fingerprint blocks, a full search is performed on only a small set of fingerprint blocks (e.g. 91, 95 and 98), which are preferably spaced either an average song length apart (around 3-4 minutes) or a minimum song length apart (e.g. 2 minutes apart, assuming that the minimum song length is known to be equal to or greater than 2 minutes). Typically, a sub-fingerprint will last around 10 milliseconds, and a fingerprint block 3-5 seconds.

Once a fingerprint block out of the small set (91, 95 98) is identified, then neighbouring blocks (92, 93, 96, 97...) can be identified very efficiently by only matching the corresponding fingerprint blocks in the database, using the method described with reference to Figure 1. The corresponding blocks can be identified by using the song position of the identified block and the song length of the identified song. After performing the matches, a new fingerprint block out of the set of unidentified blocks is selected for a full search. The whole procedure repeats itself until all of the fingerprint blocks have been positively identified by either a match, or a full search has identified the fingerprint blocks as unknown.

It should be noted that embodiments of the invention can also be used for real time monitoring. For instance, an embodiment could be used to identify songs on the radio almost instantaneously, as the songs are played. In that case only fingerprint blocks after an

already identified fingerprint block can easily be used for matching with corresponding blocks in the database. However, if some delay is allowed between receiving the current block and identifying the information source, then a number of previous fingerprint blocks can also be used in the identification process.

Figure 3 shows a flow chart of the method steps for an embodiment of the present invention suitable for use in performing such real time monitoring of information signals.

Within Figure 3, identical reference numerals have been utilised for method steps that correspond to the same method steps in Figure 1.

Initially, a fingerprint block X is calculated for position x in the signal (step 10). A search is then performed in the database for matching fingerprint blocks, at a first threshold T_1 (step 20) and its result is recorded (step 30).

If no matching blocks are found in the database (step 40), then a fingerprint block is calculated for a new position in the information signal (step 50), and the search performed again (step 20).

If one or more matching fingerprint blocks are found within the database (step 40), a fingerprint block Y is calculated for an adjacent position in the information signal (step 60). For instance, if the information signal is being continuously received, then the fingerprint block Y could be calculated for the next received time slice of the signal.

Block Y is then compared with the corresponding blocks of the database, at a second threshold T_2 (step 70). In other words, block Y is only compared with those block(s) of the database that relate to positions in the information signals adjacent to the positions of the blocks found in step 20 to match block X.

If block Y is found not to match any of the corresponding blocks of the database (step 80), then a full search of the database is performed for fingerprint block Y (step 20).

However, if block Y is found to match one or more of the corresponding blocks of the database (step 80), then the result is recorded (step 90) and a fingerprint block for an adjacent position is calculated and the process is repeated. The whole process described in Figure 3 is continued until all of the fingerprint blocks have been positively identified or are determined as unknown by a full search.

This embodiment can be further improved by examining the similarity between any of the searched fingerprint blocks of the information signal with the corresponding blocks of the database to determine if a match is reliable enough. In other

words the history of the matching blocks can be compared. For instance, a reasonable match of fingerprint block X might have been found in the database, that might not have quite been reliable enough to identify the information signal. A reasonable match of the block Y might also have been found in the database that again, on its own, might not be regarded as sufficiently reliable to identify the information signal. However, if the matches of X and Y both relate to the same information signal, then the likelihood of both matches occurring by chance is relatively low i.e. the combined probability of the matches occurring is good enough to reliably identify the information signal being transmitted.

The present invention is suitable for use in conjunction with a number of fingerprinting techniques. For instance, the audio fingerprinting technique of Haitsma et al, as presented in "Robust Audio Hashing For Content Identification", Content Based Multimedia Indexing 2001, Brescia, Italy, September 2001, computes a sub-fingerprint value for basic windowed time intervals of the audio signal. The audio signal is thus divided into frames, and subsequently the spectral representation of each time frame computed by a Fourier transform. The technique provides a robust fingerprint function that mimics the behaviour of the HAS i.e. it provides a fingerprint mimicking the content of the audio signal as would be perceived by a listener.

In such a fingerprinting technique, as illustrated in figure 4, either an audio signal or a bit-stream incorporating the audio signal can be input.

If a bit-stream signal is being fingerprinted, the bit-stream including the encoded audio signal is received by a bit-stream decoder 110. The bit-stream decoder fully decodes the bit-stream, so as to produce an audio signal. This audio signal is then passed to the framing unit 120.

Alternatively, an audio signal can be received at the Direct Audio Input 100, and passed to the framing unit 120.

The framing unit divides the audio signal into a series of basic windowed time intervals. Preferably, the time intervals overlap, such that the resulting sub-fingerprint values from subsequent frames are largely similar.

Each of the windowed time intervals signals are then passed to a Fourier transform unit 130, which calculates a Fourier transform for each time window. An absolute value calculating unit 140 is then used to calculate the absolute value of the Fourier transform. This calculation is carried out as the Human Auditory System (HAS) is relatively insensitive to phase, and only the absolute value of the spectrum is retained as this corresponds to the tone that would be heard by the human ear.

In order to allow for the calculation of a separate sub-fingerprint value for each of a predetermined series of frequency bands within the frequency spectrum, selectors, 151, 152,..., 158, 159 are used to select the Fourier coefficients corresponding to the desired bands. The Fourier coefficients for each band are then passed to respective energy computing stages 161, 162, ..., 168, 169. Each energy computing stage then calculates the energy of each of the frequency bands, and then passes the computed energy onto the bit derivation circuit which computes and sends to the output 180 a sub-fingerprint bit (H(n,x), where x corresponds to the respective frequency band and n corresponds to the relevant time frame interval). In the simplest case, the bits can be a sign indicating whether the energy is greater than a predetermined threshold. By collating the bits corresponding to a single time frame, a sub-fingerprint is computed for each desired time frame.

The sub-fingerprints for each frame are then stored in a buffer 190 so as to form a fingerprint block. The contents of the buffer is subsequently accessed by a database search engine 195. The database search engine then performs a search, so as to match the fingerprint blocks stored in the buffer 190 with the corresponding fingerprint blocks stored in a database, using the above methods, so as to efficiently identify the information stream (and/or the meta-data associated with the information stream) that was input to the bit-stream decoder 110 or the direct audio input 100.

Whilst the above embodiments of the present invention have been described with reference to audio information streams, it will be appreciated that the invention can be applied to other information signals, particularly multi-media signals, including video signals.

For instance, the article "J.C. Oostveen, A.A.C. Kalker, J.A. Haitsma, "Visual Hashing of Digital Video: Applications and Techniques", SPIE, Applications of Digital Image Processing XXIV, July 31 - August 3 2001, San Diego, USA, describes a suitable technique for extracting essential perceptual features from a moving image sequence.

As the technique relates to visual fingerprinting, the perceptual features relate to those that would be viewed by the HVS i.e. it aims to produce the same (or a similar) fingerprint signal for content that is considered the same by the HVS. The proposed algorithm looks to consider features extracted from either the luminance component, or alternatively the chrominance components, computed over blocks of pixels.

It will be appreciated by the skilled person that various implementations not specifically described would be understood as falling within the scope of the present invention. For instance, whilst only the functionality of the fingerprint block generation

apparatus has been described, it will be appreciated that the apparatus could be realised as a digital circuit, an analog circuit, a computer program, or a combination thereof.

Equally, whilst the above embodiments have been described with reference to specific types of encoding schemes, it will be appreciated that the present invention can be applied to other types of coding schemes, particularly those that contain coefficients relating to perceptually significant information when carrying multimedia signals.

The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

Each feature disclosed in this specification (including any accompanying claims, abstract and drawings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

The invention is not restricted to the details of the foregoing embodiment(s). The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

Within the specification it will be appreciated that the word "comprising" does not exclude other elements or steps, that "a" or "and" does not exclude a plurality, and that a single processor or other unit may fulfil the functions of several means recited in the claims.

The invention can be summarized as follows. Methods and apparatus are described for matching a set input fingerprint blocks, each fingerprint block representing at least a part of an information signal, with fingerprints stored in a database that identify respective information signals. The method includes selecting a first fingerprint block of the set of input fingerprint blocks, and finding at least one fingerprint block in the database that matches the selected fingerprint block. A further fingerprint block is then selected from the set of input blocks, at a predetermined position from the first selected fingerprint block. A corresponding fingerprint block is then located in the database at the same predetermined

position relative to the found fingerprint block, and it is determined if the located fingerprint block matches the selected further fingerprint block.

CLAIMS:

1. A method of matching a set of input fingerprint blocks, each fingerprint block representing at least a part of an information signal, with fingerprints stored in a database that identify respective information signals, the method comprising the steps of:

selecting a first fingerprint block of said input set of fingerprint blocks;

finding at least one fingerprint block in said database that matches the selected fingerprint block;

selecting a further fingerprint block from said set of fingerprint blocks at a predetermined position relative to said first selected fingerprint block;

locating at least one corresponding fingerprint block in said database at the predetermined position relative to said found fingerprint block; and

determining if said located fingerprint block matches said selected further fingerprint block.

2. A method as claimed in claim 1, the method further comprising iteratively repeating the steps of

selecting a further fingerprint block, locating a corresponding fingerprint block in said database and determining if said located fingerprint block matches said selected further fingerprint block for different predetermined positions relative to the first selected fingerprint block.

3. A method as claimed in claim 1, wherein said predetermined position is an adjacent position.

4. A method as claimed in claim 1, wherein a match in said finding step is deemed to have occurred if the number of differences between the fingerprint block is below a first threshold, and a match in said determining step is deemed to have occurred if the number of differences between the fingerprint blocks is below a second threshold.

5. A method as claimed in claim 4, wherein said second threshold is different from said first threshold.

6. A method as claimed in claim 1, further comprising the steps of:
receiving an information signal;
dividing the information signal into sections; and
generating said input block by calculating a fingerprint block for each section.

7. A method of generating a logging report for an information signal comprising the steps of:
dividing the information signal into similar content segments;
generating an input fingerprint block for each segment; and
repeating the method steps as claimed in claim 1 so as to identify each of said blocks.

8. A method as claimed in claim 7, wherein said information signal comprises an audio signal, and wherein each segment corresponds to at least a portion of a song.

9. A computer program arranged to perform the method as claimed in claim 1.

10. A record carrier comprising a computer program as claimed in claim 9.

11. A method of making available for downloading a computer program as claimed in claim 9.

12. An apparatus arranged to match a set of input fingerprint blocks, each fingerprint block representing at least a part of an information signal, with fingerprints stored in a database that identify respective information signals, the apparatus comprising a processing unit arranged to:
select a first fingerprint block of said set of input fingerprint blocks;
find at least one fingerprint block in said database that matches the selected fingerprint block;

select a further fingerprint block from said set of input blocks at a predetermined position relative to said first selected fingerprint block;

locate at least one corresponding fingerprint block in said database at the predetermined position relative to said found fingerprint block; and

determine if said located fingerprint block matches said selected further fingerprint block.

13. An apparatus as claimed in claim 12, further comprising a database arranged to store fingerprints identifying respective information signals and meta-data associated with each signal.

14. An apparatus as claimed in claim 12, further comprising a receiver for receiving an information signal, and a fingerprint generator arranged to generate said set of input fingerprint blocks from said information signal.

1/4

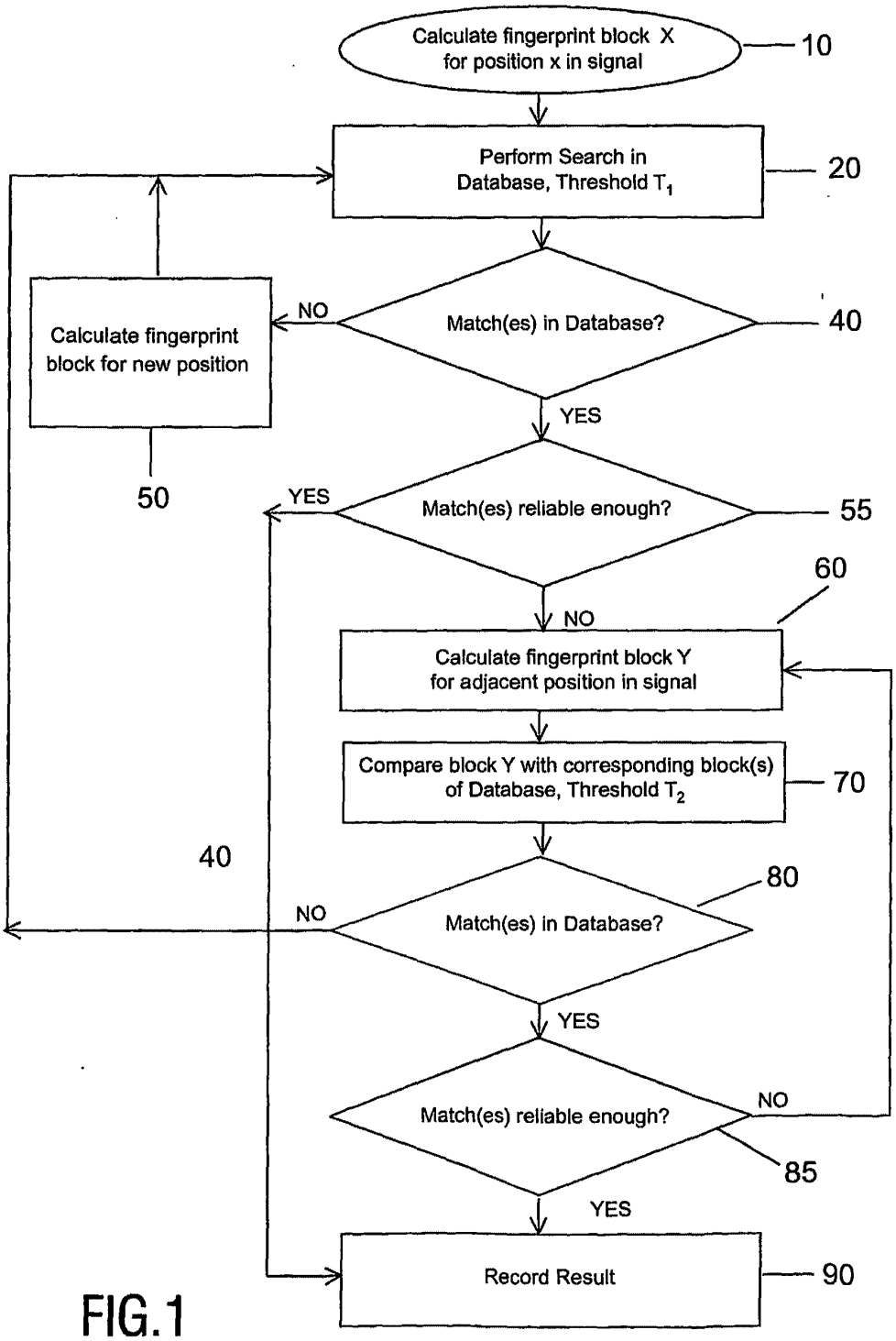

Calculate fingerprint block X for position x in signal
10
Perform Search in Database, Threshold T_1
20
Match(es) in Database?
40
NO
Calculate fingerprint block for new position
50
YES
Match(es) reliable enough?
55
YES
60
NO
Calculate fingerprint block Y for adjacent position in signal
Compare block Y with corresponding block(s) of Database, Threshold T_2
70
40
80
NO
Match(es) in Database?
YES
Match(es) reliable enough?
NO
85
YES
Record Result
90

FIG.1

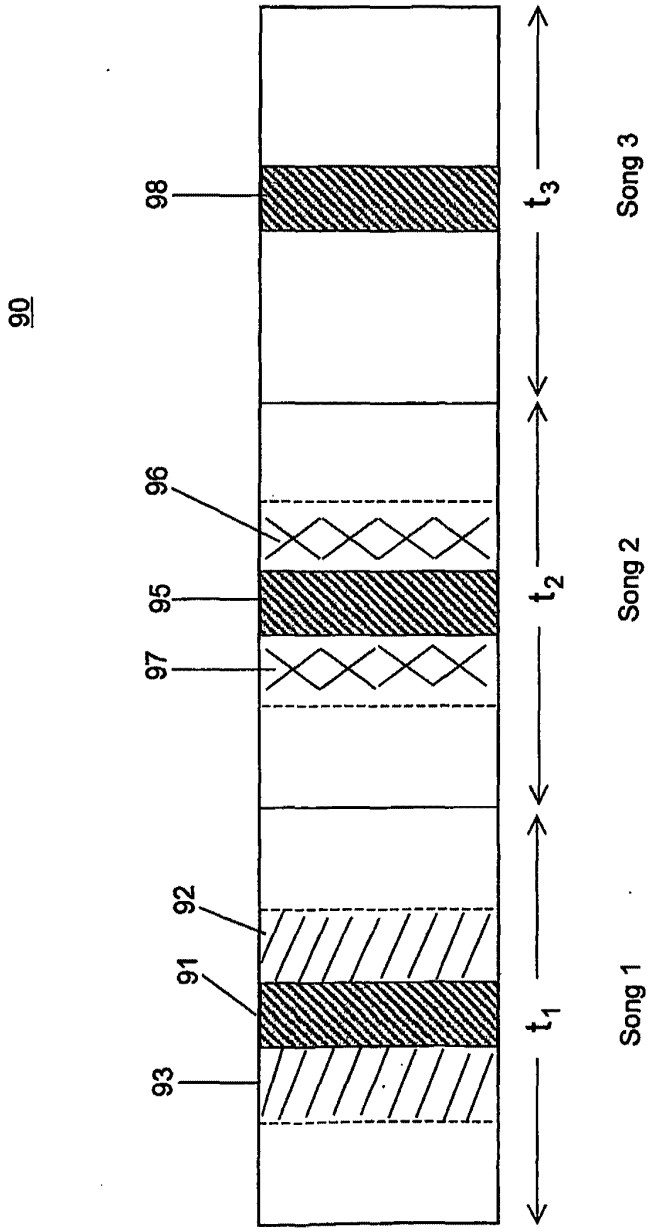


FIG.2

3/4

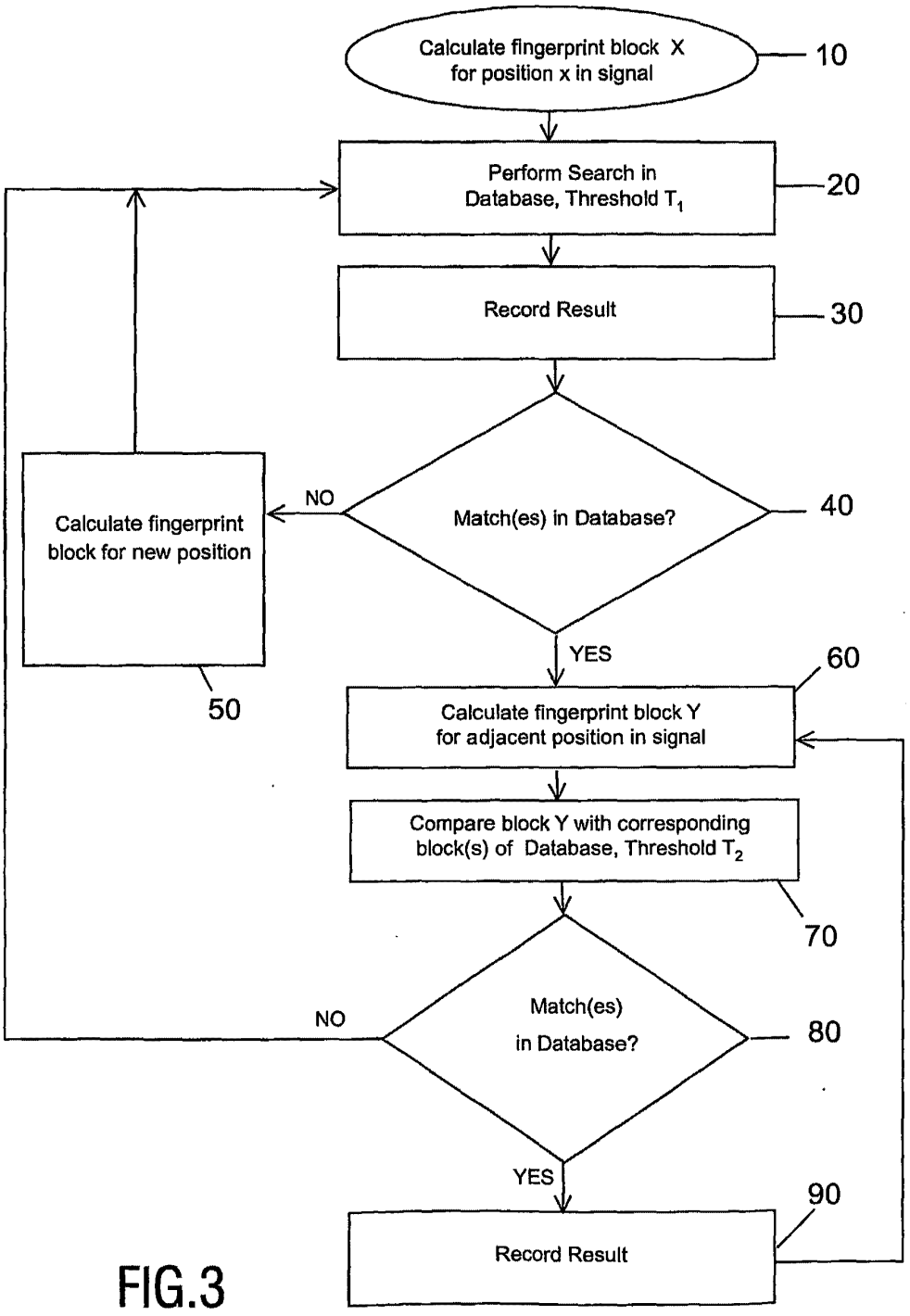

Calculate fingerprint block X for position x in signal
10
Perform Search in Database, Threshold T_1
20
Record Result
30
Match(es) in Database?
40
NO
Calculate fingerprint block for new position
50
YES
60
Calculate fingerprint block Y for adjacent position in signal
Compare block Y with corresponding block(s) of Database, Threshold T_2
70
Match(es) in Database?
80
NO
YES
90
Record Result

FIG.3

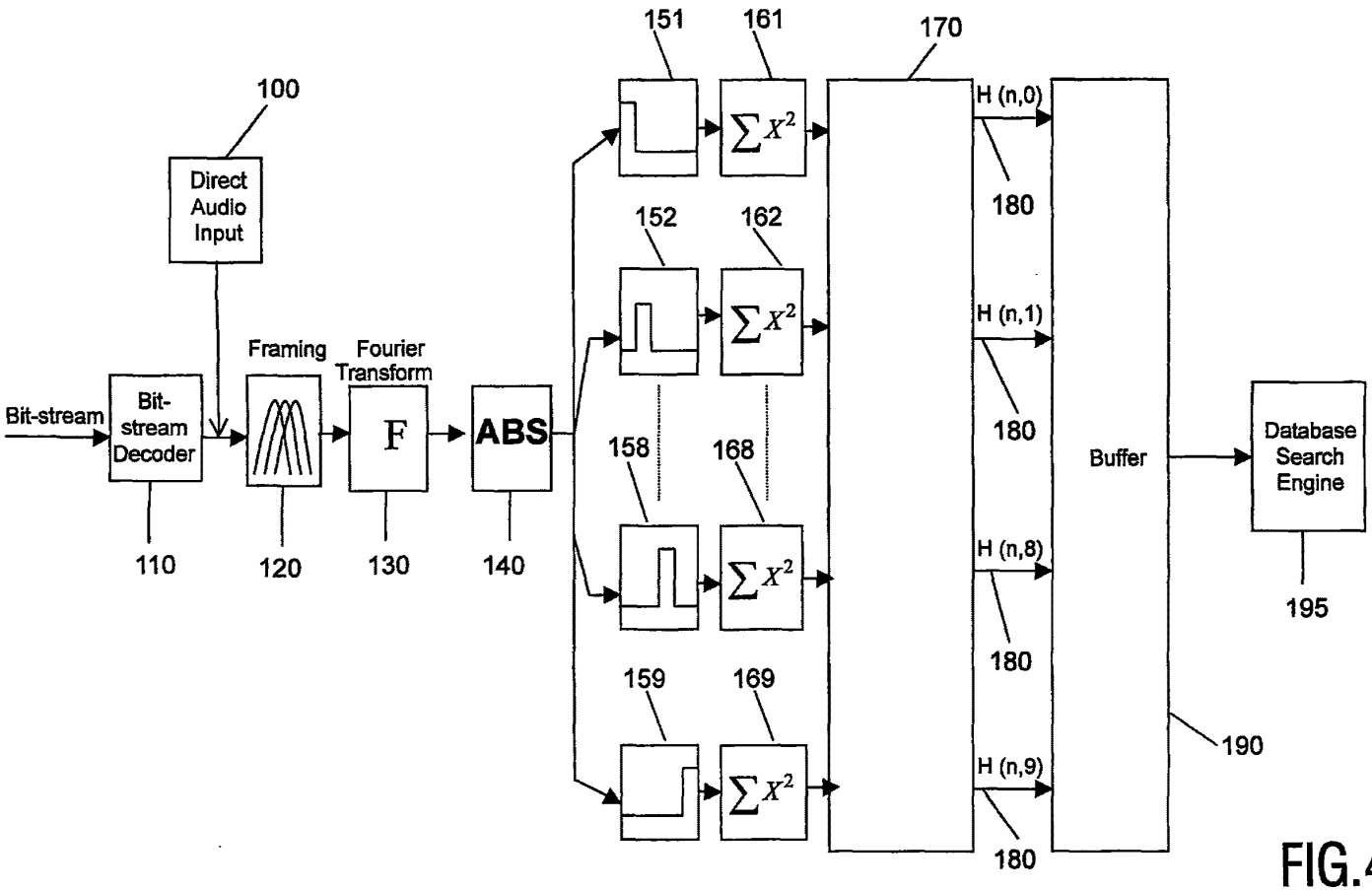

100
Direct Audio Input
Bit-stream
Bit-stream Decoder
Framing
Fourier Transform
F
ABS
110
120
130
140
151
161
170
152
162
158
168
159
169
$\sum X^2$
H (n,0)
H (n,1)
H (n,8)
H (n,9)
180
Buffer
Database Search Engine
195
190

FIG.4

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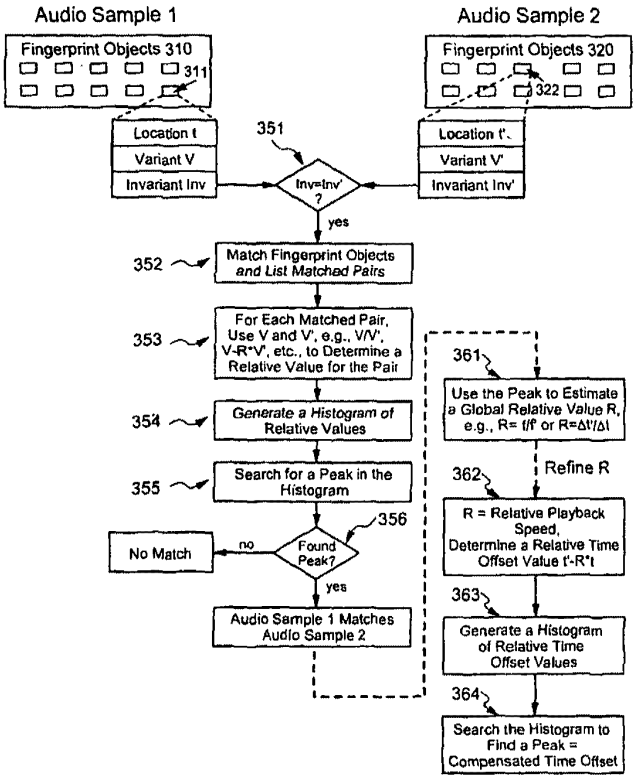
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[Continued on next page]

(54) Title: ROBUST AND INVARIANT AUDIO PATTERN MATCHING



(57) Abstract: The present invention provides an innovative technique for rapidly and accurately determining whether two audio samples match, as well as being immune to various kinds of transformations, such as playback speed variation. The relationship between the two audio samples is characterized by first matching certain fingerprint objects derived from the respective samples. A set (230) of fingerprint objects (231, 232), each occurring at a particular location (242), is generated for each audio sample (210). Each location is determined in dependence upon the content of respective audio sample (210) and each fingerprint object (232) characterizes one or more local features (222) at or near the respective particular location (242). A relative value is next determined for each pair of matched fingerprint objects. A histogram of the relative values is then generated. If a statistically significant peak is found, the two audio samples can be characterized as substantially matching.

WO 03/091990 A1

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Robust and Invariant Audio Pattern Matching

FIELD OF THE INVENTION

This invention relates generally to audio signal processing over a large database of audio files. More particularly, it relates to an inventive technique for rapidly and accurately determining whether two audio samples match, as well as being immune to various transformations including playback speed variation. The inventive technique further enables accurate estimation of the transformations.

DESCRIPTION OF THE BACKGROUND ART

The need for fast and accurate automatic recognition of music and other audio signals continues to grow. Previously available audio recognition technology often traded off speed against accuracy, or noise immunity. In some applications, calculating a regression is necessary to estimate the slope of a time-time scatter-plot in the presence of extreme noise, which introduced a number of difficulties and lowered performance in both speed and accuracy. Previously existing audio recognition techniques were therefore incapable of performing fast and accurate recognition in the presence of significant playback speed variation, for example, in recognizing a recording that is played at a speed faster than normal.

Adding to the complexity of the problem is an increasingly popular kind of speed variation, pitch-corrected tempo variation, used by DJ's at radio stations, clubs, and elsewhere. Currently, there is no robust and reliable technique that can perform fast and accurate audio recognition in spite of the playback speed variations and/or pitch-corrected tempo variations.

SUMMARY OF THE INVENTION

The present invention fulfills the need in the audio recognition art by providing a fast and invariant method for characterizing the relationship between two audio files. The inventive method is accurate even in the presence of extreme noise, overcoming the aforementioned drawbacks of existing technology.

According to an aspect of the invention, the relationship between two audio samples can be characterized by first matching certain fingerprint objects derived from the respective samples. A set of fingerprint objects is generated for each audio sample. Each fingerprint object occurs at a particular location within the respective audio sample. Each location is determined in dependence upon the content of the respective audio sample and each fingerprint object characterizes one or more local features of the respective audio sample at or near the respective particular location. In one embodiment, each fingerprint object is further characterized by a variant component and an invariant component. A relative value is next determined for each pair of matched fingerprint objects. A histogram of the relative values is then generated. If a statistically significant peak is found in the histogram, then the two audio samples can be characterized as, for example, substantially matching.

According to another aspect of the invention, the above-described technique can be further enhanced by providing an estimate of a global relative value with a location of the peak on an axis of the histogram. The global relative value, in turn, can be refined by selecting a neighborhood around the peak of interest and calculating an average of the relative values in the selected neighborhood.

In yet another embodiment, in which a relative playback speed value is determined from the peak of the histogram, a compensated relative time offset value is calculated for each pair of matched fingerprint objects. Another histogram is generated based on the compensated relative time offset values. If a statistically significant peak is found in the second histogram, then the relationship between the two audio samples can be further characterized by the peak, providing further enhancement to the accuracy of the invention.

BRIEF DESCRIPTION OF THE FIGURES

FIG. 1 is a spectrogram representation of an analyzed audio sample.

FIG. 2 is an exemplary diagram showing fingerprint objects being generated from an audio sample in accordance with an aspect of the invention.

FIG. 3 illustrates two audio samples being compared in accordance with the principles of the present invention

FIGS. 4A-B show exemplary histograms with and without a statistically significant peak.

FIGS. 5A-B illustrate the motion of time-frequency points as the playback speed varies.

FIGS. **6A-B** show corresponding times in a first audio sample (sample sound) and a second audio sample (database sound) of matching hash tokens. The slope equals one when the playback speed of the sample sound is the same as the database sound.

FIGS. **7A-D** illustrate fast and efficient slope finding and histogramming techniques of the present invention.

DETAILED DESCRIPTION

The present invention enables fast, robust, invariant, and scalable indexing and searching over a large database of audio files and is particularly useful for audio pattern recognition applications. In some embodiments, the techniques disclosed herein improve and enhance the audio recognition system and methods disclosed in the above-referenced U.S. patent application.

A very fast and efficient comparison operation between two audio sample files is essential in building a commercially viable audio recognition system. According to an aspect of the invention, the relationship between two audio samples can be characterized by first matching certain fingerprint objects derived from a spectrogram, such as one shown in FIG. **1**, of the respective audio samples. The spectrogram is a time-frequency representation/analysis that is generated by taking samples 2*K at a time in a sliding window frame and computing a Fourier Transform, thereby generating K frequency bins in each frame. The frames may overlap to improve the time resolution of the analysis. The particular parameters used depend on the kind of audio samples being processed. Preferably, discrete-time audio files with an 8 kilohertz sampling rate, frames with K=512, and a stride of 64 samples are used.

Fingerprint Objects

After a spectrogram of each audio sample is generated, it is scanned for local features, e.g., local energy peaks, as shown in FIG. **2**. The matching process starts by extracting a set of fingerprint objects from the corresponding local features for each audio sample. In an exemplary embodiment, one audio sample is an unknown sound sample to be recognized and the other audio sample is a known recording stored in a database. Each fingerprint object occurs at a particular location within the respective audio sample. In some

embodiments, each fingerprint object is located at some time offset within an audio file and contains a set of descriptive information about the audio file near its respective time coordinate. That is, descriptive information contained in each fingerprint object is computed with dependency on the audio sample near the respective time offset. This is encoded into a small data structure. Preferably, the location and descriptive information are determined in a way that is generally reproducible even in the presence of noise, distortion, and other transformations such as varying playback speed. In this case, each location is determined in dependence upon the content of the respective audio sample and each fingerprint object characterizes one or more local features of the respective audio sample at or near the respective particular location, e.g., location (t1,f1) or (t2,f2) as shown in FIG. **1**.

In an exemplary embodiment, each fingerprint object is characterized by its location, a variant component, and an invariant component. Each local feature is a spectrogram peak and each frequency value is determined from a frequency coordinate of a corresponding spectrogram peak. The peaks are determined by searching in the vicinity of each time-frequency coordinate and selecting the points that have a greater magnitude value than its neighbors. More specifically, as shown in FIG. **2**, an audio sample **210** is analyzed into a spectrogram representation **220** with regions **221** and **222** of high energy shown. Information related to local energy regions **221** and **222** is extracted and summarized into a list **230** of fingerprint objects **231, 232**, etc. Each fingerprint object optionally includes a location field **242**, a variant component **252**, and an invariant component **262**. Preferably, a neighborhood is selected such that each chosen point is the maxima within a 21x21 unit block centered around thereof. Readers are referred to the above-referenced U.S. patent application for more discussion on neighborhoods and point selection. Next, a relative value is determined for each pair of matched fingerprint objects. In some embodiments, the relative value is a quotient or difference of logarithm of parametric values of the respective audio samples. A histogram of the relative values is then generated. If a statistically significant peak is found in the histogram, then the two audio samples can be characterized as substantially matching.

Referring to FIG. **3**, fingerprint object lists **310** and **320** are respectively prepared as described above for audio samples **1** and **2**, respectively. Respective fingerprint objects **311** and **322** from each list are compared. Matching fingerprint objects are paired, e.g.,

using respective invariant components **Inv** and **Inv'** in step **351**, and put into a list in step **352**. Relative values are computed for each matched pair in step **353**. Next, in step **354**, a histogram of relative values is generated. The histogram is searched for a statistically significant peak in step **355**. If none is found in step **356**, then the audio samples **1** and **2** do not match, e.g., histogram **410** of FIG. **4A**. Alternatively, if a statistically significant peak is detected, then the audio samples **1** and **2** match, e.g., histogram **420** of FIG. **4B**.

The above-described technique can be further enhanced by providing an estimate of a global relative value R with a location of the peak on an axis of the histogram, as illustrated in step **361**. In some embodiments, R can be refined by first selecting a neighborhood around the peak of interest. In FIG. **1**, this is shown as an area of interest **110** around a particular location (t1,f1). Next, an average of the relative values in the selected neighborhood is calculated. The average may be a weighted average calculated with number of points at each relative value in the selected neighborhood. In some embodiments, R can be further refined to generate a relative time offset value t'-R*t for each matched pair. Steps **362-364** show that, with these relative time offset values, a second histogram is generated, allowing a compensated time offset to be calculated.

Other kinds of time-frequency analyses may be implemented for extracting fingerprint objects, e.g., the Wigner-Ville distribution or wavelets. Also, instead of spectrogram peaks, other features, e.g., cepstral coefficients, can be used. Further, super-resolution techniques could be used to obtain finer frequency and time estimates of the time-frequency coordinates provided by the spectrogram peaks. For example, parabolic interpolation on frequency bins could be used to increase the frequency resolution. Related exemplary teachings can be found in "PARSHL: An Analysis/Synthesis Program for Non-Harmonic Sounds Based on a Sinusoidal Representation", Julius O. Smith III and Xavier Serra, Proceedings of the International Computer Music Conference (ICMC-87, Tokyo), Computer Music Association, 1987, and in "Modern Spectral Estimation: Theory and Application," by Steven M. Kay (January 1988) Prentice Hall, both of which are incorporated herein by reference.

Matching

In a matching operation, two audio samples are compared via their respective fingerprint objects. As discussed before with reference to FIG. **3**, pairs of matched fingerprint objects are generated, each pair containing substantially matching components. One way of preparing the data to allow for fast searching is to encode the fingerprint objects into numeric tokens, such as 32-bit unsigned integers, and using the numeric tokens as a key for sorting and searching. Techniques for efficient data manipulation are well-known in the art, for example, "Art of Computer Programming, Volume 3: Sorting and Searching (2nd Edition)," by Donald Ervin Knuth (April 1998) Addison-Wesley, which is incorporated herein by reference.

In an exemplary embodiment, each fingerprint object contains an invariant component and a variant component. The invariant component refers to the ratios of frequency values corresponding to spectral peaks, as well as ratios of delta time (i.e., time difference) values between spectral peaks are invariant under time stretch. For example, referring to FIG. **5A** and **5B**, if an audio sample's spectrogram has some local spectral peaks with coordinates (t1,f1), (t2,f2), and (t3,f3) then an invariant for two points is f2/f1, i.e., f2'/f1'=f2/f1. Additional invariants for 3 points are given by f3/f1, (t3-t1)/(t2-t1), or (t3-t2)/(t2-t1), or any other combination created by permuting the points and/or computing functions of these quantities or combinations of these quantities. For example, f2/f3 could be created by dividing f2/f1 by f3/f1. Furthermore, if the audio sample is linearly stretched, such as simply being played back faster, then additionally frequency and delta time enjoy a reciprocal relationship, so that quantities such as f1*(t2-t1) are also invariant. Logarithms of these quantities may be used, substituting addition and subtraction for multiplication and division. To discover both the frequency and time stretch ratios, assuming they are independent, it is necessary to have both a frequency variant and a time variant quantity.

To make matching efficient, we use the invariant part to index the fingerprints and use approximate or exact values to search. Searching using approximate matches allows for some extra robustness against distortions and rounding error, but incurs more cost if the search over the invariant components becomes a multidimensional range search. In the preferred embodiment, the invariant component of respective fingerprint objects is required to match exactly, thus yielding a system that is very fast, with a minor tradeoff against

sensitivity of recognition in the presence of noise. It is important to note that this method works well even if only a minority of fingerprint objects in corresponding audio samples match correctly. In the histogram peak detection step, a peak may be statistically significant even if as few as 1-2% of the fingerprint objects are correctly matched and survive.

The variant component can also be used to narrow down the number of matching fingerprint objects, in addition to, or instead of the invariant component. For example, we could require that a variant component V from the first audio sample match a corresponding V' from the second audio sample within +/- 20%. In that case, we can form a representation of the numeric tokens such that the upper portion (e.g., most significant bits) contains the invariant components, and the lower portion (e.g., least significant bits) contains the variant components. Then, searching for an approximate match becomes a range search over the tokens composed using the lowest and highest values of the variant component. The use of an invariant component in matching is thus not strictly necessary if searching is done using a variant component. However, using an invariant component in the matching process is recommended since it helps to reduce the number of spurious matches, thus streamlining the histogramming process and reducing the amount of processing overhead.

On the other hand, the novel variant component itself may or may not be a part of the matching criteria between two fingerprint objects. The variant component represents a value that may be distorted by some simple parametric transformation going from an original recording to a sampled recording. For example, frequency variant components, such as f1, f2, f3, and time variant components such as (t2-t1), (t3-t1), or (t3-t2) may be chosen as variant components for playback speed variation. Suppose a second audio sample, say a matching rendition from a database, had a spectrogram with coordinates (t1',f1'), (t2',f2'), and (t3',f3'), corresponding to the same points listed above for the first audio sample. Then the frequency component f1' could have a scaled value $f1' = R_f * f1$, where R_f is a linear stretch parameter describing how much faster or slower the first sample recording was compared to the second. The variant component from each of the two matching audio samples can be used to calculate an estimate of the global stretch value, which describes a macroscopic parameter, by calculating the ratio between the two

frequency values, R_f=f1'/f1. This gives the relative pitch ratio of the two matched time-frequency points; for example, R_f=2 means that the first audio sample has half the pitch (frequency) of the second. Another possibility is to use R_t=(t2'-t1')/(t2-t1). In this case, the relative value R is the relative playback speed ratio, i.e., R_t =2 means that the first audio sample is playing back twice as fast as the second audio sample.

If R_f =1/ R_t, i.e., f'/f =(t2-t1)/(t2'-t1'), then the two audio samples are related by a linear time stretch, due to the reciprocal time-frequency relationship for such audio samples. In this case, we can first use the histogramming method disclosed herein to form an estimate R_f of the relative frequency ratio using corresponding variant frequency components, and again to form an estimate of R_t of the relative playback speed, then perform a comparison to detect whether the playback relationship is linear or nonlinear.

In general, a relative value is calculated from matched fingerprint objects using corresponding variant components from the first and second audio samples. The relative value could be a simple ratio of frequencies or delta times, or some other function that results in an estimate of a global parameter used to describe the mapping between the first and second audio sample. But generally, any 2-input function F( ) may be used, e.g. R=F(v1,v1'), where v1 and v1' are respective variant quantities. It is best if F( ) is a continuous function so that small errors in measuring v1 and v1' result in small errors in the output R.

Histogramming

As described herein, a histogram is generated over the set of relative values calculated from the list of matching pairs of fingerprint objects. The histogram is then searched for a peak. The presence of a statistically significant peak in the histogram indicates that a possible match has occurred. This method particularly searches for a cluster in the histogram of relative values instead of differences of time offsets, such as (t1'-t1). According to a principle of the present invention, a histogram serves to form bins of count values, each bin corresponding to a particular value along the independent axis of the histogram. For the purpose of this invention, generating a histogram may be accomplished by simply sorting the list of relative values. Therefore, a fast and efficient way of detecting the peak of a

histogram of a list of values is to sort the list in ascending order, then scan for the largest clump of items having the same or similar values.

Statistical Significance

As discussed herein, with the present invention, two audio samples can be correctly matched even if only as few as 2% of the fingerprint objects survive all the distortions and are correctly matched. This is possible by scoring the comparison between the two audio samples. Specifically, a neighborhood is chosen around the peak of the histogram and all the matching pairs falling into the neighborhood are counted, giving the score. Additionally, a weighted score may be computed, discounting the contribution of pairs that are farther from the center of the peak.

One way to estimate the cutoff criterion is to assume that the probability distribution of the score of a non-matching track falls off with an exponential tail. The model is applied to the actual measured distribution of scores of non-matching tracks. Next the cumulative probability distribution of the highest score over a database of N tracks (e.g., taken as the Nth power of the cumulative probability distribution of a single non-matching score) is calculated. Once the probability curve is known and a maximum level of false positives is chosen (e.g., 0.5%), then a numeric threshold can be chosen and used to determine whether the histogram peak has a statistically significant number of matching pairs.

Hyperfine Estimation

Once a statistically significant histogram peak is found, a high-resolution "hyperfine" estimate of the global relative value (such as relative playback speed) may be computed. This is accomplished by choosing a neighborhood around the peak, e.g., including an interval about 3 or 5 bins wide centered on the peak histogram bin, and calculating an average of the relative values in the neighborhood. Using this technique, we can find relative playback speed accurate to within 0.05%. With offset derivation disclosed herein, the global time offset may be estimated with better than 1 millisecond accuracy, which is finer than the time resolution of the spectrogram frames discussed above.

Robust Regression

As discussed in the above-referenced U.S. patent application, in the case that the samples actually matched, a diagonal line could be seen in a scatterplot where matching samples have the corresponding time coordinates (t',t) of matching fingerprint objects plotted against each other, as shown in FIG. **6A**. The challenge is to find the equation of the regressor, which is determined by the slope and offset of the line, in the presence of a high amount of noise. The slope indicates the relative playback speed, and the offset is the relative offset from the beginning of one audio sample to the beginning of the second. Conventional regression techniques, such as least-mean square fitting, are available, for example, "Numerical Recipes in C: The Art of Scientific Computing (2nd Edition)," by William H. Press, Brian P. Flannery, Saul A. Teukolsky, and William T. Vetterling (January 1993), Cambridge University Press, which is incorporated herein by reference. Unfortunately, these conventional techniques suffer from disproportionate sensitivity, wherein a single far outlier can drastically skew the estimated regression parameters. In practice, points are often dominated by outliers, making it very difficult to detect the correct diagonal line. Other techniques for robust regression can be used to overcome the outlier problem to find a linear relation among points in the presence of noise, but these tend to be slow and iterative and have the possibility of getting stuck in a local optimum. A wide variety of techniques exist in the literature for finding an unknown linear regressor. The Matlab toolkit, available from The Mathworks and incorporated herein by reference, contains a variety of software routines for regression analysis.

The present invention provides an inventive method of estimating the relative playback speed (or, equivalently, the reciprocal of the relative pitch, in the case of a linear playback relationship) that solves the problem of finding a regression line in the time-time scatterplot even if the slope of the match does not equal to one, e.g., FIG. **6B**. The use of the histogram of local relative playback speeds, as disclosed herein, takes advantage of information not previously considered and provides an unexpected advantage of quickly and efficiently solving the regression problem.

To find the offset, assume that the corresponding time points have the relation

$$\text{offset} = t1' - R_t * t1,$$

where R_t is obtained as discussed before. This is the compensated time offset and serves to normalize the time coordinate systems between the two audio samples. This can also be seen as a shear transformation on the time-time scatterplot that makes the diagonal line of unknown slope in FIG. **7A** vertical in FIG. **7C**. Histogram **720** of FIG. **7B** illustrates a peak of accumulated relative playback speed ratios indicating the global relative playback speed ratio R. New relative values are then given by the offset formula, and a new histogram **740** is generated, as seen in FIG. **7D**. The peak of the new histogram **740** gives an estimate of the global offset, which can be sharpened by using an average of the values in the peak's neighborhood, as described above.

In summary, the first histogramming stage provides a way to estimate the relative playback speed, as well determining whether a match exists. The second histogramming stage ensures that the candidate matching audio samples have a significant number of fingerprint objects that are also temporally aligned. The second histogramming stage also serves as a second independent screening criterion and helps to lower the probability of false positives, thus providing a stronger criterion for deciding whether two audio samples match. The second histogramming stage may be optionally performed only if there is a statistically significant peak in the first histogram, thus saving computational resource and effort. A further optimization may be optionally performed, e.g., to reduce computational clutter, instead of computing the second histogram over all the pairs of matched fingerprint objects in the list, the second histogram can be generated using only the matching pairs corresponding to the first histogram peak.

Synchronization of Multiple Recordings

The present invention may be implemented for cueing and time alignment of unsynchronized audio recordings. For example, suppose a DAT recorder and a cassette recorder were operated independently with different microphones at slightly different locations or environments. If it is later desired to combine the two recordings from respective recorders into one mix, the two tracks may be synchronized using the robust regression technique described herein to obtain the time offset. As such, even if the unsynchronized recorders operate at slightly different speeds, the relative speed can be determined with a high degree of accuracy, allowing one recording be compensated with reference to another. This is especially useful if it is found that one of the recordings has

become corrupted and needs to be supplemented from another source. The time alignment and synchronization as described herein thus allow for transparent mixing.

Database Search

Since the comparison method is extremely fast, it is possible to pre-process a large database of audio samples into respective lists of fingerprint objects. As one skilled in the art would appreciate, an unknown audio sample may therefore be pre-processed into its own respective list of fingerprint objects using currently available data processing techniques. The above described matching, histogramming, and peak detection techniques can then be carried out using the pre-processed fingerprint objects in the database to find a match.

Although the present invention and its advantages have been described in detail, it should be understood that the present invention is not limited to or defined by what is shown or discussed herein. In particular, drawings and description disclosed herein illustrate technologies related to the invention, show examples of the invention, and provide examples of using the invention and are not to be construed as limiting the present invention. Known methods, techniques, or systems may be discussed without giving details, so to avoid obscuring the principles of the invention. As it will be appreciated by one of ordinary skill in the art, the present invention can be implemented, modified, or otherwise altered without departing from the principles and spirit of the present invention. For example, methods, techniques, and steps described herein can be implemented or otherwise realized in a form of computer-executable instructions embodied in a computer readable medium. Alternatively, the present invention can be implemented in a computer system having a client and a server. The client sends information, e.g., fingerprint objects, necessary for the characterization of the relationship between the first and second audio samples to the server where the characterization is performed. Accordingly, the scope of the invention should be determined by the following claims and their legal equivalents.

What is claimed is:

1. A method of characterizing a relationship between a first and a second audio samples, comprising the steps of:

generating a first set of fingerprint objects for the first audio sample, each fingerprint object occurring at a respective location within the first audio sample, the respective location being determined in dependence upon the content of the first audio sample, and each fingerprint object characterising one or more features of the first audio sample at or near each respective location;

generating a second set of fingerprint objects for the second audio sample, each fingerprint object occurring at a respective location within the second audio sample, the respective location being determined in dependence upon the content of the second audio sample, and each fingerprint object characterising one or more features of the second audio sample at or near each respective location;

pairing fingerprint objects by matching a first fingerprint object from the first audio sample with a second fingerprint object from the second audio sample that is substantially similar to the first fingerprint object;

generating, based on the pairing step, a list of pairs of matched fingerprint objects;

determining a relative value for each pair of matched fingerprint objects;

generating a histogram of the relative values; and

searching for a statistically significant peak in the histogram, the peak characterizing the relationship between the first and second audio samples.

2. The method according to claim 1 in which the relationship between the first and second audio samples is characterized as substantially matching if a statistically significant peak is found.

3. The method according to claim 1 or 2, further comprising the step of estimating a global relative value with a location of the peak on an axis of the histogram, the global relative value further characterizing the relationship between the first and second audio samples.

4. The method according to claim 3, further comprising the step of determining a hyperfine estimate of the global relative value, wherein the step of determining comprises:

selecting a neighbourhood around the peak, and

calculating an average of the relative values in the neighbourhood.

5. The method according to claim 1 in which each fingerprint object has an invariant component, and the first and second fingerprint objects in each pair of matched fingerprint objects have matching invariant components.

6. The method according to claim 5 in which the invariant component is generated using at least one of:

(i) a ratio between a first and a second frequency values, each frequency value being respectively determined from a first and a second local features near the respective location of each fingerprint object;

(ii) a product between a frequency value and a delta time value, the frequency value being determined from a first local feature, and the delta time value being determined between the first local feature and a second local feature near the respective location of each fingerprint object; and

(iii) a ratio between a first and a second delta time values, the first delta time value being determined from a first and a second local features, the second delta time value being determined from the first and a third local features, each local feature being near the respective location of each fingerprint object.

7. The method according to claim 6 in which each local feature is a spectrogram peak and each frequency value is determined from a frequency coordinate of a corresponding spectrogram peak.

8. The method according to claim 1 or 5 in which each fingerprint object has a variant component, and the relative value of each pair of matched fingerprint objects is determined using respective variant components of the first and second fingerprint objects.

9. The method according to claim 8 in which the variant component is a frequency value determined from a local feature near the respective location of each fingerprint object such that the relative value of a pair of matched fingerprint objects being characterized as a ratio of respective frequency values of the first and second fingerprint objects and the peak in the histogram characterizing the relationship between the first and second audio samples being characterized as a relative pitch, or, in case of linear stretch, a relative playback speed.

10. The method according to claim 9, wherein the ratio of respective frequency values is characterized as being either a division or a difference of logarithms.

11. The method according to claim 9, in which each local feature is a spectrogram peak and each frequency value is determined from a frequency coordinate of a corresponding spectrogram peak.

12. The method according to claim 8, in which the variant component is a delta time value determined from a first and a second local features near the respective location of each fingerprint object such that the relative value of a pair of matched fingerprint objects being characterized as a ratio of respective variant delta time values and the peak in the histogram characterizing the relationship between the first and second audio samples being characterized as a relative playback speed, or, in case of linear stretch, a relative pitch.

13. The method according to claim 12, wherein the ratio of respective variant delta time values is characterized as being either a division or a difference of logarithms.

14. The method according to claim 12, in which each local feature is a spectrogram peak and each frequency value is determined from a frequency coordinate of a corresponding spectrogram peak.

15. The method according to claim 8, further comprising the steps of:

determining a relative pitch for the first and second audio samples using the respective variant components, wherein each variant component is a frequency value determined from a local feature near the respective location of each fingerprint object;

determining a relative playback speed for the first and second audio samples using the respective variant components, wherein each variant component is a delta time value determined from a first and a second local features near the respective location of each fingerprint object; and

detecting if the relative pitch and a reciprocal of the relative playback speed are substantially different, in which case the relationship between the first and second audio samples is characterized as nonlinear.

16. The method according to claim 1, wherein R is a relative playback speed value determined from the peak of the histogram of the relative values, further comprising the steps of:

for each pair of matched fingerprint objects in the list, determining a compensated relative time offset value, t-R*t', where t and t' are locations in time with respect to the first and second fingerprint objects;

generating a second histogram of the compensated relative time offset values; and

searching for a statistically significant peak in the second histogram of the compensated relative time offset values, the peak further characterizing the relationship between the first and second audio samples.

17. A computer program product for performing a method according to any preceding claim.

18. A computer system for performing a method according to any one of claims 1 to 16, the computer system comprising a client for sending information necessary for the characterization of the relationship between the first and second audio samples to a server that performs the characterization.

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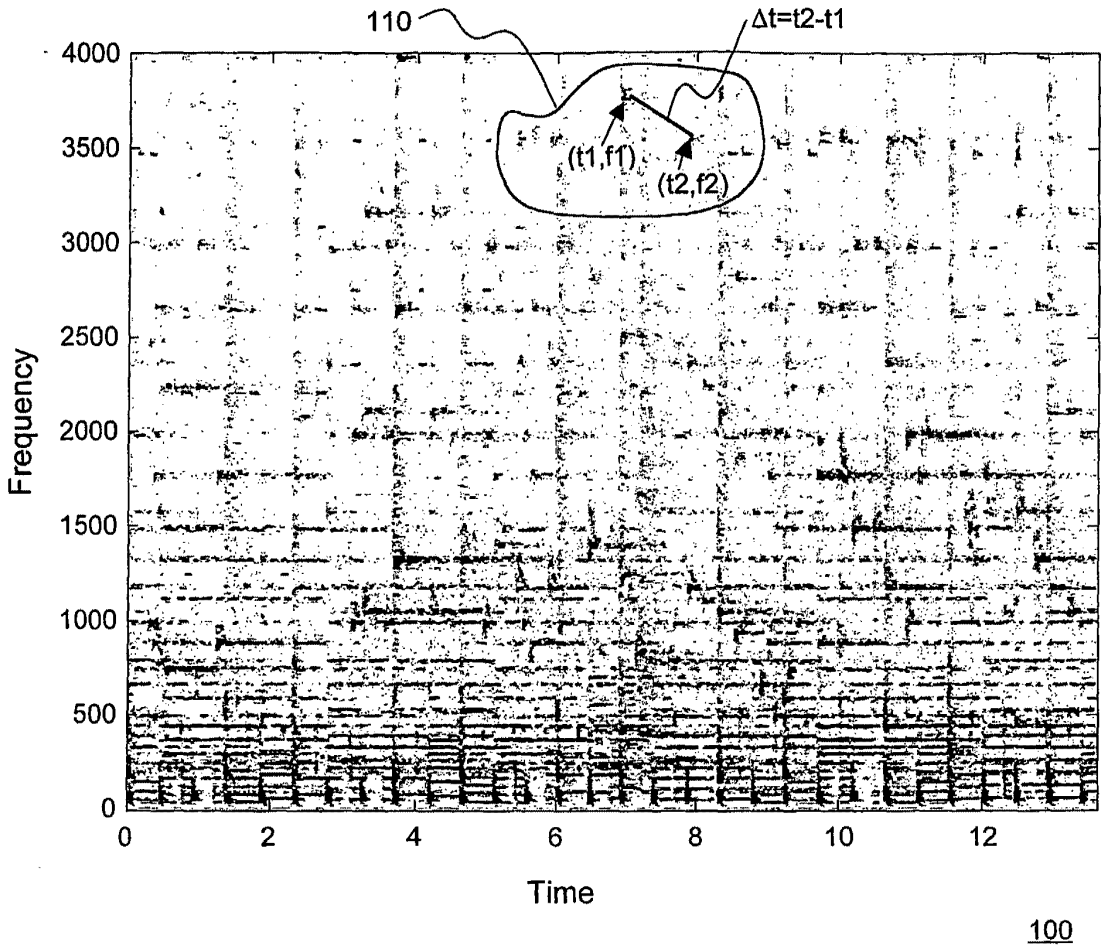


FIG. 1

2/8

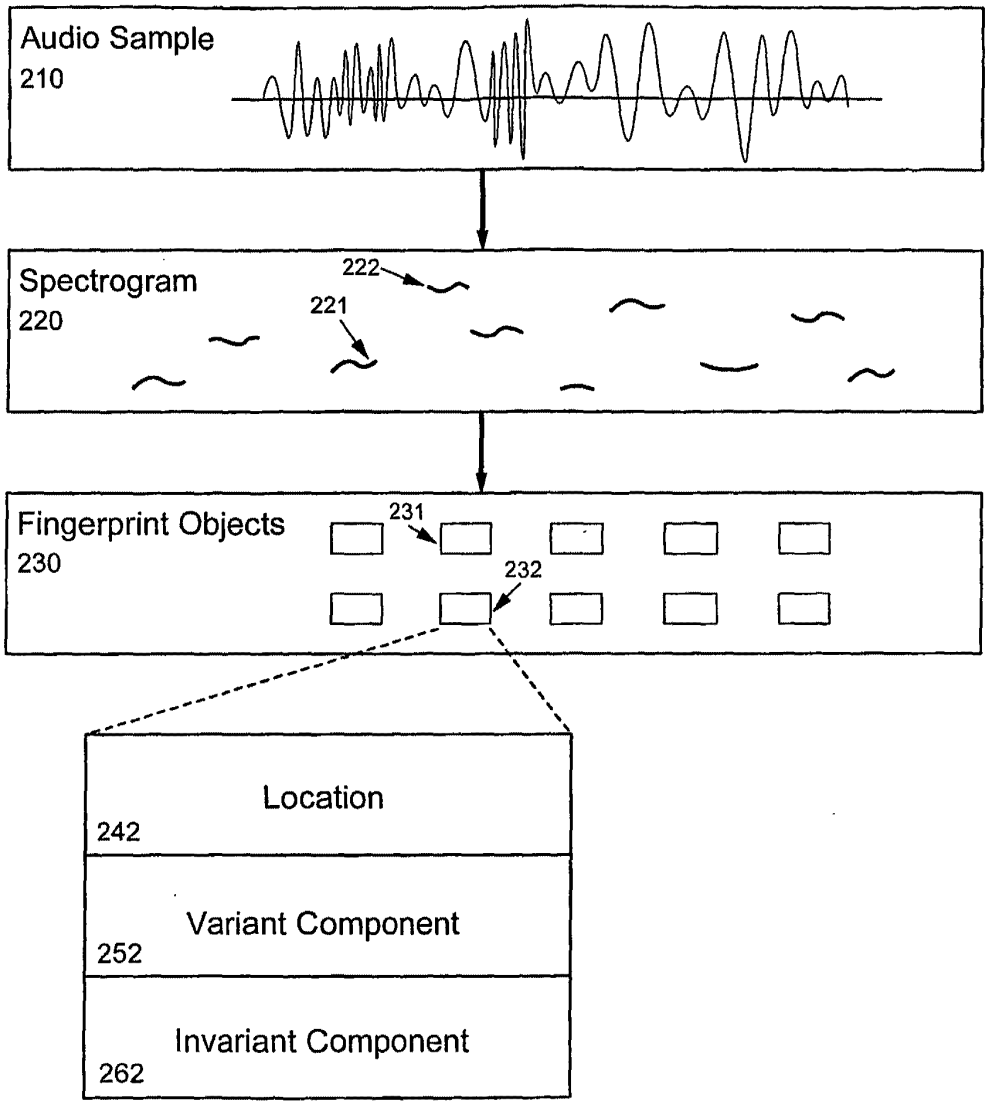

Audio Sample
210
Spectrogram
220
222
221
Fingerprint Objects
230
231
232
Location
242
Variant Component
252
Invariant Component
262

FIG. 2

3/8

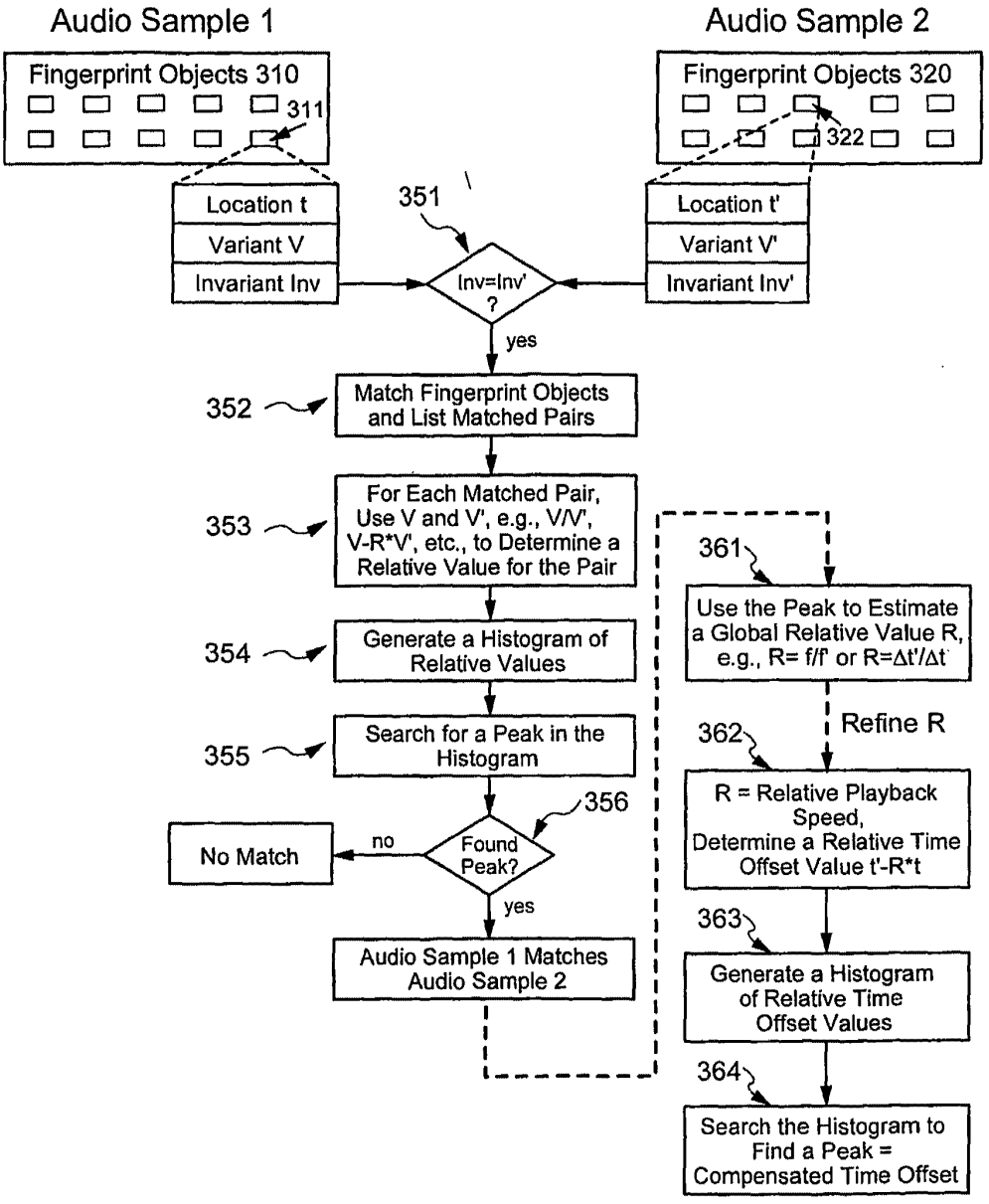

Audio Sample 1
Audio Sample 2
Fingerprint Objects 310
311
Fingerprint Objects 320
322
Location t
Variant V
Invariant Inv
351
Inv=Inv' ?
Location t'
Variant V'
Invariant Inv'
yes
352
Match Fingerprint Objects and List Matched Pairs
353
For Each Matched Pair, Use V and V', e.g., V/V', V-R*V', etc., to Determine a Relative Value for the Pair
354
Generate a Histogram of Relative Values
355
Search for a Peak in the Histogram
356
No Match
no
Found Peak?
yes
Audio Sample 1 Matches Audio Sample 2
361
Use the Peak to Estimate a Global Relative Value R, e.g., R= f/f' or R=Δt'/Δt
Refine R
362
R = Relative Playback Speed, Determine a Relative Time Offset Value t'-R*t
363
Generate a Histogram of Relative Time Offset Values
364
Search the Histogram to Find a Peak = Compensated Time Offset

FIG. 3

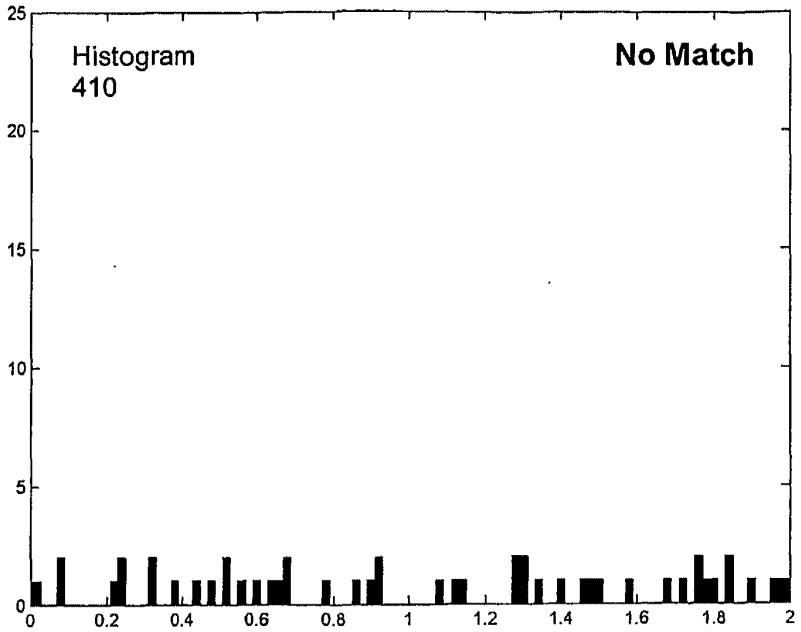

Histogram
410
No Match
25
20
15
10
5
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

FIG. 4A

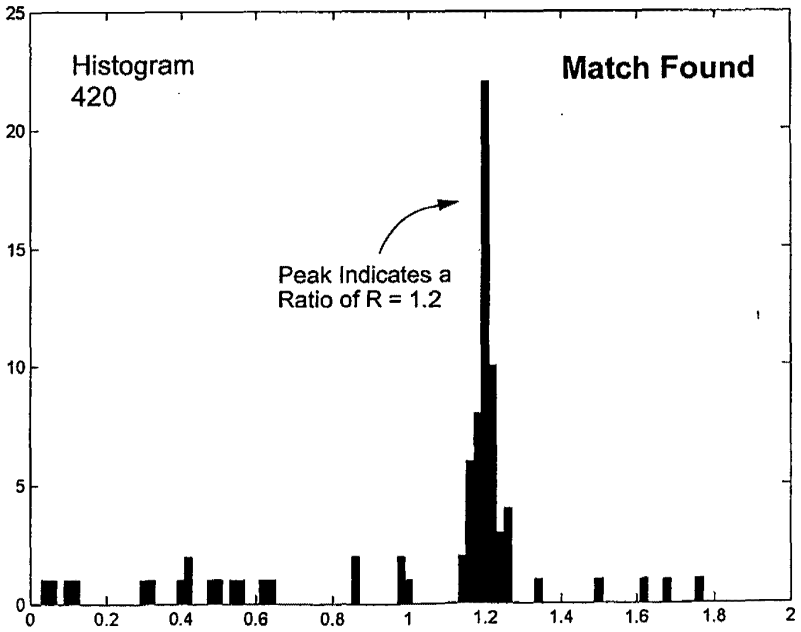

Histogram
420
Match Found
Peak Indicates a
Ratio of R = 1.2
25
20
15
10
5
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

FIG. 4B

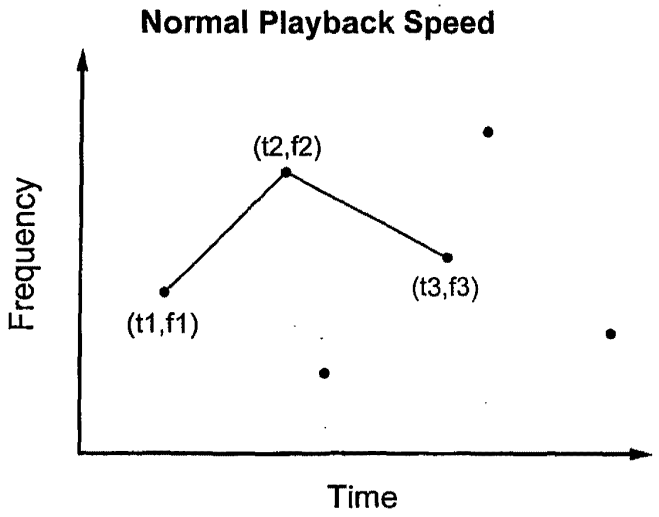

Normal Playback Speed
Frequency
(t2,f2)
(t3,f3)
(t1,f1)
Time

FIG. 5A

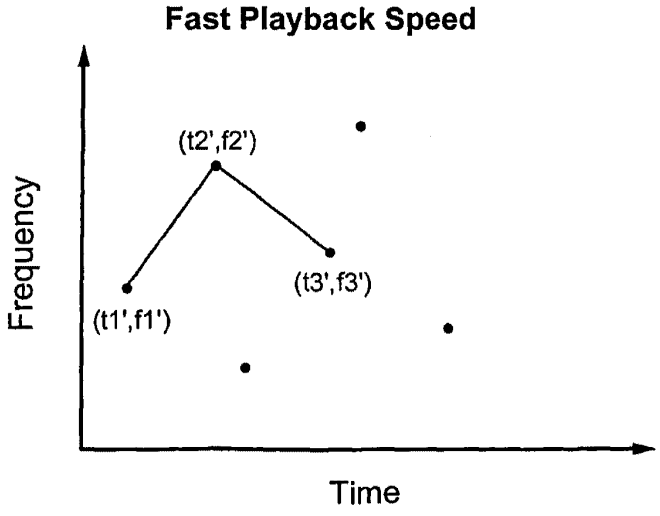

Fast Playback Speed
Frequency
(t2',f2')
(t3',f3')
(t1',f1')
Time

FIG. 5B

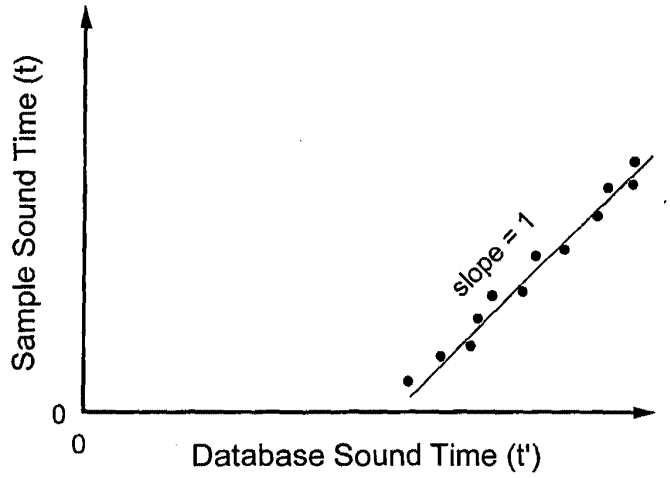

Sample Sound Time (t)
slope = 1
0
0
Database Sound Time (t')

FIG. 6A

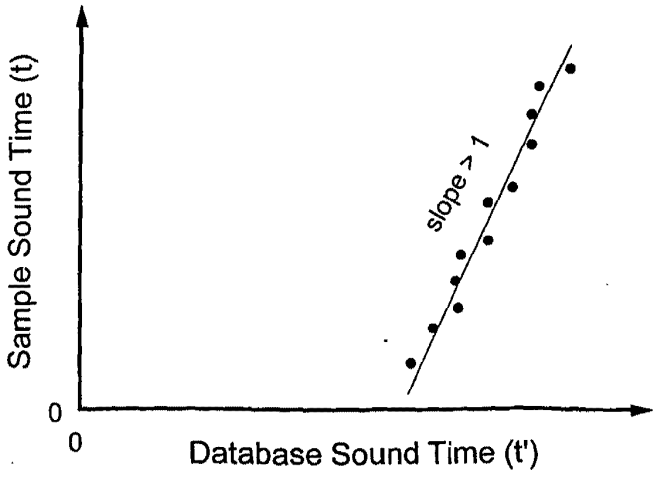

Sample Sound Time (t)
slope > 1
0
0
Database Sound Time (t')

FIG. 6B

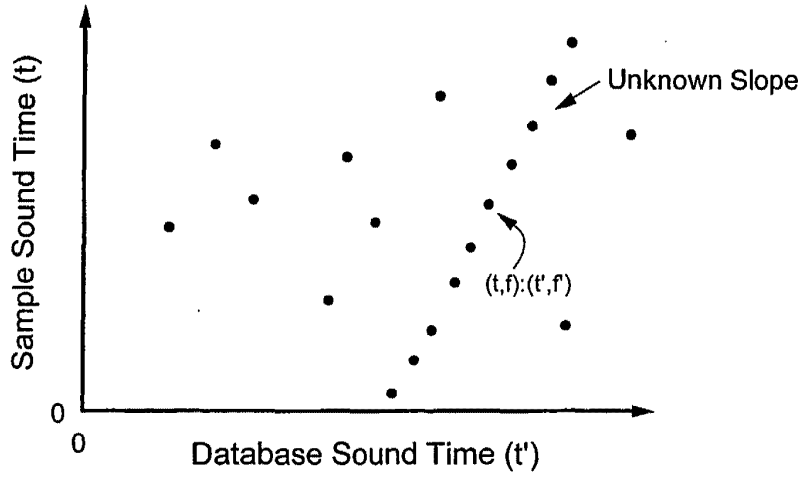

Sample Sound Time (t)
Unknown Slope
(t,f):(t',f')
0
0
Database Sound Time (t')

FIG. 7A

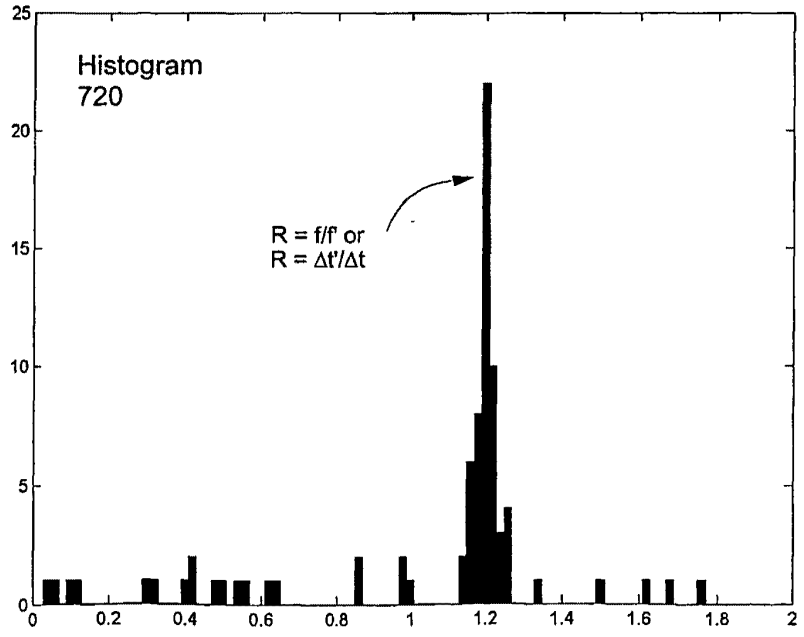

Histogram
720
R = f/f' or
R = Δt'/Δt
25
20
15
10
5
0
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2

FIG. 7B

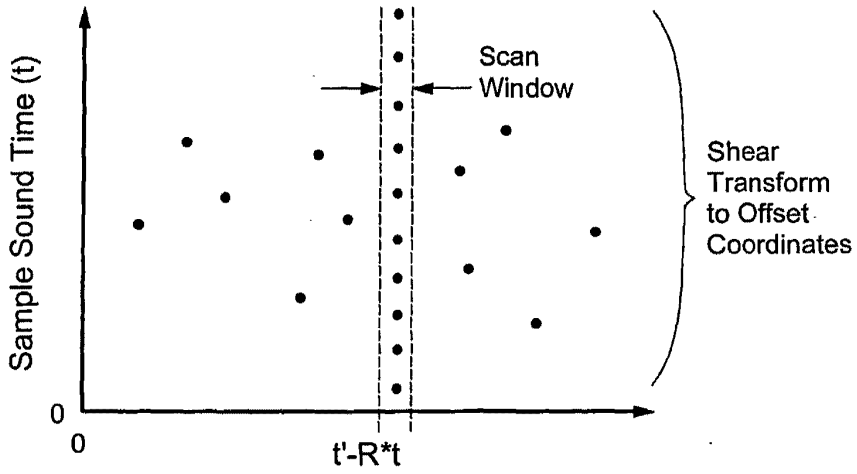

Sample Sound Time (t)
Scan
Window
Shear
Transform
to Offset
Coordinates
0
0
t'-R*t

FIG. 7C

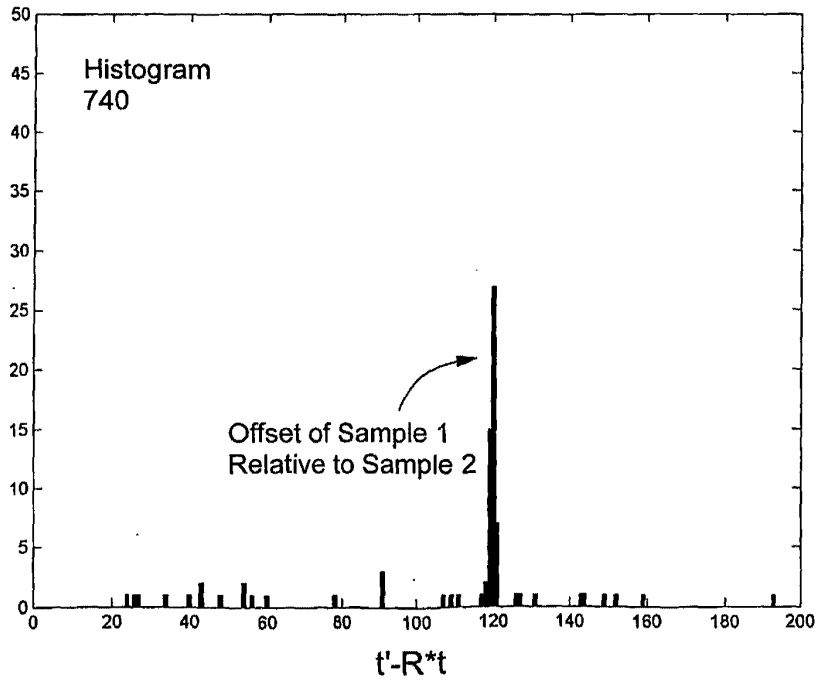

Histogram
740
Offset of Sample 1
Relative to Sample 2
50
45
40
35
30
25
20
15
10
5
0
0
20
40
60
80
100
120
140
160
180
200
t'-R*t

FIG. 7D

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US03/12126

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : G10L 21/00, 17/00; H04K 1/00
US CL : 704/273
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 704/273, 270, 275, 500, 501, 502, 503, 504, 201; 382/100, 2332, 181; 379/67, 88

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
None

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 6,480,825 B1 (SHARMA et al.) 12 November 2002 (12.11.2002), abstract, Figures 1B, 2, 4, 4A, 4B, 4C, 6,8, 8A, Col.3, line 6 - Col.4, line 22.	1-18
Y,P	US 6,483,927 B2 (BRUNK et al.) 19 November 2002 (19.11.2002), abstract, Figures 1, 3, 6, 8, Col.1, line 19 - Col.2, line 59.	1-18

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
10 June 2003 (10.06.2003)

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Form PCT/ISA/210 (second sheet) (July 1998)

INTERNATIONAL SEARCH REPORT

PCT/US03/12126

Continuation of B. FIELDS SEARCHED Item 3:
WEST, IEEE online
search terms: audio, security, watermark, compressio/decompression, histogram analysis

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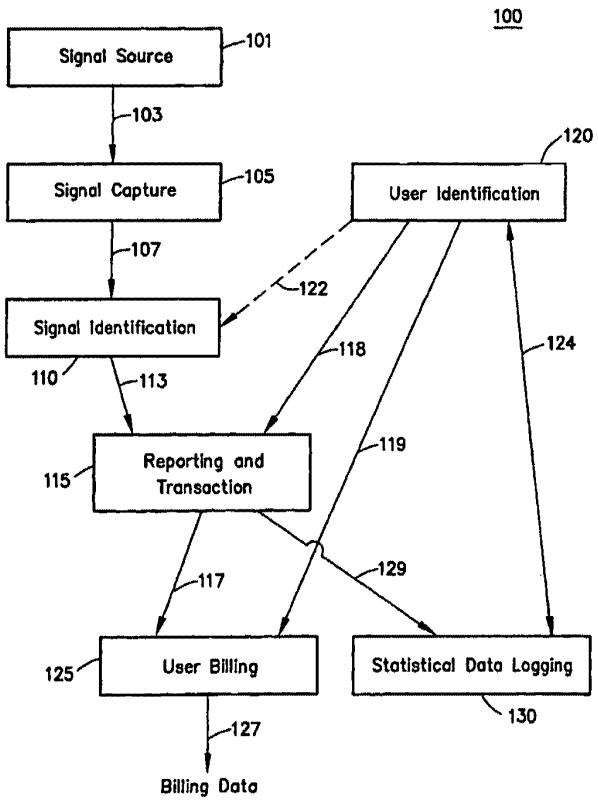
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[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR PURCHASING PRE-RECORDED MUSIC



(57) Abstract: A method and system is described which allows users to identify (pre-recorded) sounds such as music, radio broadcast, commercials, and other audio signals in almost any environment. The audio signal (or sound) must be a recording represented in a database of recordings. The service can quickly identify the signal from just a few seconds of excerption, while tolerating high noise and distortion. Once the signal identified to the user, the user may perform transactions interactively in real-time or offline using the identification information.

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(84) **Designated States** *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

METHOD AND SYSTEM FOR PURCHASING PRE-RECORDED MUSIC

CROSS REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application No. 60/222,023, filed July 31, 2000, the disclosure of which, and subsequently filed applications converted therefrom, is herein incorporated by reference.

BACKGROUND OF THE INVENTION

The present invention relates generally to methods and apparatuses for obtaining information about and/or purchasing pre-recorded music, and more particularly to a method and system for obtaining information about and/or purchasing pre-recorded music while listening to the music at any location.

When listening to music, people often want to identify a song currently being played on an audio system, such as a radio, but can identify neither the title nor the artist. The listener may simply be interested in the artist, title, lyrics, genre, or other information about the music. The listener may also be interested in obtaining a copy of the music, i.e., purchasing the music.

Frequently, the radio station announcer does not state the title, recording artist or other information about the song at the moment when the listener is interested in this information. Even if this information was announced, it may have been announced before the song was played and at that time the listener was not interested or was not then tuned to the station. The listener must then wait until hearing the song again and hope that the title and artist are announced at that time.

Even when information about the song is announced and heard, there are situations in which such information cannot easily be retained, such as when a listener is operating in a noisy environment, such as in an automobile, or when a listener does not have pen and paper at the ready. This situation presents problems to radio listeners and potential music purchasers and sellers alike. Market studies have shown that many radio listeners prefer radio stations that always announce the name of every song and artist.

A significant number of radio listeners seeking to buy music at record stores are often unable to remember the name of a song or the recording artist by the time they enter a music store to purchase the music. In fact, the sheer number of music recordings available for purchase in a music store can be so imposing that many novice music purchasers do not venture into such stores to purchase music, despite wishing to purchase music. Music fans would buy more music if they had immediate information about the title of the song and artist as it is being played, such as on the radio or other location remote from typical retailing locations.

Methods exist for automatically identifying music from a high-quality, relatively lengthy recording. For example, companies that monitor radio broadcasts to determine copyright and publishing royalties and to construct listings of current best-selling or most popular recording i.e., "top charts", employ certain techniques for identifying copyrighted songs from the broadcast. However, these methods require a high quality piece or excerpt of the song (referred to as a "sample") and are ineffective on short noisy samples. Usually, these methods require a clear signal that is a direct, high-quality connection to the radio output before it is broadcast to

prevent noise from corrupting the sample. Consequently, these methods cannot work in a noisy environment using short samples.

Many times unidentified music is heard when riding in a car (or at another similarly inconvenient location). Moreover, when a listener decides he wishes to know the identity of a particular song being played, it is usually well into the song. Therefore, even if the listener were to begin recording the song at the moment he decides he wishes to know the identity of the song, the sample would be relatively short and possibly noisy depending upon the quality of the audio recording and the recording environment. Certainly, most listeners do not carry high quality recording equipment with them when traveling in a car.

Moreover, even if the listener knows the identity of a song, as time passes the desire to obtain a copy of the song also passes. This is the so-called impulse purchase phenomenon, which is well known to retailers. The impulse purchase phenomenon is particularly strong where the listener has not heard the song before, and thus is unfamiliar with the title and/or recording artist. Unfortunately, there is currently no way for a music seller to take advantage of a potential impulse purchase resulting from a listener hearing a song (for perhaps the first time) in a car or other location that is remote from normal retail locations.

The present invention is therefore also directed to the problem of developing a method and system for both identifying music and/or enabling music retailers to take advantage of impulse purchase phenomena.

SUMMARY OF THE INVENTION

The present invention solves these and other problems through a method and system for providing a user with an ability to interactively engage with a service to trigger one or more of a variety of experiences, transactions or events by capturing a sample of an audio stream to which the user is exposed, and delivering that sample to the service. Such experiences, transactions and events, include purchases by the user, delivery of information from the service to the user, the execution of tasks and instructions by the service on the user's behalf, or other interactions that are responsive to the user's wishes.

Thus, according to one exemplary embodiment of the present invention, a service utilizes a system for identifying songs and music from a relatively short sample and enabling a user to interact with the service to immediately purchase a recording of the identified music remotely. In this embodiment, a user captures a relatively short sample of music being played over a music playing device such as a radio, by placing a call with a mobile telephone using a predetermined telephone number and playing the music into the handset of the telephone. A system at the other end of the telephone identifies the song to the user in real-time (i.e., within the duration of the short call). Employing an interactive voice response unit ("IVR"), the service enables the user to immediately purchase a recording of the identified song. The present invention thus takes advantage of the impulse purchase phenomenon by providing a mechanism that guarantees that the user is at the height of interest in the particular music. Coupled with this mechanism is the capability of the user to purchase the music in a very short transaction to ensure the interest does not fade.

Other exemplary embodiments of the invention provide for pre-authorized purchases of identified songs and the detection of unauthorized use of copyrighted materials.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG 1 depicts an operational block diagram of an exemplary embodiment in accordance with one aspect of the present invention.

FIG 2 depicts an operational block diagram of details of the signal identification block in FIG 1 in accordance with another aspect of the present invention.

FIG 3 depicts an operational block diagram of details of the reporting and transaction block in FIG 1 in accordance with yet another aspect of the present invention.

FIG 4 depicts an operational block diagram of an interaction between a user and interactive voice response unit in accordance with yet another aspect of the present invention.

DETAILED DESCRIPTION

At this point, it is worthy to note that any reference herein to "one embodiment" or "an embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the invention. The appearances of the phrase "in one embodiment" in various places herein are not necessarily all referring to the same embodiment.

The present invention includes a method and system for providing a user with an ability to interactively engage with a service to trigger a variety of experiences, transactions, or events by capturing a sample of an audio stream to which the user is exposed and delivering that sample to the service. It is noted that the terms "service" and "service provider" and "system" as used herein include a service, service provider, and system, respectively, which employ the various principles of the present invention unless otherwise indicated.

The audio stream can take any form where a message or information (i.e., content) is available for the user to experience, and may come from many sources, radio and television, pre-recorded audio, signals on internet and computer-based systems, telephones, and even live demonstrations or performances. Using a sampling device, such as an ordinary mobile (or cellular) phone, the user captures a sample of the audio stream and transmits the sample to a service provider employing the present invention.

The service provider may employ the sample by itself, may derive information from the sample, may use data known about the user (e.g., the user's identity and/or user profile), may prompt the user for additional information, or may employ a combination of all such inputs, to trigger an experience, transaction or event that is responsive to the user's needs. As described in more detail in the various embodiments of the invention below, such experiences, transactions and events include purchases of merchandise or services by the user, delivery of information from the service to the user, the execution of tasks and instructions by the service on the user's behalf, and other interactions.

An exemplary embodiment of the present invention provides a method and system for both identifying songs and music from a sample captured and transmitted using a mobile telephone, and providing a listener with an immediate opportunity to purchase the identified music. As mobile telephones are becoming more prevalent in the marketplace, listeners are likely to have access to a mobile telephone when hearing a song they would like to identify.

When desiring to obtain the identity or other information about a song being played, the user (i.e., listener) dials a predetermined telephone number using a mobile telephone (or any other available telephone, including landline, cordless, etc.), and then holds the telephone handset within audible distance of the source of the audio signal. The telephone number may be programmed into the phone by the user, or the number may be preprogrammed into the phone before its sold in some applications of the invention.

A system at the other end of the telephone automatically answers the phone, compares the sample to those music recordings in its database and then identifies the song to the user. Using an IVR (or a live operator and/or a combination of IVR and live operator; all alternatives collectively referred to below as "IVR"), the user is then provided the opportunity to immediately place an order for a recording of the identified music, for example, an album on CD or tape that contains the selected track.

The purchase may be physically fulfilled (i.e., forwarded to the user) in any number of different ways, such as regular mail, express mail, overnight delivery, courier, etc. Alternatively, digital delivery and fulfillment techniques may also be

used, including digital downloads to users' PCs, wireless internet devices, hand held personal computers, palm pilots, or mobile telephones.

Other purchase options may also be provided to the user in accordance with other aspect of the present invention. In addition to being able to purchase the identified music, the user may purchase other merchandise (which could be related to the music or not). For example, after purchasing the album containing the identified song, the user may choose to purchase tickets to an upcoming performance by the song's artist or sending flowers to a loved one who shares that "special song".

In another exemplary embodiment of the invention, the user can set up an account with the service where the user is enabled to select in advance to automatically purchase an identified music selection by simply calling a predetermined number. That is, the service treats a call to a dedicated number as an order for the identified music. According to this embodiment, when the user calls the predetermined number, the computer answers the telephone, identifies the user by the phone's ID, and, after the song selection is identified, a sales order is automatically placed. The user's account is then debited, and the selection is forwarded to the user. The selection could even be added to a compilation being created for the user from other similarly identified selections.

For example, the system could keep adding identified songs to a personal compilation until the compilation reaches the limit of the recording media. Once reaching the limit of the recording media, such as a compact disk, the system would issue the media to the user. This system enables recording artists and record

companies to receive the proper royalties for their music while enabling listeners to create individual music compilations on any desired media.

On some embodiments of the invention, the service relies upon a profile for the user that is created in advance of the call (but may be updated during a call as described below). A "user profile" may typically include general information about the user such as name, address, preferred method of payment (i.e., credit card pre-authorization), and set dollar limits on purchases. In addition, service-specific information regarding the user may also be included in the profile, such as demographic and user-identified preference information, to facilitate the service tailoring the transaction to fit a particular user. Moreover, with automatic telephone number identification, i.e., "caller ID", profiles can be built without prior user registration.

Age, education, residence, gender, occupation, and personal interests, likes and dislikes, among other criteria, may be employed to most effectively match transaction offers to users' interests and purchase habits. For example, one particular customer of the service may have a user profile that indicates that the user is a member of a demographic group that is music-savvy and aware of music trends. After offering to sell a recording of the song selected by the user, the service could offer to sell a recording by an artist that is "moving up the charts" in popularity. Thus, by employing a user profile in some applications of the invention, a higher transaction closing rate may be realized as offers are more accurately targeted to users who may be predisposed to view the offer favorably. In one embodiment of this aspect of the invention, the system could play a sample of the other recording

over the telephone as part of the transaction, thereby ensuring that the user was interested in this recording.

It is noted that user profiles are often dynamic and that the present invention includes an ability to update and change a user profile in response to changes in usage patterns (as described below), market and industry trends, user input, and other factors.

A feature of the invention related to user profile is usage tracking. By tracking the frequency and time of access, the type of music sought to be identified, and purchase history, for example, of a user, the service can gain additional insight into factors which may influence a user. Patterns of usage may be derived which may allow predictive modeling to be utilized, for example, to enhance and refine service offerings. The system of the present invention can thus differentiate between repeat users (who heavily access the service) and casual users (who occasionally or infrequently use the service) and adjust the options, offers, and interactive scripting (as described below) so that interest and enthusiasm is maintained among the service's customers. It is contemplated that the user profile and usage tracking/pattern features described here may be used in other embodiments and applications of the inventions as well.

There is an understanding of the fact that there may be some instances where recognition of an unidentified sound or song is not possible. In some cases this may be due to very short or noisy samples that challenge even the very capable technology platform of the present invention, or more likely, there is not an entry in the service's database that matches the sample even under the best conditions.

While mass storage of a vast library of recorded music and sounds is technically feasible, clearly it is not economical for a service provider to store data corresponding to every song or sound that exists in the world. Moreover, as barriers to publishing come down (through increased use of such distribution channels as the internet), it is expected that the rate at which new music is introduced to the public will continue to increase. As a result, it is expected that the entries to the service's database will always lag the newest (or most obscure) releases.

The present invention contemplates that such unidentifiable samples may be advantageously utilized. Users are afforded the opportunity to "stump" the service, acquaintances, or other users. As evidenced by the popularity of radio programming where the disk jockey plays a small snippet of a song and then rewards the listener who correctly identifies the "mystery" song, many users of the present service are expected to embrace this enjoyable aspect of the invention. Accordingly, in some applications of the invention users may store, retrieve, and forward the captured samples (for example, to other users). A service provider can thus implement contests, games, and promotions using the present invention to implement a modern day "Name that Tune." Such activities may be expected to heighten interest in the service as a whole.

In another aspect of the invention, in addition to having the option of purchasing the identified song, the user may initiate other types of interactive experiences, events, or transactions with the system during a call. Such interactive experiences, events, and transactions may include purchases of merchandise or services, the receipt of information, the storage and manipulation of archived data, and an ability to command the system to perform desired tasks or instructions.

Thus, this aspect of the invention provides the user with a common and consistent interface with the service to perform multiple interactive transactions.

For example, through the interactive voice response unit, the user may select from a number of options. An interactive voice response unit advantageously provides accurate and fast interactions between the user and the service and minimizes the amount of intervention by service personnel. Thus, playing a programmed audio script to the user, and receiving DTMF (dual tone multi-frequency or "touch") tones or voice commands from the user, the interactive voice response unit interacts with the user by providing the option to hear a clip of the identified recorded song or hear clips from other songs (e.g., tracks on the same album or from the same artist as the identified song, or music that is determined by the service to be of interest to the caller by a usage pattern or user profile).

The user may be given the option of obtaining more information about the song, artist, or album. Examples of such information include song genre (e.g., folk, rock, R&B, country, rap, etc.) song lyrics, trivia, liner notes, production notes, instrumentation, musician identification, song position in music ranking services, such as Billboard®, and calendar of live appearances by the artist. Service-specific information may also furnished such as the tracks that the service identifies with the greatest frequency to the service subscribers on a given day. For some users, a desire to gain such information may be equal or stronger than the desire to know a song's title and artist.

Data archiving and manipulation may be implemented as another interactive user option. This aspect of the invention provides for the user to save the identification and/or other information on a local storage medium for future access.

And, as noted above, users may wish to store the captured samples themselves. A typical voice mailbox system may be utilized to implement such functionality, or alternatively, a web-based interface may be established with user-allocated disk space on a local server. Such access may be gained using the same telephone interface used with song identification, or an alternative platform (i.e., one that is accessed by dialing a different number).

Alternatively, saved data may be accessed and/or manipulated using such interfaces as a web browser with internet access. Such data archiving and manipulation feature of the invention may be used to implement service features that would, for example, allow users to store information on identified tracks and play them back on demand, or allow others to access the stored tracks.

Additionally, users may create their own music compilations and share them with others, using for example, MP3 storage and access protocols. Other information input from a user may also be stored, for example, to annotate a track or compilation with the user's thoughts and comments. Captured samples may be stored and manipulated as well to facilitate contests and games (as described above) or to implement other functions that may require accessing the "raw" sample.

Another aspect of the user and service interaction provided by the present invention includes an ability of the service to implement tasks and instructions directed by the user. One notable example of this feature includes the connection of a live operator (i.e., customer service personnel) to the user upon command. This feature additionally allows a user to interact with others users, non-users, or potential users of the service, or a user may interact with other systems.

For example, the user may instruct the service to send a recommendation for the identified song to a friend via email or SMS or a clip of the song to the friend's mobile telephone or service-sponsored storage site (e.g., voice mailbox or allocated disk space). The user could also instruct the service to ship a recording by a featured artist, or other merchandise (both music-related and non-music-related merchandise), as a gift. Games, contests, and promotional events involving interactive user participation may also be readily implemented using this inventive feature.

In addition, the service, acting as a portal or gateway or referring agent, may also provide the user with access to other systems, information, and services hosted or provided by third parties.

Such interactive experiences may include the delivery of advertising or promotional messages to the user from the system. Such advertising may be general or targeted to a user based on a user profile. A user may also be directed (for example, via call forwarding, or via web link) to fulfillment partners of the service provider to either fulfill a purchase request or user-driven instruction in instances where such partners are used. Alternatively, direct links to fulfillment partners, advertisers, and other systems may be provided as an option to a user in themselves.

In addition to the interaction that is implemented between the user and system during a call, the user may also be directed to other sources of information that are external to the system, for example, internet websites. Such websites may host content that is specifically related to the identified song, other music, or other topics of more general interest. The website may be configured to provide similar or additional interactive experiences to the user.

In another exemplary embodiment of the invention, a user experiencing a multimedia presentation, including an audio track, may capture and transmit a sample of content in the show to the service to indicate an interest in a product or service that may be featured.

For example, a user may capture an audio sample of a commercial advertisement for a particular product or service from a broadcast TV presentation. Upon receipt and identification of the product or service from the captured sample, the service may provide a purchase option to the user, furnish more detailed product or service information, or other provide other optional interactions as described above.

Fulfillment of the desired transaction to the user can be accomplished by the service directly, or through fulfillment partners as appropriate. This embodiment may be particularly beneficial when the advertiser does not include ordering or retail location information in the content of the advertisement. For example, a local retailer may not be known to the advertiser or it may be impractical for the advertiser to identify such retailers during the course of the advertisement (as in cases where the advertisement is distributed over a broad geographic region). Or, the advertiser may not equipped with all the necessary facilities (such as an IVR) to receive direct orders from consumers.

Thus, this embodiment of the invention provides a benefit to both user and advertiser alike. For the user, the service implements a desired transaction that would be more difficult and less convenient if the user employed conventional means to achieve the same end. And, by locating and identifying users who are ready to purchase to advertisers, the service can increase product deliveries by

acting as a referral agent (by establishing a path of communication between the user/consumer and advertiser), or by acting as a "virtual" IVR for the advertiser (where the service provides the customer service interface between the user/consumer and the advertiser, and the advertiser acts as a defacto fulfillment partner of the service).

The principles of this embodiment may also be readily applied to paid television programming (i.e., "infomercials") and home shopping broadcasts. In the case of paid television programming, product information segments are typically interspersed with segments that provide ordering information (during such segments, a viewer is generally provided product pricing information and directed to a toll-free telephone number to place an order with a live customer service representative). The content recognition technology employed by the present invention allows for faster, more accurate, purchases on impulse (even at times during the presentation when the toll-free number is not displayed) and provides an alternative ordering path to the 800 IVR.

In addition, in cases where higher valued products are featured that normally require more deliberation before purchase decisions are made, users may desire more information to assist in their decision making but often be reluctant to interact with a live representative to obtain it (i.e., the user is not ready to buy and wishes to avoid being pressured into buying). By contrast, user/consumers employing the present common user interface feature would be comfortable in knowing that such additional information could be readily obtained without human contact as the interface is seamless and consistent across all experiences, events and transactions in accordance with the invention.

In the case of home shopping broadcasts, ordering information is generally displayed at all times during the broadcast. Consumers typically place orders via toll-free IVRs by identifying item numbers, color, size and other identification information for the products desired for purchase to the home shopping service. While such methods are satisfactory, use of the present invention can enhance the home shopping experience for many users through its interactive interface that facilitates the exchange of ordering information using the common user interface feature described above.

In another exemplary embodiment of the present invention, the unauthorized use of copyrighted material may be detected. Recognition of copyrighted material without embedded watermarks is also provided. This aspect of the present invention enables an operator of a server to sample music recordings being transmitted over its server to ascertain whether the users are violating copyright laws. By identifying copyright violations at the server level, a web site operator can potentially avoid being accused of facilitating copyright infringement.

Other techniques for obtaining the music sample may be employed due to the ability of the algorithm utilized in the present invention to process a relatively short sample and generate a positive identification in the presence of relatively large amounts of noise (both background noise in the user's environment and noise resulting from signal compression and/or impairments along the signal transmission path).

For example, the music sample can be captured and sent to the system using many real-time sampling techniques. Thus, in various embodiments of the invention, a user may capture and transmit a sample using, for example, a standard

(i.e., wired) telephone, internet-streaming socket, or voice-over-IP transceiver. In other embodiments, a sample may be first recorded and then later transmitted to the system for identification, using for example, tape recording, CD writing, answering machine, digital voice recorder, uploaded WAV file, and the like.

Thus, users of the present inventive system can employ telephony or data communications devices including ordinary or mobile telephones, PCs, internet access devices, wireless internet devices, personal data assistants ("PDAs"), wireless information devices, two-way pagers, and other devices that are equipped with an ability to capture a media sample in accordance with the principles of the present invention.

The present invention provides tremendous advantages to users to facilitate the identification of songs anywhere and anytime. The identification occurs on a real-time basis, that is, the user can expect the information to be provided within the duration of a short transaction with (the service such as a one minute telephone call). The user does not need to wait to receive the desired information at a later time. The user simply and easily accesses an interactive voice response unit, dial up data interface or website, allows the microphone on the phone or PC to capture the music being played or performed anywhere for a few seconds, and, within seconds, learns the name of the song and the artist, as well as a range of additional information upon request. Users can then instantly purchase the music (in multiple formats), or save the information and access it later on a personalized web site (which may be configured, for example, to provide "personalized radio," i.e., content aggregation according to the user's taste, using streaming audio), or

perform several other actions from their telephone, internet access device, personal digital assistant (PDA), or PC.

By providing for real-time identification of songs being played or performed anywhere, the present invention solves the problems identified above and provides significant advantages for both buyers and sellers of music. First, music buyers employing the present invention are provided with the song and artist information that they wish to know, as well as the ability to purchase a song or an entire album as soon as they hear it, i.e., at the peak of their interest in the song. Second, sellers of music, including record companies and retailers, will benefit from heightened impulse purchases, as customers are able to recognize and remember songs they hear.

Furthermore, the present invention facilitates the creation of a rich customer information database that may be used to fine tune marketing campaigns by radio station and record companies and retailers, such as promotions and targeted marketing. Such data may be useful for the music industry to learn valuable new insights on customers' music preferences. The reactions of the users of this service to new music will provide valuable predictive information to recording labels and musicians attempting to market their recordings. Thus, the present invention provides for the first time a direct connection to the heartbeat of the music consumers for music retailers, record companies and radio stations.

The present invention provides a service operator with a multitude of revenue opportunities. The immediate purchase opportunity for the user afforded by the invention could allow music sellers to provide monetary and other incentives to the service provider so that the identification service is offered free of charge or at

subsidized rate (i.e., a rate that may be less than the cost of providing the service). Alternatively, the service could obtain revenue from the price of the telephone call, e.g., similar to 900 toll call telephone service, in which the user pays a toll set by the 900 number system operator above and beyond the normal toll fee for placing the call.

The service may also share in the increased revenue realized by telephone companies and internet service providers ("ISPs") as users increase their usage of access facilities to use the service. In addition, subscription arrangements with users may be established and revenue received for the service's delivery of advertising and promotional materials to the user. Revenue may also be realized through merchandise retailing and fees collected from fulfillment partners. Revenue may also be realized by selling information or advertising to companies by leveraging the user-specific knowledge acquired through use of the service.

The present invention employs an audio pattern-recognition technology that can be used to recognize a sound signal within a short noisy and distorted audio sample, which technology includes a robust recognition engine that is context free, convenient, fast, and noise immune. The audio pattern recognition technology is robust in that it works with highly distorted and noisy signals. In contrast, current music recognition engines require high-quality signals. The audio pattern technology is context free in that it does not rely on the knowledge of the source of the broadcasting. Prerecorded sounds can be recognized in circumstances where the source is unknown (for examples in bars and restaurants, on the street, in cars, airplanes, public transportation, etc.). The audio pattern technology is convenient in that excerpts of only a few seconds from any unique portion of the entire song

rendition are sufficient to enable recognition. Other techniques require comparatively long samples of the music to positively identify it. The audio pattern technology of the present invention is fast because it uses an algorithm that can search a very large database in a very short period of time.

The present invention overcomes the shortcomings suffered by various other known arrangements that attempt to solve the song identification problems mentioned above. One such arrangement identifies information (i.e., songs and commercials) broadcast by certain major radio systems by relying on a third-party identification service and the manual input by the user of data specifying the source of the broadcast information.

Another known arrangement requires users to carry a keychain, which can timestamp the moment a song is played on the radio, and later enable purchases when the device is synchronized with an internet-connected computer. Users of such arrangements suffer an undesirable delay before learning the identity of the song, thereby diminishing the power of the impulse purchase phenomenon. In addition to the delay limitations, both above-described arrangements can only identify songs aired on radio stations.

Other music recognition arrangements have avoided attempting to perform music identification directly. Instead, they rely on contextual information, such as a timestamp plus radio station in order to look up a playlist provided by a third-party source. Such third-party information must be gathered using playlists submitted by radio stations, causing dependencies on business relationships, reducing radio station participation, or problems when the Disc Jockey changes the actual song played at the last minute. Users of certain such arrangements are limited to only the

radio stations with which they have registered. Alternatively, third-party playlist information can also be provided by a music tracking services, but such services usually only track radio broadcasts for the largest radio stations in major metropolitan areas.

Another limitation with these known music recognition arrangements is that they cannot be used in the conditions under which present invention operates with the same effectiveness. Current recognition technologies do not lend themselves to robust recognition as they fail under less than ideal conditions such as those encountered due to noise, dropouts, interference, bandlimiting, and voice-quality digital compression. Signals that are transmitted through additional mediums that are subject to linear and nonlinear distortion cause search methods that rely on cross-correlation or statistical moments to fail. Additionally, the arrangement of the present invention can recognize the music with as little as 5 to 15 seconds of sampling time, depending on the signal quality and size of the database, potentially allowing recognition and purchasing transactions to be carried out within a one-minute telephone call.

Other known music recognition arrangements embed a perceptually inaudible watermark or other side-channel information to identify the music. To take advantage of such embedded information the user must have a special decoding device, perhaps built into the receiver, to obtain the information. Using a telephone, or a computer with a web browser, it is possible to obtain play information from the radio station. But this requires the user to know which station he or she is listening to, as well as how to contact the station. By comparison, the method and system of the present invention is context-free, requiring only that the

user submit the sampled music information directly for identification. No watermarks, side information, special devices, or knowledge of radio station contact information are necessary.

Referring now to FIG 1, there is shown an operational block diagram of an exemplary embodiment 100 according to one aspect of the present invention. A signal source 101 in the environment generates a signal 103 that is captured by signal capture block 105 and transmitted to signal identification block 110 on line 107. Signal identification block 110 is described in greater detail below. Signal identification block 110 identifies the signal 103 from signal source 101 and passes the identification information (i.e., song ID) to reporting and transaction block 115 via line 113. User identification block 120 additionally provides the identity of the user (not shown) to the reporting and transaction block 115 on line 118, whereby the user may be informed as to the identity of the signal as described more fully in the text accompanying FIG 3 below.

In some applications of the invention, as discussed further below, it may be preferable to have user identification block 120 operationally coupled to, or alternatively incorporate, a user database where user data (and data related to other user options), among other features, may be read from and written to (not shown in FIG 1). The user may optionally carry out transactions regarding this signal identity as described in greater detail below and in Appendix 1. Billing data from user billing block 125 on line 127 may be used to generate a bill to the user commensurate with the extent of the usage of the signal identification service aspect of the invention as described herein. Additionally, statistics regarding the signal identification, signal identified, and/or the user's usage of the service may be

logged by statistical data logger 130. Such data is of interest in market research, and has economic value. In such embodiments of the invention, user identification information is passed from user identification block 120 to statistical data logger 130 on line 124 as shown in FIG 1 and reporting and transaction data from reporting and transaction block 115 is passed via line 129. In some applications of the invention it may be desirable for statistical data logged by logger 130 to be fed to user identification block 120, via line 124, for example to facilitate the update of user identification information.

The signal 103 generated by signal source 101 in FIG 1 may be any kind of signal in the environment that is a rendition of a signal indexed in a database within the signal identification block 110. Examples of signal 103 include recorded music, radio broadcast programs, advertisements, and other such signals of interest. Accordingly, the signal may be in the form of acoustical waves, radio waves, digital audio PCM stream, compressed digital audio stream (such as Dolby Digital or MP3), internet streaming broadcast, or any other such manner of transmitting such pre-recorded material. Furthermore, signal 103 may be degraded as a result of background noise (such as that encountered while in a moving car), talking voices, transmission errors and impairments, interference, time warping, compression, quantization, filtering, or other such distortions of the original.

Signal capture block 105 captures a sample of signal 103 and provides it in a format suitable for processing by the signal identification block 110. Illustrative embodiments of signal capture 105 devices include, but are not limited to, microphone, telephone, mobile telephone, tape recorder, digital voice recorder, answering machine, radio receiver, walkie-talkie, internet streaming socket, voice-

over-IP transceiver, or other such signal capturing device. Typically then, the signal capture device is incorporated into a device that the user employs in a location remote from the service. Conventional devices like mobile and regular telephones, PCs, radios, and other recording and communication devices that users already own or use everyday for other purposes may conveniently be used, without modification, to practice the present invention. Upon capture of a sample of signal 103, signal capture block 105 delivers the sample to the system via line 107, as indicated.

User identification block 120 identifies the user to the song recognition arrangement of the present invention, and may optionally be operationally coupled to the signal identification block 110 via line 122. Examples of devices which generate the appropriate identification for use with user identification block 120 may include caller ID on a POTS (Plain Old Telephone Service) line or a mobile telephone, internet IP address of a terminal sending in the captured signal, or a cookie file stored on an internet browser on the user's terminal. In such implementations, the user's signal capture block 105 stores a user ID and identifies the user to the arrangement 100. In another illustrative example of user identification block 120, the user may be required to enter an account code, for example by keying it in on a touchtone pad on a telephone or saying a pass phrase while signing on to a service incorporating the principles of the present invention if dialing in. Alternatively, the user may be identified by inserting an object carrying identification codes into a terminal. Examples of this include a credit card, ATM card, or Dallas Semiconductor Java Ring. The user may also be identified by a biometric device to scan fingerprints, retinae, palm print, or other such physical characteristics of the user. A speaker identification system to identify the user by

vocal characteristics is another alternative method. User identification block 120 is an optional component of the present arrangement, which is employed if billing and tracking of user activity is desired.

As shown in FIG 4, the elements shown and described in FIG 1 are typically associated with entities that are independent of one another. Signal source 101 is typically associated with a media operator or content provider such as radio or television broadcasters, CATV provider, internet service providers, private network or LAN operators, and the like. It is important to emphasize that the present invention contemplates that the signal source may comprise a live demonstration or performance, taking place for example, at a nightclub, bar, or discotheque. Signal capture block 105 is associated with users, however, such association may be merely temporary, as public access devices (e.g., public telephones and internet access facilities) may be readily used, without modification, in order to realize the benefits provided by the present invention. Signal capture block 105 represents features and functionalities that, for example, are implemented by the microphone and associated transceiver circuits in a user's mobile telephone.

The remaining elements of FIG 1, are collectively associated as indicated in FIG 4 with a service provider. Signal identification block 110, user identification block 120, reporting and transaction block 115, user billing block 125 and statistical data logger 130 represent features and functionalities of an integrated system that form key elements of a IVR arrangement that may be particularly useful in some applications of the invention. In such IVR arrangements, these collected elements are typically implemented in a system formed by one or more CPUs. The IVR is identified by reference numeral 450 in FIG 4.

As depicted in FIG 4, a media provider 410 utilizes signal source 101 which transmits signal 103 via media distribution network 420 which may be arranged from network and transmission elements or other channelized distribution arrangements (as for example, with copper or fiber networks for data or telephony services) or a free space/transmitter infrastructure array (as for example with radio and television broadcasts, satellite systems, and cellular/PCS/GSM wireless telephone services or networks which operate according to short-range wireless protocols such as the Bluetooth™ wireless standard). Receiver/monitor 440 is employed by user 430 to receive signal 103 and transform the signal into a format that facilitates signal 103 to be monitored by the user. Receiver/monitor 440 may be a radio, television, PC, Hi-fi (i.e., stereo) with speakers or any other device that may be used to create a media experience (including audio and video) that may be monitored by the user. User 430 employing the functionalities of signal capture block 105, for example using a mobile telephone, obtains a sample of signal 103 played on receiver/monitor 440, where the sample includes media content of interest selected by the user, such as a portion of an unidentified song. Thus, as shown in FIG 4, receiver/monitor 440 both outputs a rendition of signal 103 to signal capture block 105 and allows the user 430 to monitor signal 103. However, it is noted that signal capture block 105 may capture a sample of signal 103 via a direct connection to media distribution network 420 (i.e., not relying on receiver/monitor 440 or similar device for signal input). In such instances, the user monitoring of signal 103 is accomplished through other means or user monitoring is not performed.

The captured sample of signal 103 is relayed by the user 430 to the IVR 450, as shown, via communication network 460 on line 107, as shown. Communication network 460 may have a similar arrangement as distribution network 420, or may be unitary with distribution network 420. It should be noted, however, that in certain applications of the invention distribution network 420 may typically be characterized by unidirectional signal propagation (as in the case with broadcast radio and television or typical CATV headend systems) while communication network 460 may typically be characterized by bidirectional signal propagation (as in the case with the public switched telephone network and wireless or wired voice, data, and internet systems). Such bidirectional nature of communication network 460 is indicated by signal flow lines 107 and 108 as depicted in FIG 4.

In accordance with the invention, the IVR 450 derives information or characteristics of sample of signal 103 including the identification of content contained therein (for example, the song ID). Such derived information may be returned to the user 430 from the IVR 450 using the same communication network 460 or other networks. The signal return path is indicated with lines 108 in FIG 4. And, as described above, the IVR may interact with the user and other entities. For illustrative purposes, such interaction pathways are depicted in FIG 4 as lines 489 and 482, input and output, respectively, via alternate network 480. Alternate network 480 may be a network of any type, however, in some applications of the invention it may be advantageous to employ private networks, dedicated lines, or other high-capacity transmission methods should high-bandwidth interactions be desired. Such bandwidth intensive interactions could occur, for example, between

the service IVR and fulfillment partners such as record distributors. This communication path is shown in FIG 4 where fulfillment center 486 interacts with IVR 450 using alternate network 480 and fulfills user purchase orders as indicated by line 488. Fulfillment center 486 may also interact with IVR 450 using communication network 460 over interaction pathways 492 and 494 as indicated.

Thus, FIG 4 may serve to additionally highlight the principles applied in the exemplary embodiment of the invention described in the Summary. A radio station (media provider 410) employing signal source 101 broadcasts a song (signal 103) over the air (media distribution network 420), which is received on a radio (receiver/monitor 440) of user 430. The song, which is unknown to user 430, is of interest. User 430 places a mobile telephone call over a wireless network (communication network 460) to the IVR 450. The user 430 positions the microphone of his wireless telephone (signal capture device 105) to capture a sample of the music being played on the radio. The IVR 450 receives the sample over the wireless network and derives the identity of the song. Optionally, the identity of the user may be derived from the user's mobile telephone number that is sent from the communication network 460 to the IVR 450 (and user identification block 120, in particular) typically during call set up. The song identification is returned to back to the user's mobile telephone over the same network. Further interactions between the user 430 and the IVR 450 may occur, and if the user chooses to purchase a recording of the now-identified song, the IVR can send the purchase information to the service's distribution facility (fulfillment center 486) via data or voice communication using its local area PC network (alternate network 480) or via data or voice communication over communication network 460 as

discussed above. The distribution center sends the selection to the user via overnight courier service (line 488). Similarly, alternate network 480 may be utilized to send an confirming email of the song identification and purchase, if applicable, to the user's email account as described in greater detail above.

Signal identification block 110 (FIG 1) is described in detail in Appendix 1. In summary, and referring to FIG 2, the main modules in signal identification block 110 are the landmarking block 210, fingerprinting block 215, song database block 220, and alignment scan block 225. Landmarking block 210 receives the incoming captured sample signal via line 107, as described above, and computes sample landmark time points. This information is passed, as indicated in FIG 2, to fingerprinting block 215 via line 212, as well as the alignment scan block 225 on line 214. Fingerprinting block 215 computes fingerprints from the captured sample signal at the landmarked time points, generating sample fingerprints. The sample fingerprints are output to song database 220 on line 218 and are used to retrieve sets of matching song fingerprints stored in song database 220, these matching song fingerprints being associated with song landmark and song ID values. The set of retrieved song ID and song landmark values are relayed to the alignment scan block 225, on lines 226 and 227, respectively, along with the associated sample landmark values on line 214 as indicated. Alignment scan block 225 sorts out sets of sample landmark and song landmark pairs, grouped by common song ID. Each set is scanned for linear correspondences in the pairs of landmarks and scored according to best fit. The song ID of the set with the highest score is the winning song ID which is output from alignment scan 225 on line 113. In an illustrative embodiment of the invention, the components forming signal identification block 110 are

clustered together in a single computer system, such as an Intel-based PC or other workstation. In another illustrative embodiment of the invention, a networked cluster of CPUs may be used, with different software modules distributed among different processors in order to distribute the computational load. It may be preferable, in some applications of the invention, to use a cluster of Linux-based processors connected by a multi-processing bus architecture or a networking protocol such as the Beowulf cluster computing protocol, or a mixture of the two. In such an arrangement, song database block 220 is stored in RAM on at least one node in the cluster, ensuring that fingerprint searching occurs very rapidly. It is noted that some computational nodes corresponding to the other functional blocks of signal identification block 110, such as landmarking 210, fingerprinting 215, and alignment scan 225 may not require as much bulk RAM as the nodes supporting song database 220. The number of computational nodes assigned to each module may thus be scaled according to need so that no single module becomes a bottleneck. The computational network is thus, advantageously, highly parallelizable and can additionally process multiple simultaneous signal identification queries, where such queries are distributed among available computational resources.

In an illustrative embodiment of the invention, some of the functional modules may be less tightly coupled together than to the other modules. For example, the landmarking and fingerprinting functions of blocks 210 and 215 of FIG 2 may reside in a physically separate location from the rest of the computational devices shown. One such example of physical separation would be realized if the landmarking and fingerprinting functional blocks 210 and 212,

respectively, are more tightly associated with the signal capture block 105. In such arrangement, the landmarking and fingerprinting functions described above are realized and incorporated as additional hardware or software embedded in a mobile telephone, WAP browser, or other remote terminal, such as the client-end of an audio search engine. In an internet-based audio search service, such as a content identification service, the landmarking and fingerprinting functions may be incorporated into the browser application as a linked set of software instructions, or as a software plug-in module, such as a Microsoft DLL. In such embodiments employing loosely coupled functional modules, the combined signal capturing/landmarking/fingerprinting functional blocks shown in FIG 2 form the client end of the service and send a feature-extracted summary of the captured signal, comprised of sample landmark/fingerprint pairs, to the server end (e.g., song database 220 in FIG 2). Sending this feature-extracted summary to the server instead of the raw captured audio is advantageous since the amount of data is greatly reduced, often by a factor of 100 or more. Such feature-extracted summary could be sent in real-time over a low-bandwidth side channel along with, or instead of, an audio stream transmitted to the server.

FIG 3 shows details of the identification reporting and transactional aspects of the present invention embodied in reporting and transaction block 115 (FIG 1) and illustrates the highly integrated response mechanism to the user (i.e., a machine or person) who requested the signal identification. As indicated in FIG 3, identification-reporting control block 310 of reporting and transaction block 115 receives the identification information (i.e., song ID) from signal identification block 110 via line 113. Identification and reporting control block 310 also receives

user data, illustratively user options and user information signals (collectively indicated as lines 118 in FIG 3) from user identification block 120 via user database 312 and line 117 as indicated.

User database 312 is optionally utilized to store detailed user information and may facilitate the user billing function as described above. Functional block 314 is interposed between user database 312 and identification reporting control block 310, as shown in FIG. 3, to implement data updates to the user database (e.g., the user account) on line 316 with such detailed information as a function of the input signals 113, 117, and 118, to identification reporting control block 310 and under the control of identification reporting control block 310 via control line 302. Thus, user database block 312 operates in a read/write manner. It will be appreciated that user database block 312 may be particularly beneficial in some applications. Any time a user captures a signal for identification, the service can leverage existing, and capture new, data and statistical rules. First, the service can log the signal identification for the user account, and every subsequent continued interaction with the service. Second, the service can use existing data about the user account to enhance the experience. This will create a highly personalized experience, whether it be custom user account settings and/or preferences, a personalized user website, or targeted advertising.

Referring again to FIG 3, identification reporting control block 310 is operationally coupled via lines 304 and 306 to real-time reporting block 320 and offline reporting block 330. The user interaction with the arrangement of the present invention may be in real-time or delayed. Real-time reporting provides an instant response about the identified signal to the user. This real-time response may

be in the form of data or voice. Voice annotation means that the user learns about the identified signal by listening to a voice report. After receiving the voice report from voice annotation block 324, the user may be provided with additional options for further interaction, such as playback of the signal captured and purchase opportunities of the content identified (i.e., the user may place an order to purchase the song or album that was just identified). This interaction is characterized by being voice prompted, in that interactive voice response user interface block 322, functionally coupled to identification reporting control block 310 through real-time reporting block 320 reads out the alternatives, asking the user to respond. The user provides such responses to the voice prompts provided by the service through keypad input or by voice (where in such instances, voice recognition methodologies are employed to translate the user's voice responses into usable system inputs). Functional blocks 324, 326, and 328 in FIG. 3 illustrate several additional options, voice annotation, song excerpt playback, and purchase options, respectively, that may be offered to the user in accordance with the invention. The purchase options, as noted above, provide a solution to the problem of music fans who attempt to purchase a particular song recording after hearing it being played or performed (for example, from a radio broadcast), but cannot recall the name of the song or artist. In accordance with this feature of the invention, the user may immediately purchase the desired recording via real-time purchase options block 328 immediately after receiving the voice report from voice annotation block 324.

Alternative options are also contemplated in accordance with the invention: the user may hear a clip of the identified recorded song (as compared to the playback of the captured signal described above); the user may hear more

information about the song, artist, or album; the user may hear clips from other songs on the same album or from the same artist as the identified song; or, the customer may choose to interact with customer service personnel. Song database 360 is operationally coupled to identification reporting control 310 via line 362 to implement such contemplated options. Song database 360 may include songs as well as related or other data.

Data responses are used to transmit information about the identified signal back to the user through an interface such as a WAP browser interface on mobile telephones, or other appropriate protocols over time. In FIG 3, the WAP browser interface block 340 is operationally coupled on line 338 to real-time reporting block 320. Thus, the user has the option to interact further with arrangement 100 (FIG 1) by using such an interface in accordance with the principles of the invention. This particular interaction between user and service is characterized by being data prompted and does not need to rely upon voice.

However, a combination of voice and data is also contemplated as falling within the scope of the present invention as shown in FIG 3, where such a combination creates a beneficial and seamless experience for the user. The technology platform in accordance with the invention advantageously integrates both voice and data (respectively through IVR and web-based operations, for example) so that the user's experience with a service utilizing the principles of the invention is consistent and seamless across all interfaces (including those identified in operational blocks 322, 340, and 350: interactive voice response interface, WAP browser interface, and internet browser interface, respectively).

Delayed reporting takes places at a point in time when the user has disconnected from the service, i.e., after the step of signal capture shown in signal capture block 105 (FIG 1). Delayed reporting (or "offline" reporting), whether voice or data, is accomplished by sending information about the identified signal to the user via an Internet browser, email message, SMS message or other communication methodologies. This feature of the present invention is shown in FIG 3 with interface browser interface block 350, SMS text messaging block 360 and email information block 370 being operationally coupled to offline reporting block 330 on lines 332, 334, and 336, respectively. A combination of the three modes of offline reporting is possible and may be preferred in some applications of the invention.

Delayed reporting further may include the option for further interaction with a service which utilizes the principles of the present invention, such as playback, purchase opportunities, and the like. The blocks operationally coupled and depicted to the right of real-time reporting block 320 and offline reporting block 330 in FIG 3 thus represent data and/or signal outputs from reporting and transaction block 115 to users or other constituencies. More particularly, with respect to real-time reporting, interactive voice response user interface block 322 provides output data from voice annotation block 324, song excerpt playback block 326, and real-time purchase options block 328 back to the user (in this illustrative example of the invention via the return channel of the duplex call on the user's mobile telephone) as shown on line 372 of FIG 3. Similarly, WAP browser interface block 340 and online information browsing options block 342 provide interactive data output to the user on line 374.

With respect to offline reporting, internet browser interface block 350 and online purchase options block 352 provide output on line 376 while SMS text messaging block 360 and email information block 370 provide output data, to the mobile telephone user in this illustrative example of the invention, via lines 378 and 380 in FIG. 3. Output from reporting and transaction block 115 is also directed to statistical data logger 130 (FIG 1).

As with real-time purchase option block 328 in FIG 3, WAP browser interface 340 and internet browser interface 350 are operationally coupled to online purchase options block 352 on lines 341 and 351, respectively. Online purchase options block 352 may implement the same type of functionalities and alternatives options discussed when describing real-time purchase options block 328 above. Similarly, online information browsing options block 342 is cross coupled to receive input from internet browser interface block 350 and WAP browser interface block 340 on lines 343 and 353, respectively.

A combination of real-time and offline reporting may be advantageously employed in some applications of the invention. In such combinations, the user distributes interactions with the service or particular aspects of interactions using both the real-time and offline interfaces over a period of time or at the same time. For example, a user may place an order for an identified song over the phone (the real-time interface), and then provide payment and delivery information for that order later through the service's website (the offline interface). Likewise, a user may wish to interact with the IVR in real-time over the phone while simultaneously interacting with the service to arrange for SMS message about a particular song to

be sent to a friend's mobile phone. Of course, other beneficial combinations may be readily arranged using the principles of the present invention.

Online information browsing options block 342 may be used in certain applications of the invention to implement a number of desirable functionalities and features. For example, a user using a WAP or Internet browser could access a service provider's website which utilizes the features provided by online information browsing options block 342 in FIG 3 in accordance with the invention, to recommend songs to friends, chat with other service users, play games (e.g., a game where users try to identify obscure song tracks sampled by other users), and other activities that are facilitated by internet's large reach. In addition, information browsing options block 342 may be used to implement the delivery of promotional materials (such as clips from albums) and special event tickets or merchandise, or manage archived data selected by that user such as sample and "wish" lists. Information browsing options block 342 may also be used to implement an interaction with the user to manage or search for other information.

The present invention also includes features implemented using information-browsing options block 342 to allow users to set up alerts for news releases and concert announcements. Users could also interact with a service utilizing this feature of the invention to send information to friends (via SMS or email, for example) on the types of music they like, or send an audio clip directly to the friend's mobile telephone. A wide range of services and features, in fact, may be readily implemented using the data response features of the present invention.

While the present invention contemplates that reporting, both real-time and delayed, is primarily targeted to the user who requested identification, it may be

desirable in some application of the inventions to include delayed reporting to other constituencies. This reporting occurs via a service utilizing the principles of the present invention and not directly from the user. For example, a person who identifies a song, can request the service to send an SMS or email message about the identification to other people as well.

Turning again to the present illustrative example of the invention where a user is located in a high noise environment such as an automobile, interactive voice response user interface block 322, in accordance with the invention, is utilized to minimize human intervention. First time users may interact with a human operator, in this illustrative example, using a mobile telephone, to register, for example, their email address, user profile, and other details relating to unregistered users who may wish to make purchases.

Communications may also be made with the user through email and website interactions. After the initial registration, a telephone interface enables users to dial a particular number to initiate a call to the service's IVR. The IVR identifies the caller through the user's mobile telephone number in accordance with operations of functional block 120 (FIG. 1). The user can then record a music sample, which in this example is being played on the user's car radio, which is captured and recognized (i.e., identified) as described above.

With the exception of the first time customer registration, calls with not require human intervention. The user may chose to receive a voice report relayed back on the mobile which provides the desire song identification from voice annotation block 324 (FIG 3), or optionally, the user may receive an email with the

name of the track, artist and album title, and links to the service provider's website which facilitates the user accessing a range of services as described above.

In another illustrative example of the invention, a user is listening to radio or television programming while working at a computer workstation. After an initial registration process similar to that described above (which may be accomplished over the telephone as with the previous example, or via online registration), the user may record a music sample using the computer's microphone and then access the service provider's facilities via website or dial up to allow the sample to be uploaded as a sound file, captured, and identified in accordance with the present invention. In this example, identification of the user may be effected through the user's IP address. Other features and functions in this example are similar in scope and operation to those described in the example above.

Although various embodiments are specifically illustrated and described herein, it will be appreciated that modifications and variations of the invention are covered by the above teachings and within the purview of the appended claims without departing from the spirit and intended scope of the invention. For example, while several of the embodiments depict the use of specific communication techniques and protocols between various embodiments, any communication technique will suffice to transfer information between the two devices. Moreover, while some of the embodiments describe specific recording formats, any data and information format for transferring data to the user may be employed by the invention described herein. Furthermore, these examples should not be interpreted to limit the modifications and variations of the invention covered by the claims but are merely illustrative of possible variations.

APPENDIX 1

Abstract

We disclose a method and apparatus for recognizing sound, music, and other similar signals. The disclosed invention is capable of recognizing an exogenous sound signal that is a rendition of a known recording indexed in a database. The exogenous sound signal may be subjected to distortion and interference, including background noise, talking voices, compression artifacts, band-limited filtering, transmission dropouts, time warping, and other linear and nonlinear corruptions of the original signal. The algorithm is capable of identifying the corresponding original recording from a large database of recordings in time proportional to the logarithm of the number of entries in the database. Given sufficient computational power the system can perform the identification in nearly realtime, i.e. as the sound is being sampled, with a small lag.

Database construction

The sound database may consist of any collection of recordings, such as speech, music, advertisements, or sonar signatures.

Indexing

In order to index the sound database, each recording in the library is subjected to landmarking and fingerprinting analysis to generate an index set for each item. Each recording in the database has a unique index, sound_ID.

Landmarking

Each sound recording is landmarked using methods to find distinctive and reproducible locations within the sound recording. The ideal landmarking algorithm will be able to mark the same points within a sound recording despite the presence of noise and other linear and nonlinear distortion. The landmarking method is conceptually independent of the fingerprinting process, but may be chosen to optimize performance of the latter. Landmarking results in a list of timepoints $\{landmark_k\}$ within the sound recording at which fingerprints should be calculated. A good landmarking scheme marks about 5-10 landmarks per second of sound recording, of course depending on the amount of activity within the sound recording.

Power Norms

A simple landmarking technique is to calculate the instantaneous power at every timepoint and to select local maxima. One way of doing this is to calculate the envelope by rectifying and filtering the waveform directly. Another way is to calculate the Hilbert transform (quadrature) of the signal and use the sum of the magnitudes squared of the Hilbert transform and the original signal.

Spectral Lp Norms

The power norm method of landmarking is especially good for finding transients in the sound signal. The power norm is actually a special case of the more general Spectral Lp Norm, where p=2. The general Spectral Lp Norm is calculated at each time along the sound signal by calculating the spectrum, for example via a

Hanning-windowed Fast Fourier Transform (FFT). The Lp norm for that time slice is then calculated as the sum of the p-th power of the absolute values of the spectral components, optionally followed by taking the p-th root. As before, the landmarks are chosen as the local maxima of the resulting values over time.

Multislice landmarks

Multi-slice landmarks may be calculated by taking the sum of p-th powers of absolute values of spectral components over multiple timeslices instead of a single slice. Finding the local maxima of this extended sum allows optimization of placement of the multislice fingerprints, described below.

Fingerprinting

The algorithm computes a fingerprint at each landmark timepoint in the recording. The fingerprint is generally a value or set of values that summarize a set of features in the recording near the timepoint. In our implementation the fingerprint is a single numerical value that is a hashed function of multiple features.

The following are a few possible fingerprint categories.

Salient Spectral Fingerprints

In the neighborhood of each landmark timepoint a frequency analysis is performed to extract the top several spectral peaks. A simple such fingerprint value is just the single frequency value of the strongest spectral peak. The use of such a simple peak resulted in surprisingly good recognition in the presence of noise, but

resulted in many false positive matches due to the non-uniqueness of such a simple scheme. Using fingerprints consisting of the two or three strongest spectral peaks resulted in fewer false positives, but in some cases created a susceptibility to noise if the second-strongest spectral peak was not sufficiently strong enough to distinguish it from its competitors in the presence of noise – the calculated fingerprint value would not be sufficiently stable. Despite this, the performance of this case was also good.

Multislice Fingerprints

In order to take advantage of the time-evolution of many sounds a set of timeslices is determined by adding a set of offsets to a landmark timepoint. At each resulting timeslice a Salient Spectral Fingerprint is calculated. The resulting set of fingerprint information is then combined to form one multitone fingerprint. Each such fingerprint is much more unique than the single-time salient spectral fingerprint since it tracks temporal evolution, resulting in fewer false matches. Our experiments indicate that using two or three timeslices along with the single strongest spectral peak in each timeslice results in very good performance, even in the presence of significant noise.

LPC Coefficients

In addition to finding the strongest spectral components, there are other spectral features that can be extracted and used as fingerprints. LPC analysis extracts the linearly predictable features of a signal, such as spectral peaks, as well as spectral shape. LPC coefficients of waveform slices anchored at landmark

positions can be used as fingerprints by hashing the quantized LPC coefficients into an index value. LPC is well-known in the art of digital signal processing.

Cepstral Coefficients

Cepstral coefficents are useful as a measure of periodicity and may beused to characterize signals that are harmonic, such as voices or many musical instruments. A number of cepstral coefficients may hashed together into an indes and used as a fingerprint. Cepstral analysis is well-known in the art of digital signal processing.

Index Set

The resulting index set for a given sound recording is a list of pairs (fingerprint, landmark) of analyzed values. Since the index set is composed simply of pairs of values, it is possible to use multiple landmarking and fingerprinting schemes simultaneously. For example, one landmarking/fingerprinting scheme may be good at detecting unique tonal patterns, but poor at identifying percussion, whereas a different algorithm may have the opposite attributes. Use of multiple landmarking/fingerprinting strategies results in a more robust and richer range of recognition performance. Different fingerprinting techniques may be used together by reserving certain ranges of fingerprint values for certain kinds of fingerprints. For example, in a 32-bit fingerprint value, the first 3 bits may be used to specify which of 8 fingerprinting schemes the following 29 bits are encoding.

Searchable Database

Once the index sets have been processed for each sound recording in the database, a searchable database is constructed in such a way as to allow fast (log-time) searching. This is accomplished by constructing a list of triplets (fingerprint, landmark, sound_ID), obtained by appending the corresponding sound_ID to each doublet from each index set. All such triplets for all sound recordings are collected into a large index list. In order to optimze the search process, the list of triplets is then sorted according to the fingerprint. Fast sorting algorithms are well-known in the art and extensively discussed in D.E. Knuth, "The Art of Computer Programming, Volume 3: Sorting and Searching," hereby incorporated by reference. High-performance sorting algorithms can sort the list in N log(N) time, where N is the number of entries in the list. Once this list is sorted it is further processed by segmenting it such that each unique fingerprint in the list is collected into a new master index list. Each entry in this master index list contains a fingerprint value and a pointer to a list of (landmark, sound_ID) pairs. Rearranging the index list in this way is optional, but saves memory since each fingerprint value only appears once. It also speeds up the database search since the effective number of entries in the list is greatly reduced to a list of unique values.

Alternatively, the master index list could also be constructed by inserting each triplet into a B-tree with non-unique fingerprints hanging off a linked list. Other possibilites exist for constructing the master index list. The master index list is preferably held in system memory, such as DRAM, for fast access.

Recognition system

Once the master index list has been built it is possible to perform sound recognition over the database.

Sound source

Exogenous sound is provided from any number of analog or digital sources, such as a stereo system, television, Compact Disc player, radio broadcast, telephone, mobile phone, internet stream, or computer file. The sounds may be realtime or offline. They may be from any kind of environment, such as a disco, pub, submarine, answering machine, sound file, stereo, radio broadcast, or tape recorder. Noise may be present in the sound signal, for example in the form of background noise, talking voices, etc.

Input to the recognition system

The sound stream is then captured into the recognition system either in realtime or presented offline, as with a sound file. Realtime sounds may be sampled digitally and sent to the system by a sampling device such as a microphone, or be stored in a storage device such as an answering machine, computer file, tape recorder, telephone, mobile phone, radio, etc. The sound signal may be subjected to further degradation due to limitations of the channel or sound capture device. Sounds may also be sent to the recognition system via an internet stream, FTP, or as a file attachment to email.

Preprocessing

Once the sound signal has been converted into digital form it is processed for recognition. As with the construction of the master index list, landmarks and fingerprints are calculated. In fact, it is advisable to use the very same code that was used for processing the sound recording library to do the landmarking and fingerprinting of the exogenous sound input. The resulting index set for exogenous sound sample is also a list of pairs (fingerprint,landmark) of analyzed values.

Searching

Searching is carried out as follows: each fingerprint/landmark pair ($fingerprint_k$,$landmark_k$) in the resulting input sound's index set is processed by searching for fingerprintk in the master index list. Fast searching algorithms on an ordered list are well-known in the art and extensively discussed in Knuth, Volume 3 (ibid), incorporated by reference. If $fingerprint_k$ is found then the corresponding list of matching ($landmark^*_j$, $sound\_ID_j$) pairs having the same fingerprint is copied and augmented with landmarkk to form a set of triplets of the form($landmark_k$, $landmark^*_j$,$sound\_ID_j$). This process is repeated for all k ranging over the input sound's index set, with the all the resulting triplets being collected into a large candidate list.

After the candidate list is compiled it is further processed by segmenting according to sound_ID. A convenient way of doing this is to sort the candidate list according to sound_ID, or by insertion into a B-tree. The result of this is a list of candidate sound_IDs, each of which having a scatter list of pairs of landmark timepoints, ($landmark_k$,$landmark^*_j$) with the sound_ID stripped off.

Scanning

The scatter list for each sound_ID is analyzed to determine whether it is a likely match.

Thresholding

One way to eliminate a large number of candidates is to toss out those having a small scatter list. Clearly, those having only 1 entry in their scatter lists cannot be matched.

Alignment

A key insight into the matching process is that the time evolution in matching sounds must follow a linear correspondence, assuming that the timebases on both sides are steady. This is almost always true unless thesound on one side has been nonlinearly warped intentionally or subject to defective playback equipment such as a tape deck with a warbling speed problem. Thus, the matching fingerprints yielding correct landmark pairs ($landmark_n$,$landmark^*_n$) in the scatter list of a given sound_ID must have a linear correspondence of the form

$$landmark^*_n = m*landmark_n + offset$$

where m is the slope, and should be near 1, $landmark_n$ is the corresponding timepoint within the exogenous sound signal,$landmark^*_n$ is the corresponding timepoint within the library sound recording indexed by sound_ID, and offset is the

time offset into the library sound recording corresponding to the beginning of the exogenous sound signal.

This relationship ties together the true landmark/fingerprint correspondences between the exogenous sound signal and the correct library sound recording with high probability, and excludes outlier landmark pairs. Thus, the problem of determining whether there is a match is reduced to finding a diagonal line with slope near 1 within the scatterplot of the points in the scatter list.

There are many ways of finding the diagonal line. A preferred method starts by subtracting $m^*landmark_n$ from both sides of the above equation.

$$(landmark^*_n - m^*landmark_n) = offset$$

Assuming that m is approximately 1, we arrive at

$$(landmark^*_n - landmark_n) = offset$$

The diagonal-finding problem is then reduced to finding multiple landmark pairs that cluster near the same offset value. This is accomplished easily by calculating a histogram of the resulting offset values and searching for the offset bin with the highest number of points. Since the offset must be positive if the exogenous sound signal is fully contained within the correct library sound recording, landmark pairs that result in a negative offset are excluded.

The winning offset bin of the histogram is noted for each qualifying sound_ID, and the corresponding score is the number of points in the winning bin.

The sound recording in the candidate list with the highest score is chosen as the winner. The winning sound_ID is provided to an output means to signal the success of the identification.

To prevent false identification, a minimum threshold score may be used to gate the success of the identification process. If no library sound recording meets the minimum threshold then there is no identification.

Pipelined recognition

In a realtime system the sound is provided to the recognition system incrementally over time. In this case it is possible to process the data in chunks and to update the index set incrementally. Each update period the newly augmented index set is used as above to retrieve candidate library sound recordings using the searching and scanning steps above. The advantage of this approach is that if sufficient data has been collected to identify the sound recording unambiguously then the data acquisition may be terminated and the result may be announced.

Reporting the result

Once the correct sound has been identified, the result is reported. Among the result-reporting means, this may be done using a computer printout, email, SMS text messaging to a mobile phone, computer-generated voice annotation over a telephone, posting of the result to an internet account which the user can access later.

WHAT IS CLAIMED IS:

1. A method for identifying recorded sound signals comprising the steps of:

a) receiving a sound stream containing at least a portion of an unidentified recorded sound;

b) processing the received sound stream to construct a set of values corresponding to characteristics of the unidentified recorded sound;

c) searching a library having a plurality of sets of values corresponding to characteristics of a plurality of identified recorded sounds; and

d) comparing the constructed set of values to one or more sets of values in the library.

2. The method according to claim 1, further including a step of selecting an identified recorded sound to the unidentified recorded sound based on a result of the comparing step c).

3. The method according to claim 2, further including a step of returning information relating to the selected identified recorded sound to the user.

4. The method according to claim 1, wherein the unidentified recorded sound is provided to the user over a transmission medium.

5. The method according to claim 4, wherein the transmission medium includes acoustic waves.

6. The method according to claim 4, wherein the transmission medium includes radio waves.

7. The method according to claim 4, wherein the transmission medium includes digital audio streams.

8. The method according to claim 4, wherein the transmission medium includes PCM streams.

9. The method according to claim 4, wherein the transmission medium includes internet streaming broadcasts.

10. The method according to claim 4, wherein the digital audio stream is compressed.

11. The method according to claim 10, wherein the compressed digital audio stream is a Dolby Digital or MP3 audio stream.

12. The method according to claim 3, wherein the information is returned over a first delivery channel, the first delivery channel including a user interface selected from the group consisting of real-time reporting interfaces and offline reporting interfaces.

13. The method according to claim 12, wherein the real-time reporting interface is an interactive voice response interface.

14. The method according to claim 12, wherein the reported information is provided to the user as a voice report.

15. The method according to claim 12, wherein the real-time reporting interface is a WAP browser interface.

16. The method according to claim 12, wherein the offline reporting interface is an internet browser interface.

17. The method according to claim 1, wherein the sound stream is received over a second delivery channel selected from the group consisting of POTS lines, wireless cellular, wireless PCM, GSM, internet, radio, satellite, and a network.

18. The method according to claim 17, wherein the network includes a local area network.

19. The method according to claim 17, wherein the network includes an Ethernet network.

20. The method according to claim 17, wherein the network includes one or more private networks.

21. The method according to claim 17, wherein the network includes a cable network.

22. The method according to claim 17, wherein the network operates according to a short-range wireless protocol.

23. The method according to claim 22, wherein short-range wireless protocol includes the Bluetooth wireless standard.

24. The method according to claim 1, wherein the sound stream is captured by a capture device operated by a user

25. The method according to claim 24, wherein the capture devices includes a telephone.

26. The method according to claim 24, wherein the capture devices includes a mobile telephone.

27. The method according to claim 24, wherein the capture devices includes a tape recorder.

28. The method according to claim 24, wherein the capture devices includes a digital voice recorder.

29. The method according to claim 24, wherein the capture devices includes an answering machine.

30. The method according to claim 24, wherein the capture devices includes a radio receiver.

31. The method according to claim 24, wherein the capture devices includes a walkie-talkie.

32. The method according to claim 24, wherein the capture devices includes an internet streaming socket.

33. The method according to claim 24, wherein the capture devices includes a voice-over-IP transceivers.

34. The method according to claim 2, wherein the result is obtained by determining a score associated with the constructed set of values and one or more sets of values in the library.

35. A method for providing a transaction to a user exposed to a media stream, the method comprising the steps of:

a) receiving a signal including a captured sample of media stream from the user;

b) determining from the signal a characteristic of the captured sample; and

c) triggering a predetermined transaction with the user in response to the determined characteristic.

36. The method according to claim 35, wherein the predetermined transaction includes sales and purchase of merchandise.

37. The method according to claim 35, wherein the predetermined transaction includes an offer for sale of merchandise.

38. The method according to claim 37, wherein the offer for sale of merchandise includes an offer to sell recordings of music.

39. The method according to claim 38, wherein the recording is related to a characteristic of the captured sample.

40. The method according to claim 35, wherein the predetermined transaction includes furnishing and receiving information.

41. The method according to claim 35, wherein the predetermined transaction includes delivery of advertising or promotional offers.

42. The method according to claim 41, wherein the promotional offers include trial offers.

43. The method according to claim 41, wherein the promotional offers include offers to sell merchandise or services at discounted prices.

44. The method according to claim 35, wherein the predetermined transaction includes an exchange of information between a sales source and the user attendant to a sale of merchandise or services to the user.

45. The method according to claim 37, wherein the offer is selected in response to a profile of the user.

46. The method according to claim 37, wherein the offer is selected in response to history of transactions completed with the user.

47. A method for identifying music to a user comprising:

a) receiving a signal including a captured sample of the music from the user;

b) determining from the signal a characteristic of the captured sample;

c) comparing the characteristic of the captured sample to a characteristic associated with an identity records contained in a database; and

d) locating an identity record corresponding to the captured sample according to a result of the comparison.

48. The method according to claim 47, wherein the music is received by the user via a radio broadcast and the captured sample includes a sample of the radio broadcast.

49. The method according to claim 48, further including returning the identity record to the user.

50. The method according to claim 48, further including offering to sell to the user a recording including at least a song which corresponds to the located identity record.

51. The method according to claim 48, further including offering to provide to the user information relating to the located identity record.

52. The method according to claim 48, further including a step of playing a recording of a song corresponding to the located identity record to the user.

53. The method according to claim 48, further including a step of offering to sell merchandise.

54. The method according to claim 53, wherein the merchandise relates to the located identity record.

55. The method according to claim 48, further including offering to sell live performance tickets.

56. The method according to claim 55, wherein the live performance tickets relate to the located identity record.

57. The method according to claim 48, further including offering to sell record albums to be released at a future time.

58. The method according to claim 48, further including offering to provide information pertaining to a location of retail music establishments.

59. The method according to claim 58, wherein the information further includes information pertaining to a location of retail music establishments that are in close proximity to the user.

60. The method according to claim 48, further including downloading media to a user device.

61. The method according to claim 60, wherein the downloaded media includes a pre-recorded song corresponding to the located identity record.

62. The method according to claim 60, wherein the user device is selected from the group consisting of PCs, PDAs, internet access devices, wireless internet devices, mobile telephones, wireless information devices, and pagers.

63. The method according to claim 48, further including receiving commands from the user in response to the returned identity record.

64. The method according to claim 63, further including performing an additional predetermined step in response to the command.

65. The method according to claim 64, wherein the predetermined step includes delivering a message to a third party.

66. The method according to claim 65, wherein the message includes a recommendation of music corresponding to the located identity record.

67. The method according to claim 64, wherein the predetermined step includes a collection of data indicative of music popularity.

68. The method according to claim 67, wherein the collected data includes data received from the user.

69. The method according to claim 64, wherein the predetermined step includes playing additional songs not associated with the located identity record to the user.

70. The method according to claim 64, wherein the predetermined step includes locating one or more music performance artists matching a predetermined criterion.

71. The method according to claim 70, wherein the criterion includes similarity of the one or more music performance artists to an artist associated with the located identity record.

72. The method according to claim 64, wherein the predetermined step includes providing a critical review of a music performance artist associated with the located identity record.

73. The method according to claim 64, wherein the predetermined step includes providing critical reviews of a record album containing a song corresponding to the located identity record.

74. The method according to claim 64, wherein the predetermined step includes providing information pertaining to popularity of a song or music performance artist associated with the located identity record.

75. The method according to claim 64, wherein the predetermined step includes delivering information to the user.

76. The method according to claim 75, wherein the information pertains to the located identity record.

77. The method according to claim 75, wherein the information is delivered in an SMS format.

78. The method according to claim 75, wherein the information pertains to new album releases.

79. The method according to claim 76, wherein the information pertains to scheduling of concerts.

80. The method according to claim 79, wherein the concert is related to the located identity record.

81. The method according to claim 48, further including storing the captured sample.

82. The method according to claim 64, wherein the predetermined step includes delivering an excerpt of a recording of a song corresponding to the located identity record.

83. The method according to claim 72, wherein the excerpt is delivered to the user.

84. The method according to claim 72, wherein the excerpt is delivered to a third party.

85. A method for identifying music to a user exposed to a broadcast that includes unidentified music, the method comprising:

a) receiving a signal including a captured sample of the broadcast from the user;

b) determining from the signal a characteristic of the captured sample;

c) comparing the characteristic of the captured sample to a characteristic associated with an identity record contained in a database;

d) attempting to locate an identity record corresponding to the captured sample according to a result of the comparison; and

e) storing the captured sample if the location attempt is unsuccessful.

86. The method according to claim 85, further including delivering the captured sample to remote locations.

87. The method according to claim 85, wherein the delivered captured samples are used in games or contests involving attempts to identify the unidentified music.

88. A method for identifying music to a user exposed to a broadcast, which includes unidentified music, the method comprising the steps of:

a) receiving a signal including a captured sample of the broadcast from the user;

b) determining from the signal a characteristic of the captured sample;

c) comparing the characteristic of the captured sample to a characteristic associated with an identity record contained in a database;

d) attempting to locate an identity record corresponding to the captured sample according to a result of the comparison; and

e) providing an interactive interface for the user to store manipulate data associated with a successfully located identity record.

89. The method according to claim 88, wherein the interface is selected from the group consisting of real-time interfaces, offline interfaces, and combinations thereof.

90. The method according to claim 89, wherein the offline interface is selected from the group consisting of internet browsers, email, SMS messaging, and combinations thereof.

91. The method according to claim 88, wherein the interface is arranged to allow the user to store, retrieve and forward the data.

92. The method according to claim 88, wherein the interface is arranged to allow the user to communicate with third parties.

93. The method according to claim 88, wherein the interface is arranged to allow the user to participate in games or contests.

94. The method according to claim 93, wherein the games or contests include identifying unidentified songs.

95. The method according to claim 88, wherein the interface is arranged to allow the user to forward data to a website.

96. The method according to claim 95, wherein the website is configured to provide personalized radio station services to the user.

97. An apparatus for identifying music to a user exposed to a broadcast that includes music unidentified to the user comprising:

a) a receiver arranged to receive a signal including a captured sample of the broadcast from the user;

b) a signal analyzer for determining from the signal a characteristic of the captured sample;

c) a database containing a library of identity records; and

d) a comparator that compares the determined characteristic to characteristics associated with identity records contained in the database for locating an identity record that matches the captured sample.

98. The apparatus according to claim 97, further including a transmitter for transmitting information related to the located identity record to the user.

99. The apparatus according to claim 97, further including an interactive voice response unit.

100. The apparatus according to claim 99, wherein the interactive voice response unit is operated from a script which includes an offer to sell to the user a

music recording including at least a song which corresponds to the located identity record.

101. The apparatus according to claim 99, wherein the interactive voice response unit is operated from a script which includes an offer to provide to the user information relating to the located identity record.

102. The apparatus according to claim 97, further including a music player for playing a recording of a song corresponding to the located identity record to the user.

103. The apparatus according to claim 97, further including a music downloader for downloading a recording of a song corresponding to the located identity record to the user.

104. The apparatus according to claim 103, wherein the downloader downloads the recording to a user device.

105. The apparatus according to claim 104, wherein the user device is selected from the group consisting of PCs, PDAs, internet access devices, wireless internet devices, mobile telephones, wireless information devices, and pagers.

106. A method for identifying recorded sound signals comprising:

a) receiving a signal including a captured sample of an audio signal;

b) deriving from the signal a characteristic of the captured sample;

c) comparing the characteristic of the captured sample to a characteristic associated with a stored identity record of identified sound signals contained in a database; and

d) determining a probability of a match between the audio signal and a stored identity record using the results of the comparing step c).

107. A method for detecting use of copyrighted audio media, the method comprising:

a) receiving a signal including a captured sample of an audio signal;

b) deriving from the signal a characteristic of the captured sample;

c) comparing the characteristic of the captured sample to a characteristic associated with a stored identity record of copyrighted audio media contained in a database; and

d) determining a probability of a match between the audio signal and a stored identity record using the results of the comparing step c).

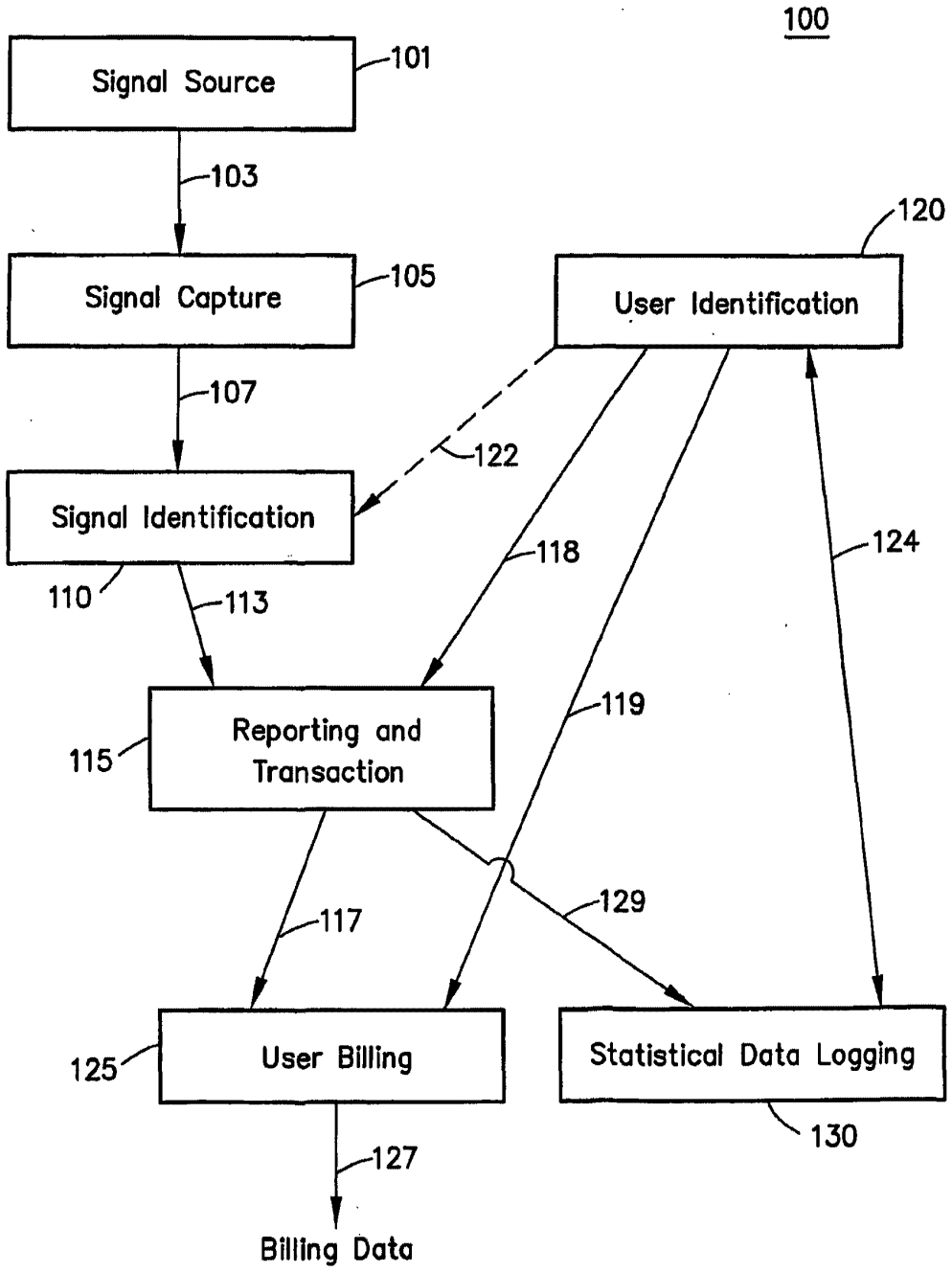

100
Signal Source
101
103
Signal Capture
105
107
Signal Identification
110
113
120
User Identification
122
118
124
119
Reporting and Transaction
115
129
117
User Billing
125
Statistical Data Logging
130
127
Billing Data

Fig. 1

2/5

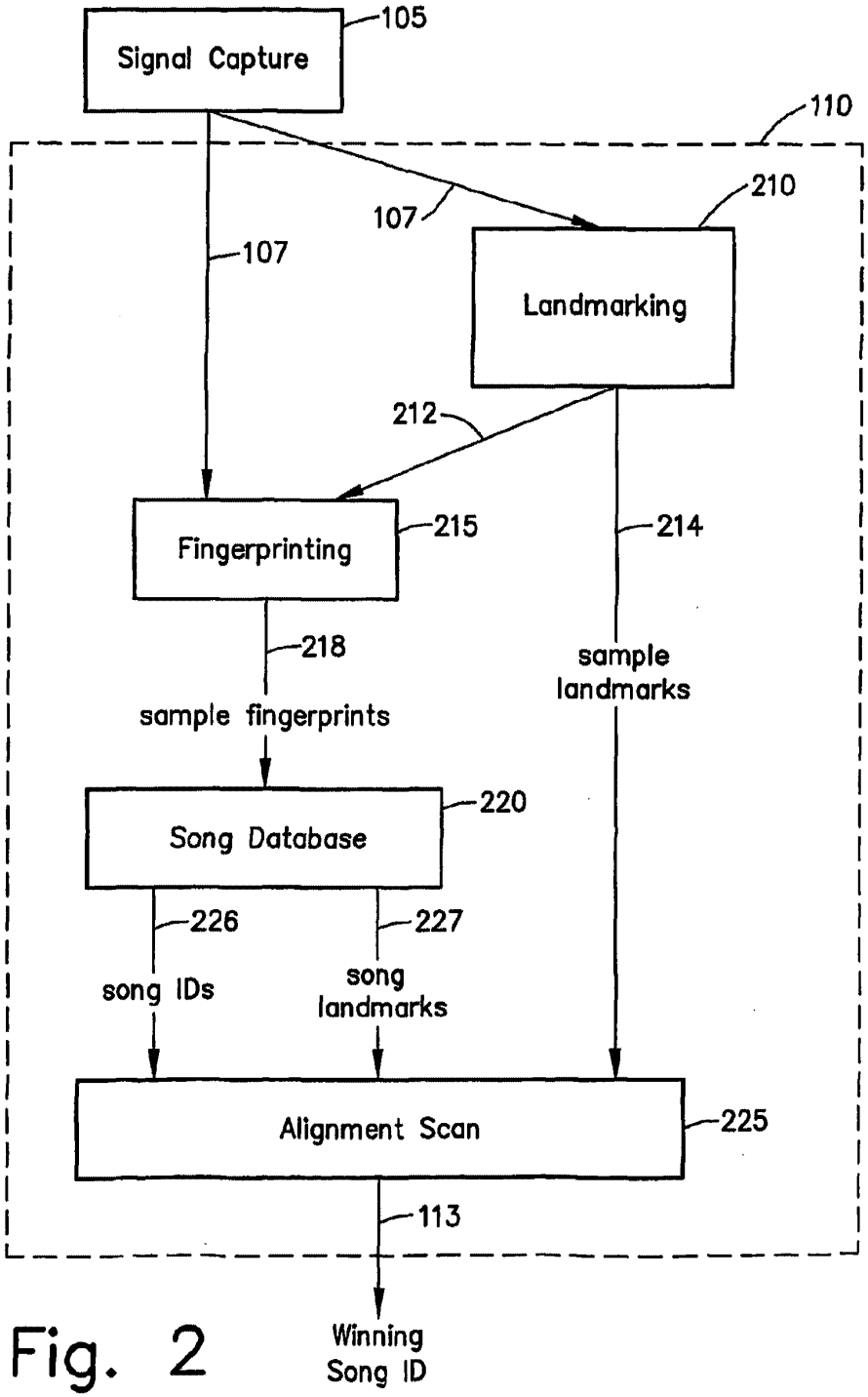

Signal Capture
105
110
210
107
107
Landmarking
212
Fingerprinting
215
214
218
sample landmarks
sample fingerprints
Song Database
220
226
227
song IDs
song landmarks
Alignment Scan
225
113
Winning Song ID

Fig. 2

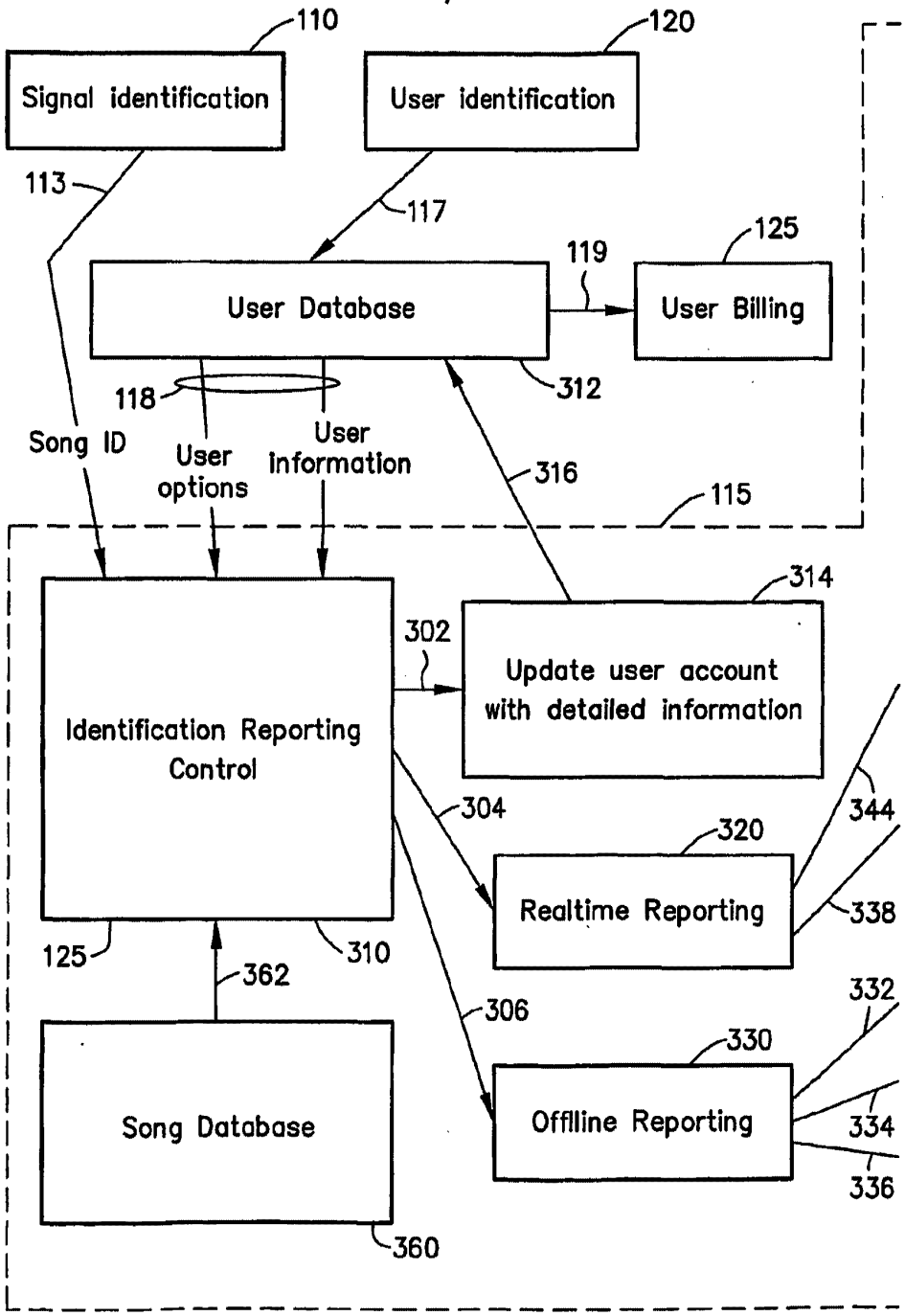

110
120
Signal identification
User identification
113
117
125
119
User Database
User Billing
118
312
Song ID
User options
User Information
316
115
314
302
Update user account with detailed information
Identification Reporting Control
304
320
344
Realtime Reporting
338
125
310
362
306
332
330
Song Database
Offline Reporting
334
336
360

Fig. 3a

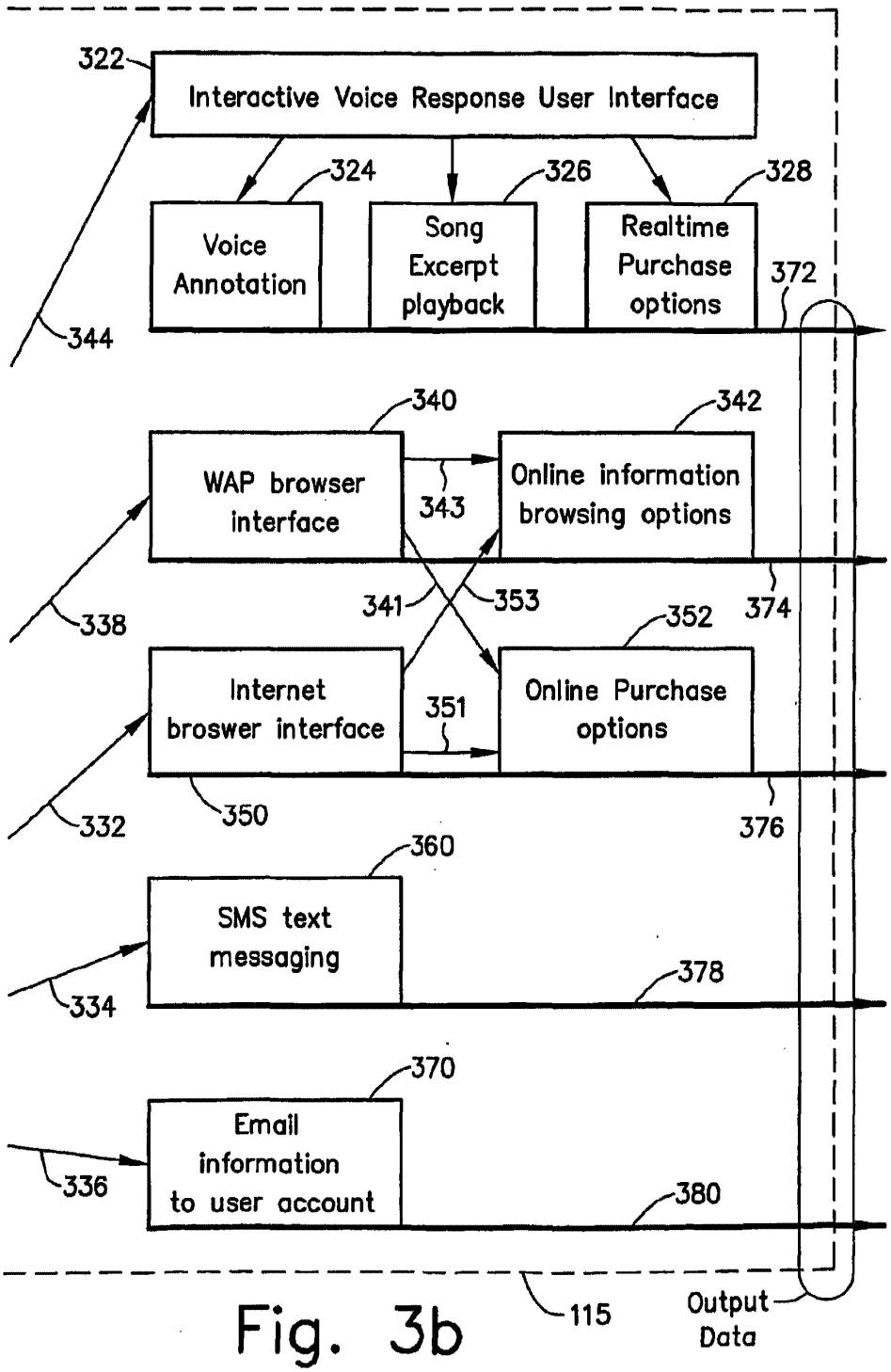

322
Interactive Voice Response User Interface
324
326
328
Voice Annotation
Song Excerpt playback
Realtime Purchase options
372
344
340
342
WAP browser interface
343
Online information browsing options
338
341
353
374
352
Internet broswer interface
351
Online Purchase options
332
350
376
360
SMS text messaging
334
378
370
Email information to user account
336
380
115
Output Data

Fig. 3b

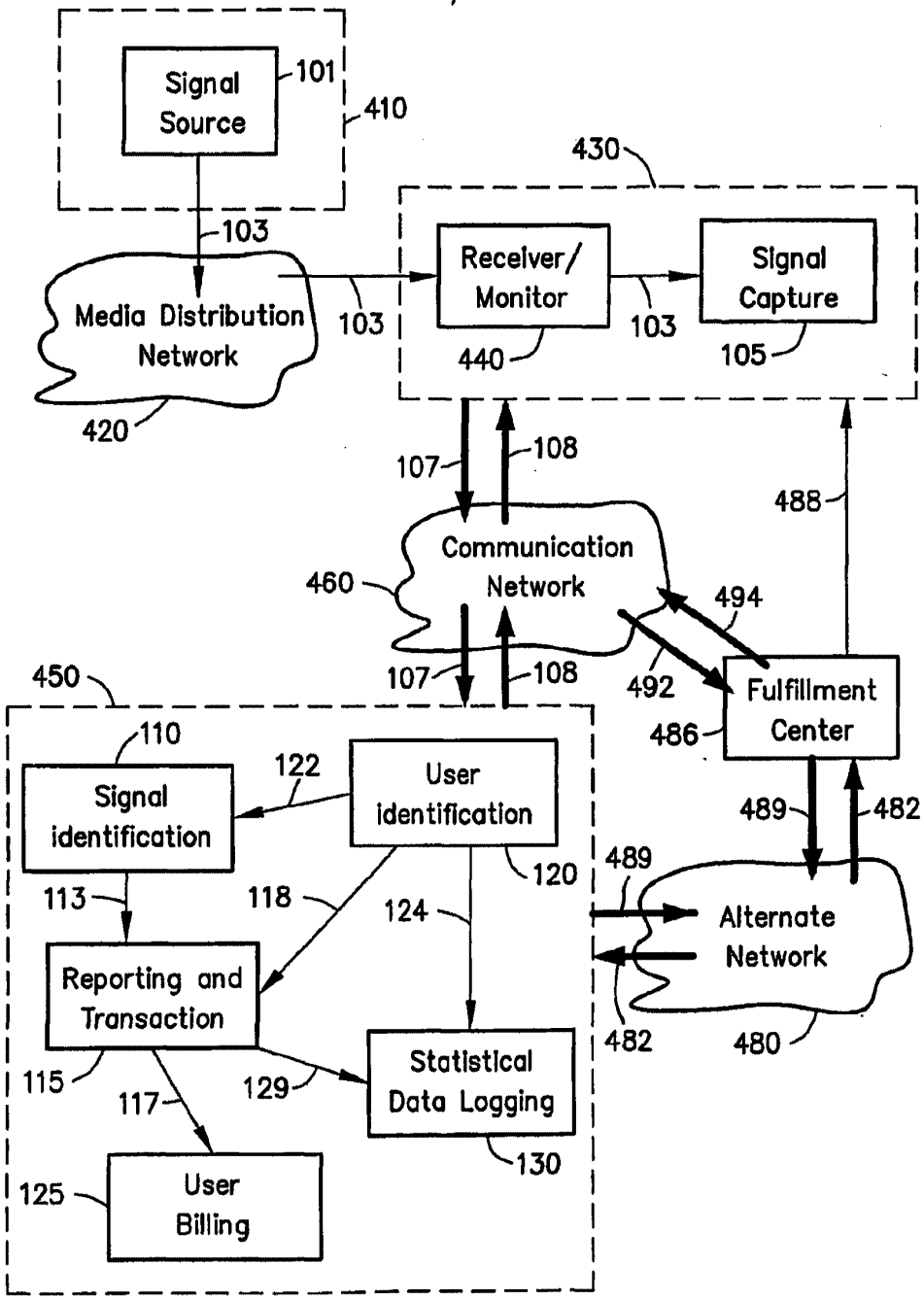

Signal Source
101
410
430
103
Receiver/ Monitor
Signal Capture
Media Distribution Network
103
103
440
105
420
107
108
488
Communication Network
460
494
107
108
492
Fulfillment Center
450
486
110
122
User identification
Signal identification
489
482
120
489
113
118
124
Alternate Network
Reporting and Transaction
482
480
115
129
Statistical Data Logging
117
130
125
User Billing

Fig. 4

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New York, NY 10003

Date Mailed: 06/20/2005

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is unsigned.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(f) of $65 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **$65** for a Small Entity

- **$65** Late oath or declaration Surcharge.

Replies should be mailed to: Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

08/09/2005 EFLORES 00000105 11139330

01 FC:2051 65.00 OP

A copy of this notice MUST be returned with the reply.

TOUHCH

Office of Initial Patent Examination (703) 308-1202

PART 2 - COPY TO BE RETURNED WITH RESPONSE

OIPE JC1728
AUG 0 8 2005
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Jonathan S. Steuer et al.		
Serial No.:	11/139,330	ART UNIT:	2655
Filed:	May 26, 2005	EXAMINER:	(not yet assigned)
Entitled:	MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD		

Attorney Docket No.: 1004-2000100

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

UTILITY PATENT APPLICATION TRANSMITTAL

1. Transmittal Form PTO/SB/21
2. Copy of Notice to File Missing Parts of Nonprovisional Application (2 pages)
3. Check 1040 in the amount of $ 65.00
4. Combined Declaration and Power of Attorney from Inventors (3 pages)
5. Statement under 37 CFR 3.73(b) with copy of Joint Assignment (2 pages)
6. Power of Attorney from Assignee (2 pages)
7. Request for Corrected Filing Receipt (1 page)
8. Marked up Copy of Filing Receipt (3 pages)
9. Return Receipt Postcard

Respectfully submitted,

Michael Mauriel
Registration No. 44,226
Attorney for Applicants
Mauriel Patent Practice
168 Second Ave., Box 352
New York, NY 10003
Telephone: (212) 529-5131
Fax: (212) 529-5132

CERTIFICATE OF MAILING

The undersigned hereby certifies that this correspondence listed above is being deposited with the United States Postal Service with postage sufficient for first class mail in an envelope addressed to Mail Stop Missing Parts, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

August 4, 2005
Date

PATENT & TRADEMARK OFFICE
AUG 0 8 2005
JC124

PTO/SB/21 (09-04)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	11/139,330
Filing Date	May 26, 2005
First Named Inventor	Jonathan S. STEUER
Art Unit	2655
Examiner Name	(Not yet assigned)
Attorney Docket Number	1004-2000100

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
- ☑ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☑ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):

(See Remarks for list of enclosures)

Remarks

-Check 1040 in the amount of $ 65.00
-Combined Declaration and Power of Attorney from Inventors
-Statement under 3.73(b) with copy of Joint Assignment
-Power of Attorney from Assignee
-Req. for Corrected Filing Receipt
-Marked up Copy of Filing Receipt
-Return Receipt Postcard

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Mauriel Patent Practice		
Signature	Michael Mauriel		
Printed name	Michael Mauriel		
Date	August 4, 2005	Reg. No.	44,226

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature	Michael Mauriel		
Typed or printed name	Michael Mauriel	Date	August 4, 2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

OIPE JC124
AUG 0 8 2005
PATENT & TRADEMARK OFFICE

Customer Number: 51417
Attorney Docket No. 1004-2000100

COMBINED DECLARATION FOR A PATENT APPLICATION
AND POWER OF ATTORNEY

As the below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD

the specification of which:

(check one) [ ] is attached hereto.
[X] was filed as U.S. application Ser. No. **11/139,330** on **May 26, 2005** .
and was amended on _____.
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I do not know and do not believe that the invention was ever patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application.

I do not know and do not believe that the invention was in public use or on sale in the United States of America more than one year prior to this application.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate filed by me on the same subject having a filing date before that of the application on which priority is claimed:

			Priority Claimed
NONE			[ ] [ ]
(Number)	(Country)	(Day/Month/Year filed)	Yes No

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

60/574,836	**May 27, 2004**	**Pending (as of May 26, 2005)**
(Application Serial No.)	(Filing Date)	(Status: pending/expired)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States Patent application(s), or under § 365(c) of any PCT international applications designating the United States listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or international application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

None		
(Application Serial No.)	(Filing Date)	(Status: patented/pending/abandoned)

I hereby appoint the following Attorneys and/or agents to prosecute this application and any continuation or divisional applications based hereon, and to transact all business in the Patent and Trademark Office connected therewith:

The undersigned hereby authorizes the U.S. attorney(s) or agent(s) named herein to accept and follow instructions from the assignee, if any, of the undersigned as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorney(s) or agent(s) and the undersigned. In the event of a change in the persons from whom instructions may be taken, the U.S. attorney(s) or agent(s) named herein will be so notified by the undersigned.

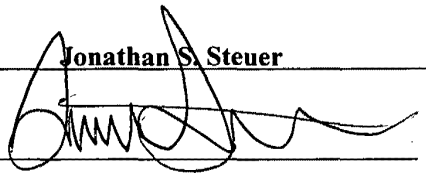
As a named inventor, I hereby appoint the registered practitioner(s) identified by Customer No. 51417 to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, whose firm name, mailing address, telephone number, and facsimile number for this application are:

MAURIEL PATENT PRACTICE
168 Second Ave., Box 352
New York, NY 10003
Telephone: (212) 529-5131
Fax No.: (212) 529-5132

Send all official correspondence to:	**Michael Mauriel** **Mauriel Patent Practice** **168 Second Ave., Box 352** **New York, NY 10003**
Direct telephone calls to:	Michael Mauriel telephone: (212) 529-5131 telecopier: (212) 529-5132

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made in the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, §1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full name of first inventor **Jonathan S. Steuer**

First inventor's signature  July 26, 2005
date

Residence **New York, NY (USA)**
Citizenship **USA**
Post Office Address **72 E. 3rd St., #2B, New York, NY 10003-0206**

Full name of second inventor **Christopher W. Otto**

Second inventor's signature  July 26, 2005
date

Residence **Fremont, CA (USA)**
Citizenship **USA**
Post Office Address **68802 Lyra St., Fremont, CA 94539**

OIPE JC124 AUG 0 8 2005 PATENT & TRADEMARK OFFICE

PTO/SB/96 (08-03)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Jonathan S. STEUER and Christopher W. OTTO

Application No./Patent No.: 11/139,330 Filed/Issue Date: May 26, 2005

Entitled: Media Usage Monitoring and Measurement System and Method

Anonymous Media, LLC (Name of Assignee) , a limited liability company (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. [x] the assignee of the entire right, title, and interest; or

2. [ ] an assignee of less than the entire right, title and interest.
The extent (by percentage) of its ownership interest is _____ %

in the patent application/patent identified above by virtue of either:

A. [x] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or **for which a copy thereof is attached.**

OR

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[x] Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (*i.e.*, a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

July 26, 2005
Date

Jonathan Steuer
Typed or printed name

917.951.3387
Telephone Number

Signature

Manager and Chief Executive
Title

Attorney Docket No. 10042000100

(copy)

Attorney Docket No.: 10042000100

ASSIGNMENT
JOINT

THIS ASSIGNMENT, by Jonathan S. STEUER and Christopher W. OTTO (hereinafter referred to as the assignors), residing at 72 E. 3rd Street #2B, New York, NY 10003; and 68802 Lyra Street, Fremont, CA 94539, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD, set forth in an application for Letters Patent of the United States filed in the United States Patent and Trademark Office on May 26, 2005 and having since been designated with the application serial number 11/139,330; and having an oath or declaration executed on even date herewith; and

WHEREAS, Anonymous Media LLC, a limited liability company duly organized under and pursuant to the laws of Delaware and having its principal place of business at 72 E. 3rd Street Suite 1B, New York, NY 10003 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar ($1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

26 JUL 05
Date

Jonathan S. STEUER

July 26, 2005
Date

Christopher W. OTTO



Docket No.: 10042000100
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Jonathan S. STEUER and Christopher W. OTTO

Application No.: 11/139,330

Filed: May 26, 2005

Art Unit: 2655

For: Media Usage Monitoring and Measurement System and Method

Examiner: Not Yet Assigned

POWER OF ATTORNEY

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Anonymous Media LLC, assignee of the entire right title and interest in the above-identified application by assignment, submitted herewith, hereby appoints the following attorney:

Michael J. Mauriel, Reg. No. 44,226

as its attorney with full power of substitution to prosecute this application and to transact all business in the Patent and Trademark Office in connection therewith.

The assignee certifies that it has reviewed the assignment and to the best of the assignee's knowledge and belief, title is in the assignee.

Please direct all correspondence regarding this application to the following:

Mauriel Patent Practice
Attn: Michael J. Mauriel
168 Second Avenue, Box 352
New York, NY 10003
Telephone: (212) 529-5131
Fax: (212) 529-5132

For: Anonymous Media LLC

Dated: July 26, 2005

Jonathan Steuer
Manager and Chief Executive

OIPE JC124
AUG 0 8 2005
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Jonathan S. Steuer et al.		
Serial No.:	11/139,330	ART UNIT:	2655
Filed:	May 26, 2005	EXAMINER:	(not yet assigned)
Entitled:	MEDIA USAGE MONITORING AND MEASUREMENT SYSTEM AND METHOD		

Attorney Docket No.: 1004-2000100

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CORRECTED FILING RECEIPT

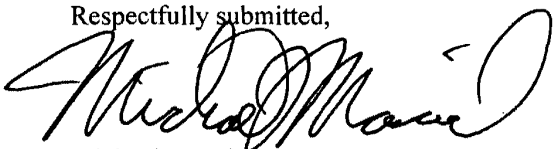
Sir:

Applicants respectfully request a corrected filing receipt so that the title indicated on the filing receipt corresponds with the title shown on the first page of the specification. Please indicate the title to be:

Media Usage Monitoring and Measurement System and Method

The underlining indicates changes relative to the title indicated on the filing receipt mailed 06/20/2005. A marked up copy of that filing receipt is enclosed. Thank you.

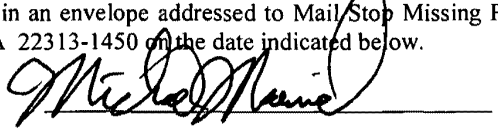
Respectfully submitted,



Michael Mauriel
Registration No. 44,226
Attorney for Applicants
Mauriel Patent Practice
168 Second Ave., Box 352
New York, NY 10003
Telephone: (212) 529-5131
Fax: (212) 529-5132

CERTIFICATE OF MAILING

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August 4, 2005
Date

OIPE JC124
AUG 0 8 2005
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY.DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
11/139,330	05/26/2005	2655	2150	10042000100	7	62	9

CONFIRMATION NO. 1039

Michael J. Mauriel
Mauriel Patent Practice
168 Second Avenue
Box 352
New York, NY 10003

FILING RECEIPT

OC000000016326220

Date Mailed: 06/20/2005

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).**

Applicant(s)

Jonathan S. Steuer, New York, NY;
Christopher W. Otto, Fremont, CA;

Assignment For Published Patent Application

Anonymous Media, LLC, New York, NY

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 60/574,836 05/27/2004

Foreign Applications

If Required, Foreign Filing License Granted: 06/20/2005

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US11/139,330

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

** SMALL ENTITY **

Title

Media usage monitoring and measurement system and method

Preliminary Class

704

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Office of Export Administration, Department of Commerce (15 CFR 370.10 (j)); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
11/139,330	05/26/2005	Jonathan S. Steuer	10042000100

CONFIRMATION NO. 1039

Michael J. Mauriel
Mauriel Patent Practice
168 Second Avenue
Box 352
New York, NY 10003

FORMALITIES LETTER

OC000000016326221

Date Mailed: 06/20/2005

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is unsigned.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(f) of $65 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **$65** for a Small Entity

- **$65** Late oath or declaration Surcharge.

Replies should be mailed to: Mail Stop Missing Parts
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Alexandria VA 22313-1450

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PART 3 - OFFICE COPY

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18351 U.S. PTO 052605

PTO/SB/05 (04-05)
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UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	1004-2000100
First Inventor	Jonathan S. Steuer
Title	Media Measurement System and Method
Express Mail Label No.	ED 936861165 US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☑ **Fee Transmittal Form** (e.g., PTO/SB/17)
   (Submit an original and a duplicate for fee processing)
2. ☑ **Applicant claims small entity status.**
   See 37 CFR 1.27.
3. ☑ **Specification** [*Total Pages* 34]
   Both the claims and abstract must start on a new page
   (For information on the preferred arrangement, see MPEP 608.01(a))
4. ☑ **Drawing(s)** (*35 U.S.C. 113*) [*Total Sheets* 7]
5. **Oath or Declaration** [*Total Sheets* _____]
   a. ☐ Newly executed (original or copy)
   b. ☐ A copy from a prior application (37 CFR 1.63(d))
   (for continuation/divisional with Box 18 completed)
   i. ☐ DELETION OF INVENTOR(S)
   Signed statement attached deleting inventor(s) name in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☑ **Application Data Sheet.** See 37 CFR 1.76
7. ☐ **CD-ROM or CD-R** in duplicate, large table or Computer Program *(Appendix)*
   ☐ Landscape Table on CD
8. **Nucleotide and/or Amino Acid Sequence Submission**
   (if applicable, items a. – c. are required)
   a. ☐ Computer Readable Form (CRF)
   b. Specification Sequence Listing on:
      i. ☐ CD-ROM or CD-R (2 copies); or
      ii. ☐ Paper
   c. ☐ Statements verifying identity of above copies

ADDRESS TO:
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ACCOMPANYING APPLICATION PARTS

9. ☐ **Assignment Papers** (cover sheet & document(s))
   Name of Assignee _____
10. ☐ **37 CFR 3.73(b) Statement** ☐ **Power of Attorney**
    (when there is an assignee)
11. ☐ **English Translation Document** *(if applicable)*
12. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    ☐ Copies of citations attached
13. ☐ **Preliminary Amendment**
14. ☑ **Return Receipt Postcard** (MPEP 503)
    (Should be specifically itemized)
15. ☐ **Certified Copy of Priority Document(s)**
    (if foreign priority is claimed)
16. ☐ **Nonpublication Request** under 35 U.S.C. 122(b)(2)(B)(i).
    Applicant must attach form PTO/SB/35 or equivalent.
17. ☑ Other: Combined Declaration for a Patent Application and Power of Attorney (unsigned) (3 pages)

112991 U.S. PTO 11/139330 052605

18. If a CONTINUING APPLICATION, *check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:*

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.:

Prior application information: *Examiner* _____ *Art Unit:* _____

19. CORRESPONDENCE ADDRESS

☑ The address associated with Customer Number: 51417 ***OR*** ☐ Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	

Signature		Date	May 26, 2005
Name (Print/Type)	Michael Mauriel	Registration No. (Attorney/Agent)	44,226

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Jonathan S. Steuer et al.		
Serial No.:	Not yet assigned	ART UNIT:	(not yet assigned)
Filed:	Concurrently herewith	EXAMINER:	(not yet assigned)
Entitled:	MEDIA MEASUREMENT SYSTEM AND METHOD		

Attorney Docket No.: 1004-2000100

Mail Stop Patent Application
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Alexandria, VA 22313-1450

UTILITY PATENT APPLICATION TRANSMITTAL

1. Fee Transmittal Form PTO/SB/17, noting the amount of $ **2,150** to cover the application filing fees (in duplicate).
2. Check in the amount of $ **2,150**.
3. Utility Patent Application Transmittal Form PTO/SB/05.
4. Specification: 34 pages (including Abstract of the Disclosure).
5. Total Sheets of Drawings: 7
6. Combined Declaration for a Patent Application and Power of Attorney (unsigned).
7. Return receipt post card.
8. Application Data Sheet

Respectfully submitted,

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CERTIFICATE OF MAILING BY "EXPRESS MAIL"

The undersigned hereby certifies that this correspondence listed above is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 CFR §1.10, postage prepaid, Express Mailing Label No. **ED 936861165 US**, in an envelope addressed to Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

May 26, 2005
Date

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18351
U.S. PTO

PTO/SB/17 (12-04v2)
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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL
For FY 2005

☑ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($)	2,150

Complete if Known	
Application Number	Not yet assigned
Filing Date	Concurrently herewith
First Named Inventor	Jonathan S. Steuer
Examiner Name	Not yet assigned
Art Unit	Not yet assigned
Attorney Docket No.	1004-2000100

METHOD OF PAYMENT (check all that apply)

☑ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☐ Deposit Account Deposit Account Number: _____ Deposit Account Name: _____

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, **except for the filing fee**

☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☐ Credit any overpayments

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES Fee ($)	FILING FEES Small Entity Fee ($)	SEARCH FEES Fee ($)	SEARCH FEES Small Entity Fee ($)	EXAMINATION FEES Fee ($)	EXAMINATION FEES Small Entity Fee ($)	Fees Paid ($)
Utility	300	150	500	250	200	100	500.00
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee ($)	Fee Paid ($)
62 - 20 or HP =	42	x 25	= 1050

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee ($)	Fee Paid ($)
9 - 3 or HP =	6	x 100	= 600

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims Fee ($)	Fee Paid ($)

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
- 100 =	/ 50 =	(round up to a whole number)	x	=

4. OTHER FEE(S)

	Fees Paid ($)
Non-English Specification, $130 fee (no small entity discount)	
Other (e.g., late filing surcharge):	

SUBMITTED BY

Signature		Registration No. (Attorney/Agent) 44,226	Telephone 212-529-5131
Name (Print/Type)	Michael Mauriel		Date May 26, 2005

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Media Usage Monitoring and Measurement System and Method

INVENTORS

Jonathan S. Steuer and Christopher W. Otto

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. provisional application number 60/574,836 entitled "Open-Ended Device-Independent Media Usage Monitoring and Measurement System," filed May 27, 2004.

BACKGROUND OF THE INVENTION

[0002] Traditional media measurement systems have focused on directly monitoring channels being utilized by audience members. However, as media consumption patterns have become more complex, channel-centric media measurement is inadequate for many purposes. It may be desirable to track usage of particular media content independent of channel. Furthermore, although "channel" identification in a traditional media measurement system may sometimes be limited to radio or television broadcast station, it is increasingly desirable to track usage of media across several types of media delivery vehicles including radio, television, CD, DVD, computer download, portable media players (e.g. MP3 players, iPod), and other vehicles. Furthermore, with respect to tracking consumption of advertisements, it may be inadequate to simply track channel tuning, because, for example, an audience member may mute a broadcast during commercial periods. Thus simply identifying a broadcast channel does not adequately track whether the audience member listened to a particular advertisement.

[0003] Some media measurement systems have used codes to "tag" and track particular content. However, such systems are limited in that they can only track content that has been properly encoded.

[0004] With the development of more robust content recognition technologies, some content recognition systems have recently been deployed which do not rely

on codes. For example, Philips, Shazam Entertainment, and others have marketed systems for identifying songs played into a mobile phone. Although such systems can be efficiently deployed in the context of song recognition, deploying such systems in the context of media measurement systems poses particular challenges. Continuous searching against a large database of media content can be computationally intensive. Furthermore, such systems, while increasingly robust, still return some erroneous results, particularly in high-noise environments.

[0005] At the same time, the media measurement context provides opportunities to utilize data exogenous to a particular audio or video data sample. Such opportunities have thus far been insufficiently exploited for the purpose of efficiently applying existing content recognition technologies in the media measurement context. Thus, an improved media measurement system and method is needed.

SUMMARY OF THE INVENTION

[0006] Some embodiments of the present invention provide a media measurement system and method that enhances recognition (e.g. in terms of accuracy or efficiency) of the content of a media sample by analyzing information exogenous to the sample. Some embodiments of the present invention provide a media measurement system and method that utilizes audience data to enhance content identifications. Some embodiments analyze media player log data to enhance content identification. Other embodiments of the present invention analyze sample sequence data to enhance content identifications. Other embodiments analyze sequence data to enhance content identification and/or to establish channel identification. Yet other embodiments provide a system and method in which sample construction and selection parameters are adjusted based upon identification results. Yet other embodiments provide a method in which play-altering activity of an audience member is deduced from content offset values of identifications corresponding to captured samples. Yet other embodiments provide a monitoring and measurement system in which a media monitoring device is adapted to receive a wireless or non-wireless audio signal from a media player, the audio signal also being received wirelessly by headphones of a user of the monitoring device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] The novel features of the invention are set forth in the appended claims. However, for purpose of explanation, several aspects of particular embodiments of the invention are described by reference to the following figures.

[0008] **Figure 1** illustrates an exemplary media usage monitoring and measurement system in accordance with aspects of an embodiment of the present invention.

[0009] **Figure 2** illustrates a media measurement method in accordance with aspects of an embodiment of the present invention.

[0010] **Figure 3** illustrates a process for using and generating information such as that illustrated in **Figure 4** and **Figure 5** and **Figure 3** illustrates an embodiment consistent with aspects of the present invention.

[0011] **Figure 4** illustrates a raw play stream generated by a process such as step 207 of **Figure 2**; a clean play stream and clean play list generated by a scrubbing step such as step 209 of **Figure 2** or steps 301, 302, or 305 of **Figure 3**; and channel data associated with two channels.

[0012] **Figure 5** illustrates a clean play stream, clean play list, channel data, and a clean play list showing deduced play-altering actions. The illustrated data may be generated by systems and methods in accordance with an embodiment of the present invention such as, for example, system 100 of **Figure 1** method 200 of **Figure 2**, and method 300 of **Figure 3**.

[0013] **Figure 6** illustrates timeline structure for data samples generated by system and methods such as module 121 of **Figure 1** and steps 201 and 206 of **Figure 2**.

[0014] **Figure 7** shows an example of a computer system that may be used to execute instruction code contained in a computer program product, the computer

program product being in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

[0015] The following description is presented to enable any person skilled in the art to make and use the invention, and is provided in the context of particular applications and their requirements. Various modifications to the exemplary embodiments will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other embodiments and applications without departing from the spirit and scope of the invention. Thus, the present invention is not intended to be limited to the embodiments shown, but is to be accorded the widest scope consistent with the principles and features disclosed herein.

[0016] **Figure 1** illustrates an exemplary media usage monitoring and measurement system 1000. System 1000 includes media measurement system 100 and monitoring devices 101 in accordance with aspects of an embodiment of the present invention.

[0017] As illustrated, monitoring device 101a includes a microphone 105, a media player port 102, a headphone port 103, and a data upload port 104. A monitored audience member wears monitor 101a during a monitoring period. When the audience member is consuming media from media player 170a without the use of headphones 160a (i.e. if media player 170a has a speaker), monitor 101 captures audio energy acoustically through microphone 105. However, when the audience member desires to use headphones 160a to receive media content from media player 170a (e.g. an MP3 player, iPod, CD player, DVD player, television, radio, computer, or other media player) he or she can plug headphones 160a into headphone port 103 and plug media player 170a into media player port 102. In that case, monitor 101a captures audio energy through media player port 102. Microphone 105 includes a microphone and associated microphone port. However, in alternatives, a monitor may simply have a microphone port into which a microphone may be plugged or linked via wireless connection. Thus the term "microphone port" will herein refer to any electronics capable of receiving

energy captured through a microphone, whether or not a microphone is built into the monitoring device itself.

[0018] As another example, headphones 160b are adapted to receive a content signal 171 via wireless transmission 171 from media player 170b. Monitor 101b is adapted to receive the same content signal 171 from media player 170b. In some embodiments, a syncing process allows monitor 101b to adapt along with headphones 160b and media player 170b to changes in signal 171 so that monitor 101b continues to receive the same signal as headphones 160b. In some embodiments, syncing may be accomplished via a wireless and/or automatic process, such as providing a monitor that responsively changes tuning based on tuning changes between the media player and the headphones.

[0019] Audio data captured by monitors 101, along with associated monitor data (e.g. device ID) (collectively, "audio data /monitor data" 144) may be uploaded to system 100 through upload port 104, directly, via memory device transfer (e.g. flash memory card, floppy disk, CD, etc.) or through a network such as network 150. The audio data uploaded from a monitor 101 may be raw audio data, or may be audio data that has undergone one of a variety of levels of processing prior to upload. For example, the uploaded audio data may include parameters useable to calculate audio signatures (sometimes referred to as audio fingerprints) and landmarks or other values useful in the content recognition process. Alternatively, the audio data may comprise pre-calculated signatures, landmarks, or other data useful for content recognition. On the other hand, in some embodiments, the uploaded audio data may simply represent a raw signal corresponding to audio energy received at monitor 101.

[0020] System 100 is adapted to receive some audience data 143 externally. For example, audience data collected by systems and associated monitors other than those of system 1000 may be utilized by system 100; data based on externally collected and/or externally analyzed demographic, psychographic, or other audience related data might also be received as part of external audience data portion 143. Other audience data may be generated internally by audience data processing module 123 alone or in combination with measurement analysis module 129 and/or other system components.

[0021] Also, system 100 is adapted to receive media player log data 146. Media player log data 146 may be generated by a media player such as media player 170a or 170b and sent to system 100 through direct connection, memory device transfer or via network 150. Also, a third party might collect such log data which then may be made available through direct connection, memory device transfer, or via network 150. Media player log data 146 includes data logging content played on the media player from which the log data was generated. Although log data 146 does not necessarily reflect what content was actually heard, to the extent the media player generating the log data is used primarily by the audience member associated with the corresponding monitor 101, it can provide a useful basis for initial testing of captured content as will be described further below.

[0022] System 100 is also adapted to receive known content 141 and content meta data 142. Content 141 may include media files associated with a known piece of media content (e.g. a song, movie, commercial, television show, video game, etc.). However, it will be understood by those skilled in the art that "content" in the sense of the known content 141 received by system 100 may, in some embodiments, simply refer to data about signals representing the content and does not necessarily refer to a stored version of the media content itself; e.g. "content" may be stored signatures and landmarks derivable from a song's audio, but not necessarily an audio file useable to play the song itself. On the other hand, in other embodiments, a system such as system 100 may be adapted to receive a useable audio file and then derive data from that file such as signatures, fingerprints, landmarks, etc. that may be readily searched during the content recognition process. Content meta data 142 includes various data relating to content 141. For example, a portion of content 141 might include a particular song as recorded by a particular artist. Corresponding content meta data 142 for that song might include the various albums or other collections in which that song appears; various radio broadcasts (including station and broadcast times) playing the song; movies, advertisements or video games including the song; other songs that have sampled the song; and various other related information. In the context of a television program, meta data also might include, for example, segment identifications and corresponding time lengths. By distinguishing content data

from content meta data in this manner, it is possible to store content data for a single content ID only once, and then add various pieces of meta data as appropriate. For example, a TV program, or program segment, might initially have meta data relating to particular broadcasts. However, at a later date, meta data might be added relating to, for example, a DVD version of the program, without needing to store the program content itself more than once.

[0023] Turning to the details of system 100, audio data and monitor data (e.g. device ID) is received at sample control processing module 121. Module 121 provides monitor data, portions of which might be audience data, to processing module 123. Module 121 also divides the audio data into samples and determines which samples should be submitted for further content recognition testing. In alternative embodiments, the audio data may already have been divided into samples prior to receipt by system 100 (e.g. at monitor 101). In such alternatives, a module such as module 121 might either use the provided divisions or combine the data and then re-divide it into samples as determined by the system. Module 121 may be used either to submit a sample to initial test and filtered search module 122 or to content recognition system 124.

[0024] Initial test and filtered search module 122 conducts one or more initial identification attempts. Several different types of initial identification attempts might be performed. Module 122 may test a captured sample against content associated with the most recently identified content. As another possible initial test, module 122 may test the sample against content identified from a media player log file. Another initial identification test may be carried out in a variety of ways. For example, filtered search module 122 might use audience data from audience data processing module 123 to form parameters and then pass those parameters to content recognition system 124 which then uses the parameters to conduct a filtered search of its content. Alternatively, module 122 might be adapted to utilize an instance of content recognition system 124 that includes content pre-selected based upon relevant audience data. Some examples of relevant audience data that may be used either to form search parameters or to construct targeted content include:

- age, gender, and other demographic information about the audience member (using the corresponding monitoring device) along with media consumption patterns of other persons sharing similar demographic characteristics

- media consumption patterns of the audience member based on questionnaire input or based on past content identifications associated with that audience member

- media consumption patterns of other audience members who have consumed other media content that has also previously been consumed by the audience member using the corresponding monitoring device

- location of the audience member (alone and/or relative to other audience members)

Of course, the above are just some examples of audience data that may be utilized by system 100.

[0025] After completing the initial identification attempt, filtered search module 122 passes the identification result to ID result module 125. If an identification has been made, the result is passed to play stream generator 126 and to sample control processing module 121. If no identification has been made, then content recognition system 124 performs a search using a larger portion of its content to identify the data sample. The result is passed to ID result module 125 which in turn passes the result to play stream generator 126 and to sample control module 121. Content recognition system 124 is adapted to implement one or more known content recognition methods that identify content by extracting parameters from a media signal and applying an algorithm to those parameters to search for a content match. Those skilled in the art will recognize that many such methods and algorithms exist. One such example is described in U.S. patent application 09/839,476 entitled "System and Methods for Recognizing Sound and Music Signals in High Noise and Distortion" by Wang et al. and published June 27, 2002 with publication number US2002/0083060. Aspects of other such examples are described in the following published PCT applications by Konin-

Klijke Philips Electronics N.V.: "Fingerprinting Multimedia Contents" (WO2004/044820, published May 27, 2004), "Fingerprint Extraction" (WO2004/030341 published April 8, 2004), and "Improvements in and Relating to Fingerprint Searching" (WO2004/040475 published May 13, 2004). Such distinct methods and algorithms may have varying degrees of efficiency, accuracy, and applicability to certain types of content (or different settings of a particular algorithm might have different efficiency depending on content type). Thus, in some embodiments, a system such as system 100 may intelligently select among multiple such algorithms (or multiple settings of a single algorithm) based on expected content characteristics. For example, algorithm A might be faster and more accurate at identifying silence than algorithm B, and thus a system such as system 100 of **Figure 1** having a corresponding subsystem for content recognition (such as system 124) might achieve enhanced performance by submitting a sample for processing by algorithm A rather than algorithm B if recent identification results indicate silence. Other differences corresponding to content types (e.g. speaking audio versus music audio) might also be exploited based on prior content identification results to select a most efficient recognition algorithm from a plurality of algorithms. In such an alternative, if the algorithms required different audio data parameters, a monitor might send two sets of parameters for each sample corresponding to each algorithm and then the system would select between the two sets as needed. Alternatively, the two sets of parameters might be calculated by the system based on raw audio data received from a monitoring device.

[0026] Play stream generator 126 generates a raw play stream relating a sequence of samples to content identification results (for an example of a portion of a raw play stream, see **Figure 3** and accompanying text). The raw play stream is then processed by play stream scrubber 127 which analyzes the sequence of sample identification results utilizing sequence data processing module 128. Based on analysis of sequence data and, where appropriate, analysis of audience data via interaction with audience data module 123, play stream scrubber 127 generates a clean play stream and clean play list (see **Figure 3** and accompanying text) which can then be used by measurement analysis module 129. Results of the media measurement analysis can be obtained via report generator 130.

[0027] In alternative embodiments, many of the system components and corresponding functions performed within a system such as system 100 might instead be implemented on the monitoring devices such as monitoring device 101. For example, many of the functions performed by sample control processing module 121 might instead be performed at a monitoring device. To cite but one example in more detail, if a monitoring device maintains an ongoing reciprocal connection to obtain sample identification results of a media measurement system, then the monitoring device can select which samples to send to the system for recognition analysis. The monitoring device might then also adjust parameters such as sample resolution, the length of a sample time window, and the recognition algorithm selected. This is just one example of how the illustrated embodiment might be modified to shift system components from a central system to a monitoring device. Many other such variations will be apparent to those skilled in the art.

[0028] Also, it will be understood that although **Figure 1** illustrates a particular exemplary division and relationship between "modules," the division illustrated may be readily modified without departing from the spirit and scope of the present invention. For example, in various implementations, the illustrated modules may be combined into larger modules or the functions performed may be distributed across several modules. The term "module" and the associated illustrated division of system components is chosen for purposes of ease of description only and does not limit how particular systems consistent with the present invention might be constructed.

[0029] **Figure 2** illustrates a media measurement method 200 in accordance with aspects of an embodiment of the present invention. One or more elements of method 200 may be carried out, for example, by system 100 of **Figure 1** or other similar systems. At step 201, method 200 receives audio data from a monitoring device. Step 201 caches a series of samples and determines the sample resolution with which samples are submitted for content identification. In particular, as described further below (see **Figure 4** and accompanying text), sample resolution refers to how many samples in a given sequence of samples are processed for

content identification. Step 201 also determines length, or "time window" of each sample.

[0030] At step 210, characteristics of the audio data are analyzed to attempt to identify the source of transmission or storage of the media played by an individual based on audio characteristics of that signal. For example, the process attempts to recognize particular types of encoding or compression, or identifies sound associated with screen refresh on a television or computer monitor, or recognizes compression or frequency range of FM or AM radio, or CD or DVD. If the storage or transmission medium is identified, the results of step 210 can be added to a play list and / or utilized in step 211 to identify channel (see below for further description of step 211).

[0031] At step 202, identification of a sample in a series of samples is attempted via initial test methods. In particular, step 202 determines whether the audio data in the tested sample matches data associated with the content ID corresponding to the most recently identified sample. Step 202 may also or instead test the sample against content IDs obtained using data from a media player log file associated with the audience member using the corresponding media monitor. Step 203 determines whether successful identification occurred at step 202. If yes, then the identification result is provided to step 206 and 207. If no, then step 204 searches for a content match against targeted content selected based at least in part upon additional audience data. Step 205 determines whether step 204 obtained an identification. If yes, then the identification result is provided to steps 206 and 207. If no, then step 208 searches for a content match against a larger portion of the content. With respect to steps 202, 204, and 208, there are two possible results: an identification has been made or no identification has been made. No identification at steps 202 and 204 leads to the further identification attempt at step 208. Whatever the result is at step 208 (identification or no identification) that result is passed to steps 207 and 206.

[0032] At step 206, an identification result is used to adjust sampling control and selection parameters for one or more subsequent samples. Parameters that might be adjusted include resolution, backtrack selection, sample time window, or recognition algorithm selected. For example, if a sample has been identified

successfully, and the identification indicates a match with the prior sample, the sampling resolution might be decreased from 1/5 to 1/10, meaning that, in a sequence of samples, nine samples rather than four are skipped before selecting the next sample to analyze for identification. As another example, if an identification result does not match the result of the prior sample identified, then step 206 might initiate a back track analysis and select an intervening sample that has not yet been analyzed. Step 201 would then pass the sample selected from backtracking to step 202 for attempted identification. As another example, resolution might be increased when recent identification results suggest an extended period of silence or absence of known content.

[0033] As yet another example, once media content for a limited series of samples has been identified, the time window size for each sample might be decreased from, for example, 5 seconds to 3 seconds. This would mean that samples submitted for attempted identification would be shorter in length. This can create efficiencies because once the content is identified, the process needs only to detect a change in content, and this can, in some cases, be accomplished utilizing a smaller amount of audio data, thereby preserving system resources.

[0034] Adjustment of sampling parameters is described further below in the context of **Figure 5** and accompanying text.

[0035] Continuing with the description of **Figure 2**, step 207 generates a raw play stream indicating a series of samples and corresponding identification results. Step 209 scrubs the raw play stream based upon sample sequence data (described further below in the context of **Figures 3-4** and accompanying text) and based upon audience data. The resulting clean play stream may be converted to a play list listing the content captured and indicating the order in which it was captured. Step 209 attempts to identify the channel by searching known channel data to find an apparent content sequence match to the play list. If the storage or transmission medium of the captured sample has been identified at step 210, that information may be made available for step 211 and allows step 211 to use that information to filter its search of channel data (e.g., only search channel data including CD channels, or only including radio broadcast channels, etc.). If step 211 successfully identifies the channel, information such as content sequence data for

the identified channel may be used by step 212 to further scrub or rescrub the play stream, particularly with respect to any apparently incorrect content identifications that could not be corrected based upon sample sequence data as utilized in step 209.

[0036] **Figure 3** illustrates a process 300 for using and generating information such as that illustrated in **Figure 4** and **Figure 5**. Some of the functions accomplished by process 300 are similar to functions accomplished by steps 207, 209, 211, and 212 of **Figure 2**. Process 300 illustrates a more detailed example of an embodiment consistent with aspects of the present invention.

[0037] Referring to process 300, depending on available information, either a play stream is made available to step 301 or a play list is made available to step 302. Step 301 prepares a play stream for further processing necessary for channel matching by scrubbing (i.e. reviewing for missing or incorrect data) the play stream using non-channel data. Step 302 prepares a play list for further processing necessary for channel matching by scrubbing (i.e. reviewing for missing or incorrect data) the play list using non-channel data. With respect to steps 301 and 302, the non-channel data selected might be selected particularly for the purpose of better preparing the play stream or play list for a channel matching process. Step 303 receives either a raw (i.e. " not scrubbed") play stream or play list directly or receives a scrubbed play stream or play list from step 301 or 302. If necessary, step 303 converts received data to a format useful in matching to a channel (e.g. converts a play stream to a play list where a play list format is useful for channel matching, or converts a play stream or play list to a mathematical representation that is useful for channel matching).

[0038] Step 304 attempts to match the play stream or play list (or corresponding data format representing the play stream or play list) against known channel data to identify a channel (e.g., an album, samples of an album presented for marketing—e.g. on a web page—, radio broadcast, television broadcast, theater version of a movie, DVD version of a movie, etc.) associated with the elements of the play list or play stream. Step 306 determines whether a channel match was achieved. If yes, then step 305 uses channel data and non-channel data to scrub or further scrub the play stream or play list for purposes of creating a

clean play list. If the play list or play stream has already been scrubbed with non-channel data in either step 301 and 302, then the play stream or play list may not need to be further scrubbed with non-channel data at step 305. In that case, step 305 just uses channel data to further scrub the play stream or play list. However, it is possible that scrubbing the play list or play stream with non-channel data for purposes of creating data useful for channel matching will be somewhat different than doing so for purposes of creating a clean play list, thus non-channel data is referenced again in the illustration of claim 305.

[0039] If step 306 determines that a channel match was not achieved at step 304, then step 307 scrubs the play stream or play list with non-channel data to create a clean play list. Step 309 determines whether including deduced user actions on the clean play list is desired. If yes, then step 308 creates a clean play list including deduced user actions. If no, then step 310 creates the clean play list without including deduced user actions.

[0040] **Figure 4** illustrates Raw Play Stream 410 generated by a process such as step 207 of **Figure 2**; Clean Play Stream 450 and Clean Play List 490 generated by a scrubbing step such as step 209 of **Figure 2** or steps 301, 302, or 305 of **Figure 3**; Channel Data 470 and Channel Data 490. Referring to **Figure 4**, Raw Play Stream 410 itemizes a sequence of analyzed samples and relates that sequence to corresponding identification results in the content ID column. The content ID result indicates either a reference corresponding to a particular piece of content or indicates that no identification was made. The example in **Figure 4** assumes that no user play-altering activities took place and this example does not rely on content offset data in scrubbing the raw play stream to obtain a clean play list. However, note that in other examples, such as that of **Figure 5**, sample sequence data ("ssd") includes content offset data. For purposes of presenting and analyzing sample sequence data as described herein, the times in list 410 may be relative to an arbitrary value (e.g. "t_0") rather than representing an absolute time; however, in many instances, a log time will in fact indicate the actual time the sample started to be captured.

[0041] Sample sequence data may be used to "scrub" Raw Play Stream 410. By analyzing the sequence of data on Raw Play Stream, it is possible to locate and

correct any identifications that are likely to be incorrect or to supply missing identifications where the system has not otherwise been able to provide an identification.

[0042] Sample sequence data can be used to derive portions of Clean Play Stream 450 from raw play list 410 in the following manner: Referring to Raw Play Stream 410, the content IDs associated with samples 1, 3, 4, 6, and 7 all indicate the same media content referenced as "song51." The content ID value associate with sample 2 indicates that no content has yet been successfully associated with that sample and the content ID value associated with sample 5 indicates "movie81." Given this pattern of sample sequence data, it is reasonable to assume that the person using the corresponding monitor listened to song51 through the time period associated with the audio data of samples 1-7, and thus, the "scrubbed" version of the play stream, i.e. Clean Play Stream 450, indicates song51 for each of samples 1-7.

[0043] Information about the sequence of content in a play stream can be used to generate a play list and identify a channel, and the identified channel data can also potentially be used to help further "scrub" a play stream. For example, the sequence of consumed content represented on Play Stream 450 is searched against known channel data (e.g. particular CD albums, broadcasts, or other particular storage or transmission media carrying a particular sequence of content). In this example, simplified for illustrative purposes, known channel data includes channel data 470, associated with channel ID "radio 35," and channel data 480, associated with channel ID "album12." Referring to channel data 470, each row relates a content ID to a start time and end time. In this example, start and end times are referenced with respect to an arbitrary start time value "C(0)." For some channels (e.g. CDs, DVDs, video games) only such arbitrary reference times will be available. For other channels (e.g. broadcasts, concerts, etc.), absolute time might be both available and useful. However, for the purpose of the analysis illustrated in this example, times that are relative only and not necessarily absolute are sufficient.

[0044] With respect to further "scrubbing" the Raw Play Stream 410, in this example, channel data may be used to correct the apparent misidentification of

sample 29. Note that the sample sequence data alone in this example does not provide a clear basis for correcting sample 29. Sample 28 is identified as "ad49," sample 29 as "song81," and sample 30 as "song 35." However, given the sequence "song21, ad49, and song35" is associated with a known sequence of the radio broadcast referenced as "radio 35," there is a basis in channel data 470 for believing that the proper content ID for sample 29 is "song35" rather than "song81." Thus, Clean Play Stream 450 indicates a change relative to Raw Play Stream 410 with respect to the content ID for sample 29. Note that a clean play stream and clean play list are not necessarily generated sequentially. For example, to the extent a channel identification and associated channel data are necessary to "scrub" a raw play stream, portions of a clean play list may be determined as part of obtaining data necessary to make channel selection. In the present example, "radio 35" is identified based on a particular content sequence, and that information helps populate Clean Play Stream 450 with a corrected content ID value for sample 29 relative to the sample 29 content ID value on Raw Play Stream 410.

[0045] Audience data may also be used in the "scrubbing" process. For example, if "song81" is radically different from the user's known consumption habits and "song35" is within the user's known consumption habits, another basis might be provided for suspecting that "song35" rather than "song81" is the correct content ID for sample 29 of Play Stream 410.

[0046] It will be understood by those skilled in the art that in the context of data sets that might, in alternative examples, make up a "raw play stream," "a clean play stream," or a "clean play list," the particular organization, division, and content of the data may vary considerably from that illustrated in **Figure 4** (as well as that illustrated in **Figure 5** below) without departing from the spirit and scope of the present invention. To cite but one example, such play streams and/or play lists might include several data fields in addition to those illustrated. Moreover, the illustrated data sets might not be collected in the same table but, depending upon database architecture, might be spread out in different tables and/or relational structures. Furthermore, the data sets similar to those illustrated might not be stored at all in a database but rather might be generated on the fly

and then discarded as mere intermediate steps to generating a particular report that the system is asked to produce. These and other variations will be readily apparent to those skilled in the art. The examples shown are chosen primarily for usefulness in illustrating aspects of a particular embodiment. While they are useful in illustrating certain underlying principles of certain aspects of the present invention, they should not be considered, in and of themselves, to limit the scope of the invention.

[0047] **Figure 5** illustrates Clean Play Stream 510, Clean Play List 560, Channel Data 570, and Clean Play List 590 showing deduced play-altering actions. The illustrated data may be generated by systems and methods in accordance with an embodiment of the present invention such as, for example, system 100 of **Figure 1** method 200 of **Figure 2**, and method 300 of **Figure 3**. Aside from the traditional time shifting activity of, for example, recording a television broadcast and playing it at a later time, various play-altering activities may be undertaken by an audience member. For example a media player may be paused, reversed, fast forwarded, and some media players have modes in which skipping back or forward in played content can occur almost instantly, including within the smallest time division useful for a particular data set (e.g., less than five seconds, less than one second, etc.). Generally, these activities of manipulating the pace and order in which media is consumed will be referenced as audience play-altering actions or activities. These activities may be deduced, for example, during scrubbing step 209 of **Figure 2**, or, as illustrated more expressly, during step 308 of **Figure 3**.

[0048] Continuing with the description of **Figure 5**, Play Stream 510 presents a series of log times, content IDs, and content offsets. In the illustrated example, times given in the log time column begins with t_0 and ends with t_0+19. Each log time indicates a time at which capture of the analyzed sample began, where t_0 simply represents a beginning time for samples on Play Stream 510. Each content ID indicates an identifier of the content that has been identified as corresponding to the captured sample. In the example illustrated, "TV program 27" refers to a TV program segment and "TV program 28" refers to another program segment of the same program. "Ad23" and "ad25," on the other hand, refer to separate

advertisements. Each content offset value represents a time offset from the beginning of a particular piece of content. For example, row 8 of Play Stream 510 corresponds to a sample whose beginning is located 9 time units from the beginning of TV program 27, thus the content offset is referenced as (0)+9.

[0049] Play List 560 contains a row for each internally continuous media consumption event. The start log time and end log time for each such event are listed in each row. If an entire piece of content (e.g. a TV program segment, or an entire TV ad) is listened to without interruption, that would correspond to a row of Play List 560. On the other hand, if the data from Play Stream 510 suggests a discontinuity within consumption of a particular piece of content, such discontinuities form boundaries between consumption events that form rows of List 560. The meaning of these concepts may be clarified by discussing further details of the illustrated example.

[0050] Discontinuities in consumption of the identified media may be identified by comparing the progression of sample log times to progression of corresponding content offset times in Play Stream 510. For example, referring to rows 7 and 8 of play stream 510, log times progress from t_0+6 to t_0+7; however, the corresponding content offsets progress, with respect to the start of TV program 27, from (0)+3 to (0)+9. Had the media consumption from one sample to the next been continuous, one would expect that the second offset value (in row 8) would have been (0)+4 rather than (0)+9. Therefore, a boundary between media consumption events can be deduced. Thus, rows 3 and 4 of List 560 indicate two consumption events with respect to the same piece of media content (TV program 27). By contrast, row 1 and row 2 of Play Stream 510 are, on Play List 560, collapsed into a single row (row 1) because the content offset progression from row 1 to row 2 of Play Stream 510 suggests continuous consumption of the same piece of media content.

[0051] Referring to Play List 560, the "end log time" of one event also defines the "start log time" of the next event. In other examples, particularly if continuous time is not assumed, a play list might be constructed using start log times that are different than the end log time of the previous consumption event.

[0052] Referring to Clean Play List With Deduced Actions 590, it can be seen that a play list can be constructed that supplements the information in Play List 560 with information about the apparent actions of the audience member. Rows 2, 4, 6, 8, and 11 of List 590 include such information about deduced actions.

[0053] To the extent such play-altering actions occur within the same piece of content, audience member actions may be deduced without content sequence data for a particular channel. For example, referring to rows 2, 3, 4, 5, and 6, of Play Stream 510, the content offset values of rows 2 and 6 indicate advancing for one time unit within TV program 27 while no content ID (or corresponding offset value) is available for rows 3-5. From this information, and the fact that log times of rows 3-5 together correspond to progression through three time units, it is reasonable to deduce that the audience member paused a media player for three time units from log time t_0+2 to log time t_0+5. That deduced action is recorded in row 2 of Play List 590.

[0054] On the other hand, in other contexts, it may be necessary to refer to content sequence data for a particular channel to be sufficiently confident in deducing the details of an audience member's play-altering activity. For example, referring to Play Stream 510, data in rows 15-17 indicate one or more consumption discontinuities in which a play-altering action appears to have crossed a content boundary. Row 15 indicates consumption of the beginning of ad23; row 16 indicates no identified content, and row 17 indicates consumption of ad24 from a point two time units after the beginning of that ad. From this information alone, it is difficult or impossible to determine how much play-altering activity occurred and whether any content pieces were skipped altogether. However, content sequence data for an identified channel may be used to supplement the information gap. Data 570 lists content sequence data for a channel identified as "TV C4." "TV C4" may be identified during a method portion such as step 211 of process 200 of **Figure 2** as previously described. Channel data may be searched that includes the content identified in Play Stream 510 or Play List 560. A channel whose content sequence matches or closely matches content on such a stream or play list may be identified as the channel that delivered the consumed content. In this case, Play Stream 510 and Play List 560

include content associated with the following IDs: TV program 27, ad23, ad25, and TV program 28. Because channel data for "TV C4" indicates a sequence of: TV program 27, ad23, ad24, ad25, and TV program 28, for purposes of this example, it can reasonably be assumed that the media depicted on Stream 510, List 560, and List 590 was originally delivered to the relevant media player by channel "TV C4." In real world contexts, however, it is quite possible that more data would have to be obtained (e.g. a matching more entries on a play list entries against a longer series of content sequence data of a channel) in order to be reasonably confident that the channel has been correctly identified. The amount of data matched in the illustrated example has been chosen primarily for ease of illustration.

[0055] Sequence Data 570 for channel TV C4 indicates that ad23 as broadcast lasted three time units (see row 2), ad25 as broadcast lasted three time units (see row 4), and between ad23 and ad25, another ad, ad24, was broadcast and lasted three time units. From this information, and the information in either Play Stream 510 or Play list 560, it can be deduced that the audience member heard the very beginning of ad23, but then fast forwarded seven time units (during the span of 1 time unit based on the log time data) to just past the beginning of ad25. This deduced action is recorded in row 11 of List 590.

[0056] It should be noted that, to the extent actions take less than a single time unit, rows may be added to List 590 relative to List 560 to record such actions. For example, referring to row 4 of List 590, because no log time elapsed between the end of the event in row 3 and the beginning of the event in row 5, row 4 has been added showing the "skip forward 5 units." That the user "skipped" forward rather than "fast" forwarded can be deduced from the fact that while there is no content ID gap between rows 3 and 4 of List 560, there is a gap in the content offset times for those rows. Thus, though the log times and content ID alone suggest continuous consumption, the gap in offset times suggests a "skip" forward that took the same or less time than the length of a single time unit.

[0057] Those skilled in the art will recognize that the method aspects just described in the context of generating and using Stream 510, List 560, Data 570, and List With Deduced Actions 590 reflect just one example of how play-altering

actions might be deduced using systems and methods consistent with those of the present invention. To cite but one example, rather than explicitly generate a play list, mathematical representations of play stream data and content sequence data may be used to identify discontinuities and deduce play-altering activities. To cite but one other example, play-altering might be deduced from a pre-generated play list including content offset data without needing to analyzing play stream data from which the play list was generated.

[0058] **Figure 6** illustrates timeline structure for data samples generated by system and methods such as module 121 of **Figure 1** and steps 201 and 206 of **Figure 2**.

[0059] As illustrated, sample set 600 reflects a division of audio data into sixteen samples, three of which are selected for analysis. The samples selected for recognition analysis are referenced generally as the "n_0^{th}," n_1^{th}," and "n_2^{th}" samples. Samples between the selected samples are not separately numbered, but are marked off between vertical lines along the horizontal length of timelines structure 600 as illustrated. Each sample has a sample time window length "i." Furthermore, the sample set has varying "resolutions" including r_0=1/5 between the n_0^{th} and n_1^{th} samples and r_1=1/10 between the n_1^{th} and the n_2^{th} samples. In other words, "resolution" here refers to the portion of samples being selected during a period of time. In the present example, a process portion such as steps 201 and 206 of process 200 of **Figure 2** has, based on the identification results of the n_0^{th} and n_1^{th} samples, adjusted the resolution from 1/5 to 1/10. This could occur, for example, as previously described, because the n_0^{th} and n_1^{th} samples match the same content ID and process 200 determines that the likelihood that the next selected sample using a resolution of 1/5 would also match justifies decreasing the resolution to 1/10 so that the next sample selected for analysis is the n_2^{th}. However, if the n_2^{th} sample does not match the n_1^{th} sample, then process 200 can make a backtrack decision and go back in the series of samples to select, for example, the $(n_1+6)^{th}$ sample for content recognition analysis in order to pinpoint more closely where in the play stream the content change occurred. The order in which samples are selected for analysis in this example is illustrated by arrows 1, 2, and 3 in **Figure 6**.

[0060] Although not illustrated in **Figure 6**, as previously described, steps 201 and 206 of method 200 can also determine based on identification results the time window length can be adjusted. In the context of Figure 6, this would correspond to changing the value of "i," the time window length of a particular sample.

[0061] **Figure 7** shows an example of a computer system 700 that may be used to execute instruction code contained in a computer program product 760 in accordance with an embodiment of the present invention. Computer program product 760 comprises executable code in an electronically readable medium that may instruct one or more computers such as computer system 700 to perform processing that implements the system 100 of **Figure 1** and/or accomplishes the exemplary method 200 of **Figures 2**. The electronically readable medium may be any medium that either stores or carries electronic signals (including signals referred to as electrical signals and signals referred to as electromagnetic signals) and may be accessed locally or remotely, for example via a network connection. The executable instruction code in an electronically readable medium directs the illustrated computer system 700 to carry out various exemplary tasks described herein. The executable code for directing the carrying out of tasks described herein would be typically realized in software. However, it will be appreciated by those skilled in the art, that computers might utilize code realized in hardware to perform many or all of the identified tasks without departing from the present invention. Those skilled in the art will understand that many variations on executable code may be found that implement exemplary methods within the spirit and the scope of the present invention.

[0062] The code or a copy of the code contained in computer program product 760 may be stored in memory 710 for execution by processor 720. Computer system 700 also includes I/O subsystem 730 and peripheral devices 740. I/O subsystem 730, peripheral devices 740, processor 720, and memory 710 are coupled via bus 750.

[0063] Those skilled in the art will appreciate computer system 700 illustrates just one example of a system in which a computer program product in accordance with an embodiment of the present invention may be implemented. To cite but one example of an alternative embodiment, execution of instructions contained in

a computer program product in accordance with an embodiment of the present invention may be distributed over multiple computers, such as, for example, over the computers of a distributed computing network.

[0064] Although particular embodiments have been described in detail and certain variants have been noted, various other modifications to the embodiments described herein may be made without departing from the spirit and scope of the present invention. Thus, the invention is limited only by the appended claims.

CLAIMS

What is claimed is:

1. A media measurement method comprising:

submitting data samples corresponding to portions of audio data captured at a monitoring device for content recognition against known media content; and

using audience data to enhance identification of a sample.

2. The method of claim 1 wherein:

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of an audience member using the monitoring device.

3. The method of claim 2 wherein, if the identification attempt is not successful, the method further comprises testing the submitted sample against a larger portion of the known content.

4. The method of claim 1 wherein:

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of persons sharing characteristics of an audience member using the monitoring device.

5. The method of claim 1 wherein:

using audience data comprises performing an identification attempt by testing a submitted sample against a portion of the known content related to a location of an audience member using the monitoring device; and

6. The method of claim 5 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device being used by a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device used by the first audience member.

7. The method of claim 1 wherein using audience data comprises scrubbing a raw play stream by analyzing known content related to a location of an audience member using the monitoring device.

8. The method of 7 wherein the audience member is a first audience member and content related to a location of the first audience member is determined at least in part by identifying content received from a monitoring device being used by a second audience member at a time and place proximate to that associated with the sample corresponding to audio data received from the monitoring device used by the first audience member.

9. The method of claim 1 wherein content recognition against known content comprises selecting from multiple content recognition algorithms based upon expected content type to optimize recognition performance.

10. The method of claim 1 wherein content recognition against known content comprises selecting from multiple settings of a content recognition algorithm.

11. The method of claim 9 wherein an expected content type includes absence of recognized content.

12. The method of claim 9 wherein an expected content type includes music audio.

13. The method of claim 9 wherein an expected content type includes voice audio.

14. The method of claim 9 wherein an expected content type includes music, voice and sound effect audio.

15. The method of claim 1 wherein using audience data comprises using channel data relating to a channel experienced by an audience member using the monitoring device.

16. The method of claim 2 wherein the media consumption pattern is determined at least in part by using channel data relating to a channel experienced by an audience member using the monitoring device.

17. The method of claim 15 wherein using channel data comprises performing an identification attempt by testing a submitted sample against content corresponding to at least a portion of channel content.

18. The method of claim 2 wherein the media consumption pattern is determined at least in part by examining log data of a media player of an audience member using the monitoring device.

19. A media measurement method comprising:

receiving audio data from a monitoring device, the audio data being divisible into a series of samples; and

determining a sample for attempted identification based at least in part upon a result of an attempt to identify a prior sample against known content.

20. The method of claim 19 wherein determining comprises selecting a format of a sample.

21. The method of claim 20 wherein:

format includes length of a sample time window; and

determining comprises adjusting the time window for a sample subsequent to an n'th sample based at least in part upon an identification result corresponding to the n'th sample.

22. The method of claim 20 wherein:

format includes audio parameters corresponding to requirements of a content recognition algorithm; and

determining comprises, for a sample subsequent to an n'th sample, selecting audio parameters corresponding to one of a plurality of available content recognition algorithms based at least in part upon an identification result corresponding to the n'th sample.

23. The method of claim 20 wherein:

format includes audio parameters corresponding to settings of a content recognition algorithm; and

determining comprises, for a sample subsequent to an n'th sample, selecting a setting from a plurality of settings of a content recognition algorithm based at least in part upon an identification result corresponding to the n'th sample.

24. The method of claim 19 wherein:

determining a sample comprises, for an (n+r)'th sample submitted for content recognition, determining r at least in part based upon an identification result corresponding to the n'th sample.

25. The method of claim 24 wherein the value of r is increased from a prior value if the identification result corresponding to the n'th sample does not indicate an identification.

26. The method of claim 24 wherein the value of r is increased from a prior value if the identification result corresponding to the n'th sample indicates absence of any media content.

27. The method of claim 19 wherein determining comprises, depending upon identification results corresponding to an n'th and an (n+r)'th sample, determining whether any samples captured between the n'th and the (n+r)'th sample should be submitted for a content recognition attempt.

28. The method of claim 27 further comprising:

submitting one or more samples captured between the n'th and the (n+r)'th sample for a content identification attempt if the identification results corresponding to the n'th and (n+r)'th sample do not match.

29. The method of claim 19 wherein channel data is used in determining the sample, the channel data relating to recently identified samples.

30. The method of claim 19 wherein content data is used in determining the sample, the content data relating one or more recently identified samples.

31. The method of claim 30 wherein content data includes at least one of content type and content length.

32. The method of claim 19 wherein sample sequence data is used in determining the sample, the sample sequence data relating to recently identified samples.

33. The method of claim 19 wherein log data is used in determining the sample, the log data relating to a media player of an audience member using the monitoring device.

34. The method of claim 19 wherein location data is used in determining the sample, the location data relating to a media player of an audience member using the monitoring device.

35. A media measurement method comprising:

generating a raw play stream of content identification results corresponding to a sequence of data samples; and

scrubbing the raw play stream by, with respect to samples that are not identified or appear to be misidentified, analyzing sample sequence data to attempt selection of corrected content identifications.

36. The method of claim 35 wherein sample sequence data includes at least one of log times, content IDs, and content offsets.

37. The method of claim 35 wherein:

scrubbing the raw play stream further comprises analyzing channel data as part of attempting selection of corrected content identifications.

38. The method of claim 35 wherein:

scrubbing the raw play stream further comprises using audience data as part of attempting selection of corrected content identifications.

39. The media measurement method of claim 35 wherein a clean play list is generated from the scrubbed play stream.

40. A media measurement method comprising:

generating a raw play stream of content identification results corresponding to a sequence of data samples; and

using sample sequence data to identify a channel corresponding to the samples.

41. The method of claim 40 further comprising:

converting the raw play stream to a format usable for searching channel data to identify a channel to associate with content of the play stream.

42. The method of claim 41 wherein the raw play stream is converted to a play list.

43. The method of claim 41 wherein the raw play stream is converted to a mathematical representation of the content associated with the play stream.

44. A media measurement method comprising:

generating a raw play stream of content identification results corresponding to a sequence of submitted data samples; and

utilizing sample sequence data including content offset data to deduce play-altering actions of a monitored audience member.

45. The method of claim 44 further comprising:

generating a play list including content offset data as part of deducing media play-altering actions of a monitored audience member.

46. The method of claim 44 further comprising:

utilizing sample sequence data together with corresponding channel data to deduce play-altering actions of a monitored audience member.

47. The media measurement method of claim 44 wherein a clean play list is generated including deduced play-altering actions.

48. A media measurement system comprising:

a plurality of monitoring devices; and

a system adapted to receive and process audio data received from the monitoring devices, the system being adapted to measure media usage by users of the monitoring devices wherein:

a device of the plurality of monitoring devices is adapted to receive a signal that is received wirelessly by headphones being used by an audience member monitored by the monitoring device.

49. The system of claim 48 wherein the signal is received wirelessly by the monitoring device.

50. The system of claim 48 wherein a device of the plurality of monitoring devices is adapted to connect to a media player and headphones associated with an audience member using the monitoring device such that the monitoring device receives an audio signal from the media player and passes the received audio signal to the headphones via wireless transmission.

51. The system of claim 48 wherein the headphones receive a signal from the media player and pass that signal to the monitoring device.

52. The system of claim 48 further comprising a synchronizing element adapted to synchronize the headphones and the monitoring device to receive the same wireless signal from a media player.

53. The system of claim 52 wherein the syncing element synchronizes the headphones and the monitoring device automatically.

54. A computer program product for measuring media usage, the computer program product comprising executable instruction code in an electronically readable medium for at least:

submitting a data samples corresponding to portions of audio data captured at a monitoring device for content recognition against known media content; and

using audience data to enhance identification of a sample.

55. The computer program product of claim 54 wherein the executable instruction code is also for at least:

performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of an audience member using the monitoring device.

56. The computer program product of claim 54 wherein the executable instruction code is also for at least:

performing an identification attempt by testing a submitted sample against a portion of the known content related to a media consumption pattern of persons sharing characteristics of an audience member using the monitoring device.

57. The computer program product of claim 54 wherein the executable instruction code is also for at least:

selecting from multiple content recognitions algorithms based upon expected content type to optimize recognition performance.

58. The computer program product of claim 54 wherein the executable instruction code is also for at least

selecting from multiple settings of a content recognition algorithm.

59. The computer program product of claim 54 wherein the executable instruction code is also for at least:

performing an identification attempt by testing samples against content identified using log data from a media player associated with an audience member using the monitoring device.

60. The computer program product of claim 54 wherein the executable instruction code is also for at least:

using channel data to perform an identification attempt by testing a submitted sample against content corresponding to content of the channel.

61. A media measurement system comprising:

content recognition means for attempting identification of a media sample; and

means for enhancing identification of the media sample using information exogenous to the media sample.

62. A media measurement method comprising:

recognition steps for attempting identification of a media sample; and

steps for enhancing identification of the media sample using information exogenous to the media sample.

ABSTRACT OF THE DISCLOSURE

Media monitoring and measurement systems and methods are disclosed. Some embodiments of the present invention provide a media measurement system and method that utilizes audience data to enhance content identifications. Some embodiments analyze media player log data to enhance content identification. Other embodiments of the present invention analyze sample sequence data to enhance content identifications. Other embodiments analyze sequence data to enhance content identification and/or to establish channel identification. Yet other embodiments provide a system and method in which sample construction and selection parameters are adjusted based upon identification results. Yet other embodiments provide a method in which play-altering activity of an audience member is deduced from content offset values of identifications corresponding to captured samples. Yet other embodiments provide a monitoring and measurement system in which a media monitoring device is adapted to receive a wireless or non-wireless audio signal from a media player, the audio signal also being received wirelessly by headphones of a user of the monitoring device.

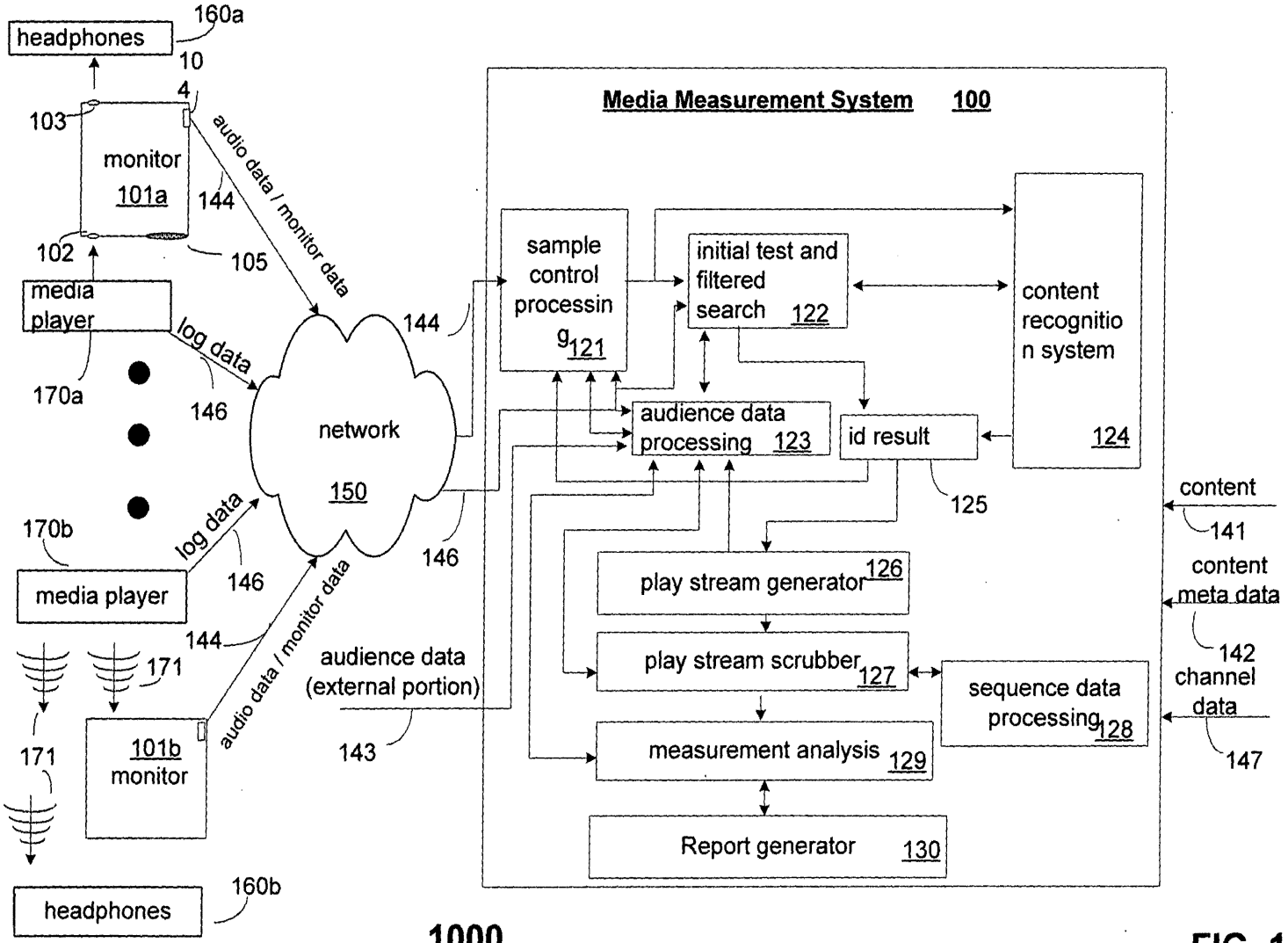


FIG. 1

Media Measurement System and Method
Jonathan STEUER et al.
Attny Docket: 1004-2000100
Attny Contact: Michael Maurel (212)-529-5131 mmaurel@maurel.com
Sheet 1 of 7

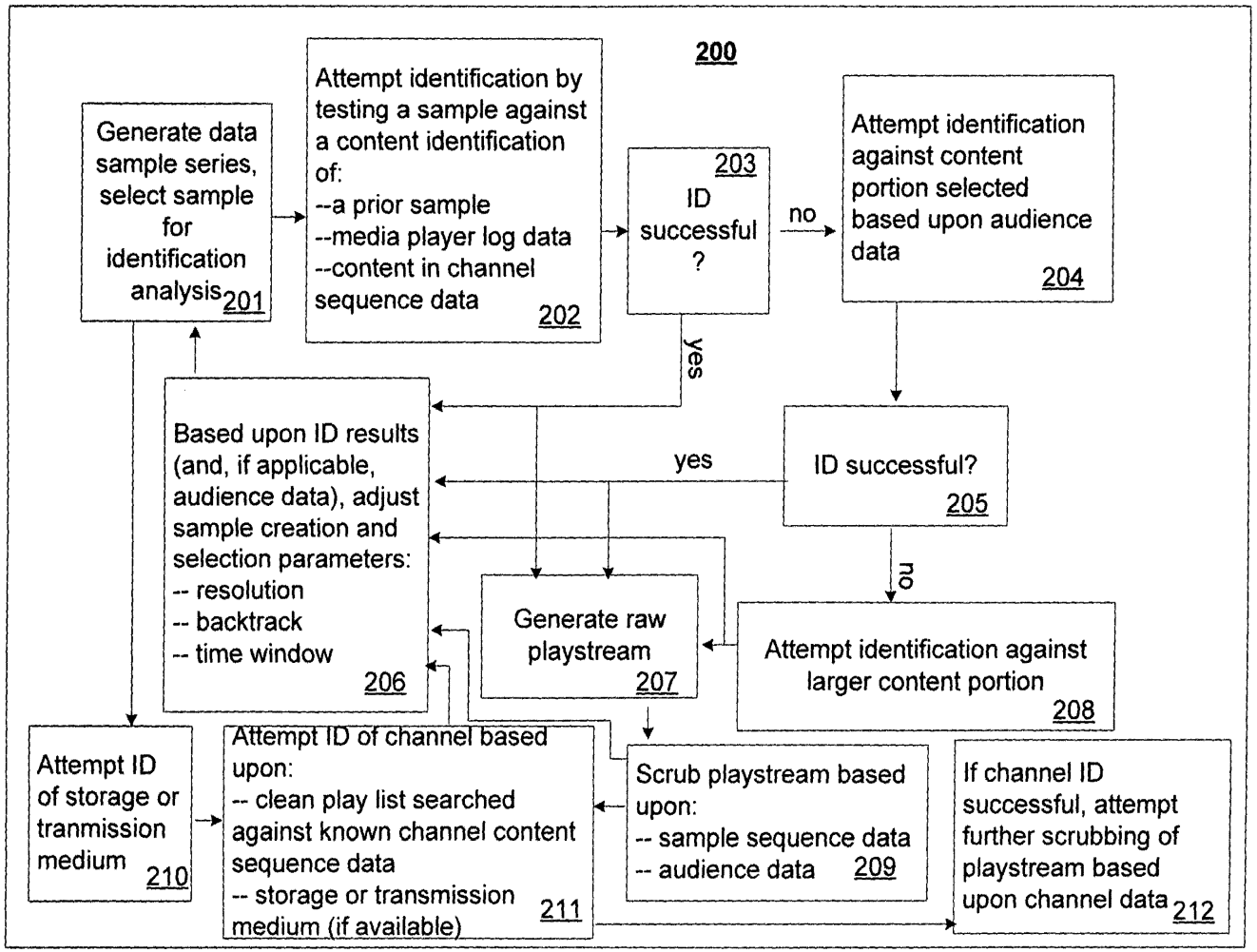


FIG. 2

Media Measurement System and Method
Jonathan STEUER et al.
Atty Docket: 1004-2000100
Atty Contact: Michael Maunel (212)-529-5131 mmaunel@maunel.com
Sheet 2 of 6

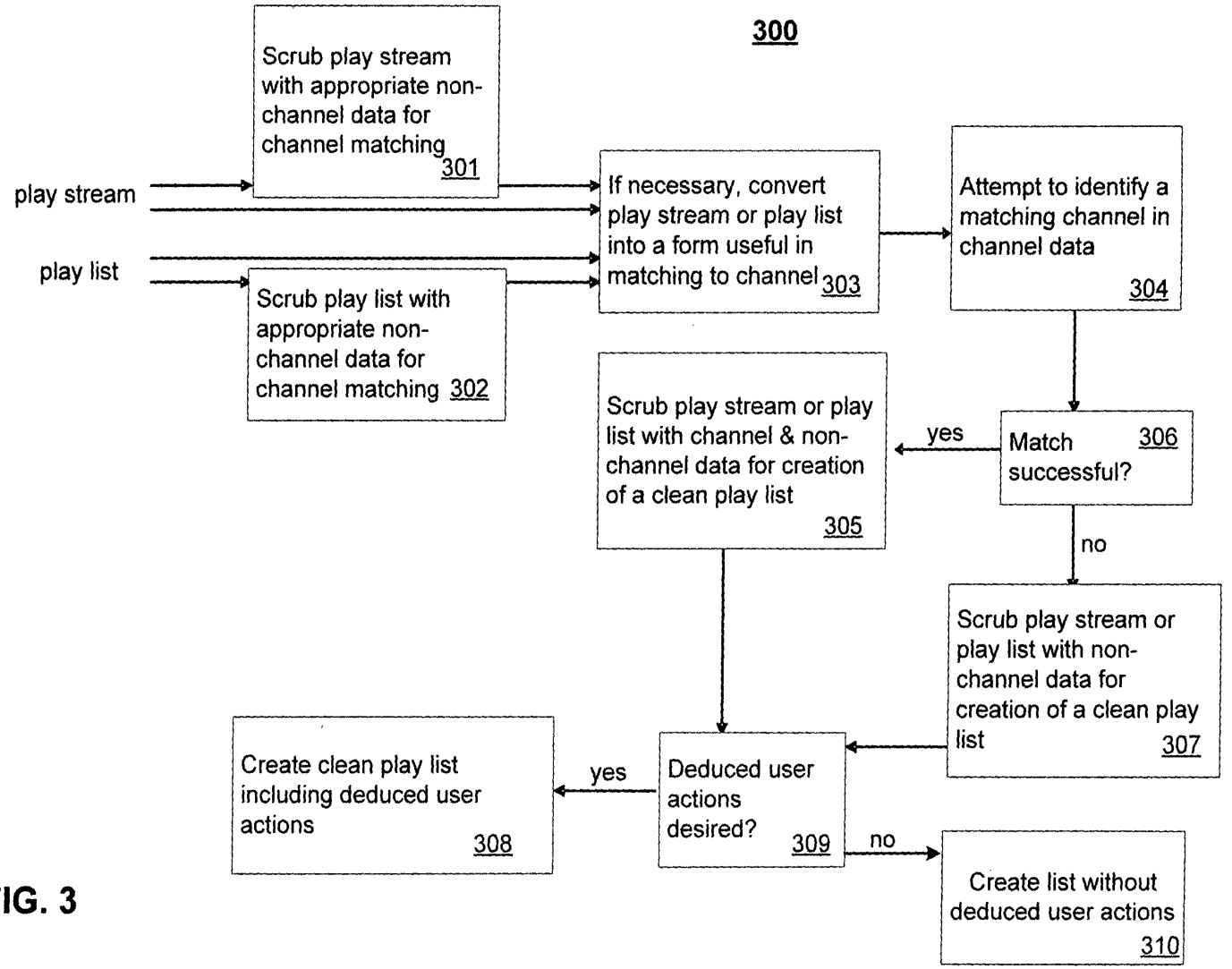


FIG. 3

Media Measurement System and Method
Jonathan STEUER et al.
Atty Docket: 1004-2000100
Atty Contact: Michael Maunel (212)-529-5131 mmaunel@maunel.com
Sheet 3 of 7

410

Raw Play Stream

row	log time	content ID
1	t_0	song 51
2	t_0+1	none
3	t_0 +2	song51
4	t_0+3	song51
5	t_0+4	movie 81
6	t_0+5	song51
7	t_0+6	song51
8	t_0+7	song72
9	t_0+8	song72
10	t_0+9	none
11	t_0+10	song72
12	t_0+11	song72
13	t_0+12	song72
14	t_0+13	song65
15	t_0+14	song65
16	t_0+15	TVprgm58
17	t_0+16	song65
18	t_0+17	song65
19	t_0+18	song65
20	t_0+19	song65
21	t_0+20	song21
22	t_0+21	song21
23	t_0+22	song21
24	t_0+23	song21
25	t_0+24	song21
26	t_0+25	song21
27	t_0+26	ad49
28	t_0+27	ad49
29	t_0+28	song81
30	t_0+29	song35

ssd

450

Clean Play Stream

row	log time	content ID
1	t_0	song 51
2	t_0+1	song51
3	t_0 +2	song51
4	t_0+3	song51
5	t_0+4	song51
6	t_0+5	song51
7	t_0+6	song51
8	t_0+7	song72
9	t_0+8	song72
10	t_0+9	song72
11	t_0+10	song72
12	t_0+11	song72
13	t_0+12	song72
14	t_0+13	song65
15	t_0+14	song65
16	t_0+15	song65
17	t_0+16	song65
18	t_0+17	song65
19	t_0+18	song65
20	t_0+19	song65
21	t_0+20	song21
22	t_0+21	song21
23	t_0+22	song21
24	t_0+23	song21
25	t_0+24	song21
26	t_0+25	song21
27	t_0+26	ad49
28	t_0+27	ad49
29	t_0+28	song35
30	t_0+29	song35

470

Channel Data for "radio 35"

row	start time	end time	content ID
1	C(0)	C(0)+6	song21
2	C(0)+6	C(0)+8	ad49
3	C(0)+8	C(0)+13	song35

480

Channel Data for "album 12"

row	start time	end time	content ID
1	C(0)	C(0)+7	song51
2	C(0)+7	C(0)+13	song72
3	C(0)+13	C(0)+23	song65
4	C(0)+23	C(0)+30	song29

490

Clean Play List

row	start log time	end log time	content ID	Channel ID
1	t_0	t_0+7	song51	album12
2	t_0+7	t_0+13	song71	album12
3	t_0+13	t_0+20	song65	album12
4	t_0+20	t_0+26	song21	radio35
5	t_0+26	t_0+28	ad49	radio35
6	t_0+28	t_0+30	song34	radio35

ssd = "sample sequence data"

FIG. 4

Media Measurement System and Method
Jonathan STEUER et al.
Atty Docket: 1004-2000100
Atty Contact: Michael Mauriel (212)-529-5131 mmauriel@mauriel.com

510

Clean Playstream

row	log time	content ID	content offset
1	t_0	TVprgm 27	(0)
2	t_0+1	TVprgm 27	(0)+1
3	t_0+2	none	n/a
4	t_0+3	none	n/a
5	t_0+4	none	n/a
6	t_0+5	TVprgm 27	(0)+2
7	t_0+6	TVprgm 27	(0)+3
8	t_0+7	TVprgm27	(0)+9
9	t_0+8	TVprgm27	(0)+10
10	t_0+9	TVprgm27	(0)+9
11	t_0+10	TVprgm27	(0)+10
12	t_0+11	none	n/a
13	t_0+12	TVprgrm27	(0)+29
14	t_0+13	TVprgrm27	(0)+30
15	t_0+14	ad23	(0)
16	t_0+15	none	n/a
17	t_0+16	ad25	(0)+2
18	t_0+17	TVprgm28	(0)
19	t_0+18	TVprgm28	(0)+1
20	t_0+19	TVprgrm28	(0)+2

560

Clean Play List

row	start log time	end log time	content ID	content offset
1	t_0	t_0+2	TVprgrm27	(0)
2	t_0+2	t_0+5	none	n/a
3	t_0+5	t_0+7	TVprgrm27	(0)+2
4	t_0+7	t_0+9	TVprgrm27	(0)+9
5	t_0+9	t_0+11	TVprgrm27	(0)+9
6	t_0+11	t_0+12	none	n/a
7	t_0+12	t_0+14	TVprgrm27	(0)+29
8	t_0+14	t_0+15	ad23	(0)
9	t_0+15	t_0+16	none	n/a
10	t_0+16	t_0+17	ad25	(0)+2
11	t_0+17	t_0+20	TVprgrm28	(0)

570

Channel Data for TV C4

row	start time	end time	content ID
1	C(0)	C(0)+31	TVprgrm27
2	C(0)+31	C(0)+34	ad23
3	C(0)+34	C(0)+37	ad24
4	C(0)+37	C(0)+40	ad25
5	C(0)+40	C(0)+50	TVprgrm28

590

Clean Play List with Deduced Actions

row	log time	end log time	content ID and <deduced action>	content offset
1	t_0	t_0+2	TVprgrm27	(0)
2	t_0+2	t_0+5	<pause for 3 units>	n/a
3	t_0+5	t_0+7	TVprgrm27	(0)+2
4	t_0+7	t_0+7	<skip frwrd 5 units>	n/a
5	t_0+7	t_0+9	TVprgrm27	(0)+9
6	t_0+9	t_0+9	<skip bckwrd 2 units>	n/a
7	t_0+9	t_0+11	TVprgrm27	(0)+9
8	t_0+11	t_0+12	<fast frwrd 18 units>	n/a
9	t_0+12	t_0+14	TVprgrm27	(0)+29
10	t_0+14	t_0+15	ad23	(0)
11	t_0+15	t_0+16	<fast frwrd 7 units>	n/a
12	t_0+16	t_0+17	ad25	(0)+2
13	t_0+17	t_0+20	TVprgrm28	(0)

FIG. 5

Media Measurement System and Method
Jonathan STEUER et al.
Atty Docket: 1004-2000100
Atty Contact: Michael Mauriel (212)-529-5131
mmauriel@mauriel.com
Sheet 5 of 7

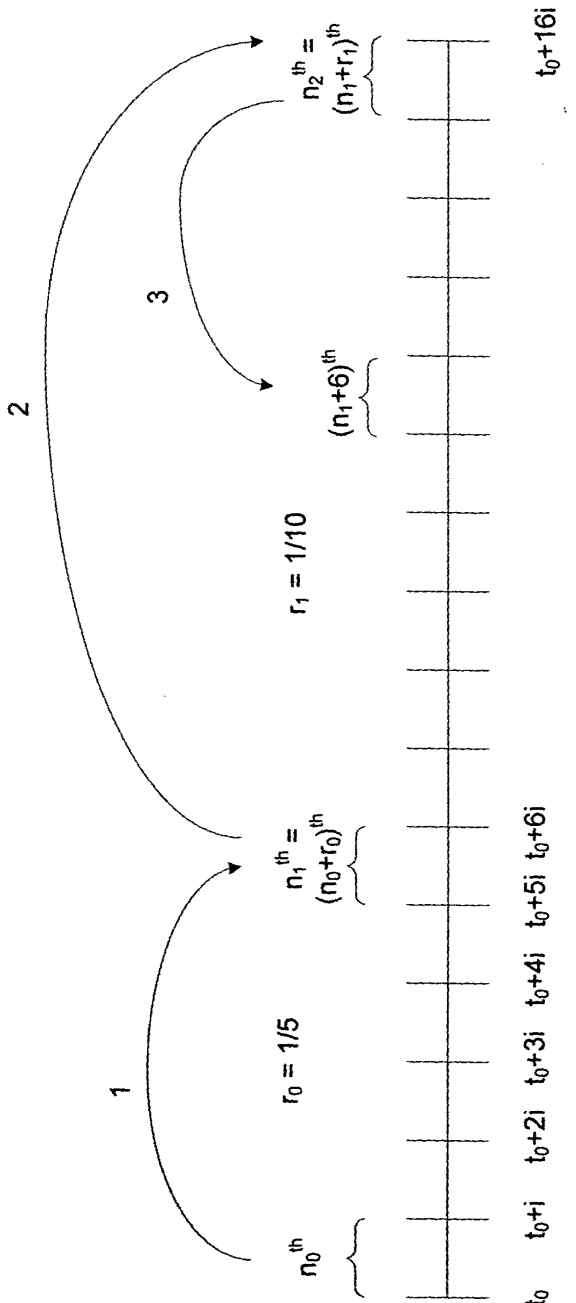

1
2
3
n_0^{th}
$n_1^{th} = (n_0+r_0)^{th}$
$n_2^{th} = (n_1+r_1)^{th}$
$(n_1+6)^{th}$
$r_0 = 1/5$
$r_1 = 1/10$
t_0 t_0+i t_0+2i t_0+3i t_0+4i t_0+5i t_0+6i
t_0+16i
600

FIG. 6

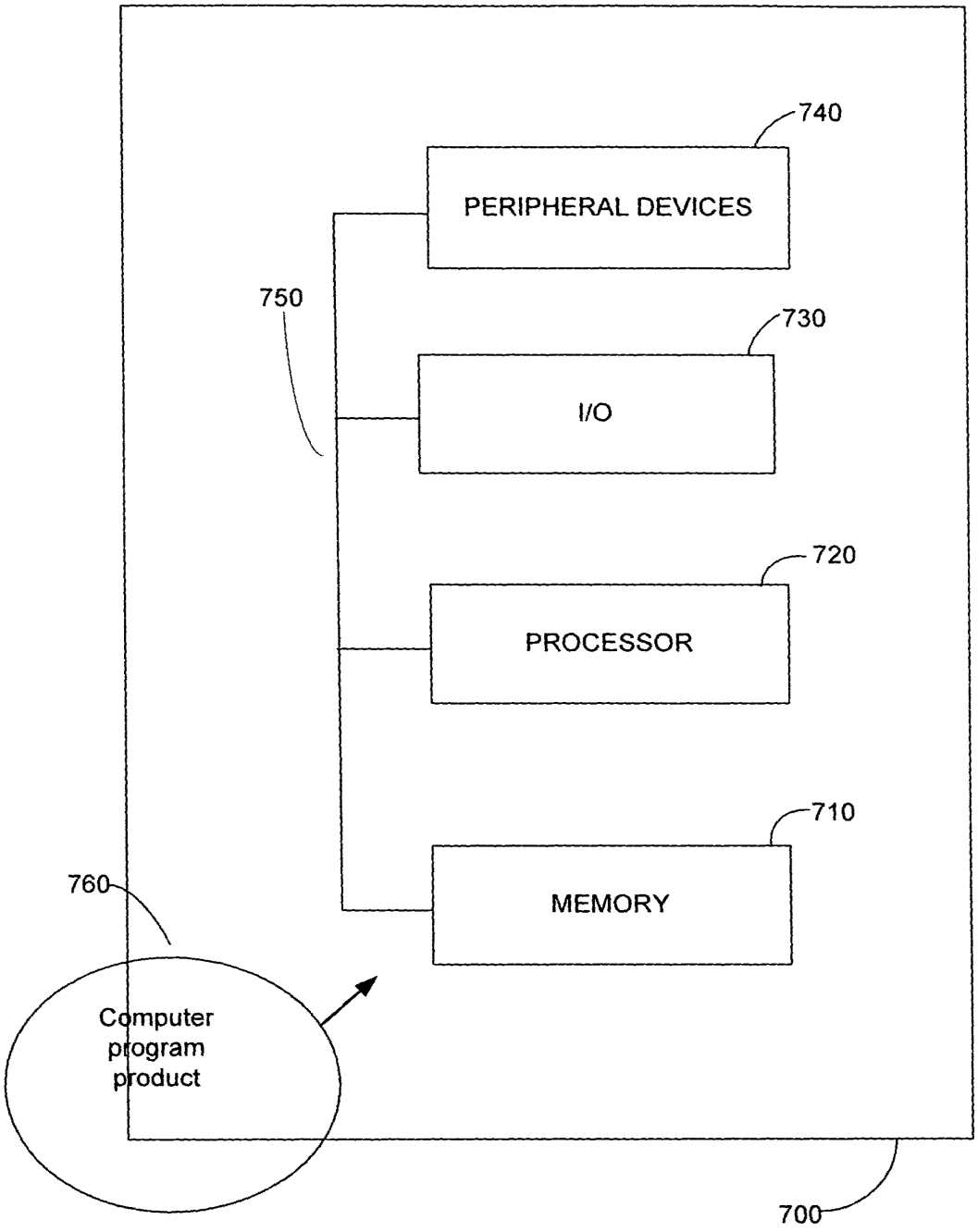

740
PERIPHERAL DEVICES
750
730
I/O
720
PROCESSOR
710
MEMORY
760
Computer program product
700

FIG. 7

Customer Number: 51417
Attorney Docket No. 1004-2000100

COMBINED DECLARATION FOR A PATENT APPLICATION
AND POWER OF ATTORNEY

As the below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

MEDIA MEASUREMENT SYSTEM AND METHOD

the specification of which:

(check one) [X] is attached hereto.
[ ] was filed as U.S. application Ser. No. _____ on _____ .
and was amended on _____ .
(if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I do not know and do not believe that the invention was ever patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application.

I do not know and do not believe that the invention was in public use or on sale in the United States of America more than one year prior to this application.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate filed by me on the same subject having a filing date before that of the application on which priority is claimed:

			Priority Claimed
NONE			[ ] [ ]
_____	_____	_____	
(Number)	(Country)	(Day/Month/Year filed)	
			Yes No

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

60/574,836	**May 27, 2004**	**Pending**
(Application Serial No.)	(Filing Date)	(Status: pending/expired)

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States Patent application(s), or under § 365(c) of any PCT international applications designating the United States listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or international application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

None

(Application Serial No.)	(Filing Date)	(Status: patented/pending/abandoned)

I hereby appoint the following Attorneys and/or agents to prosecute this application and any continuation or divisional applications based hereon, and to transact all business in the Patent and Trademark Office connected therewith:

The undersigned hereby authorizes the U.S. attorney(s) or agent(s) named herein to accept and follow instructions from the assignee, if any, of the undersigned as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorney(s) or agent(s) and the undersigned. In the event of a change in the persons from whom instructions may be taken, the U.S. attorney(s) or agent(s) named herein will be so notified by the undersigned.

As a named inventor, I hereby appoint the registered practitioner(s) identified by Customer No. 51417 to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, whose firm name, mailing address, telephone number, and facsimile number for this application are:

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Direct telephone calls to:	Michael Mauriel telephone: (212) 529-5131 telecopier: (212) 529-5132

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made in the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, §1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full name of first inventor **Jonathan S. Steuer**

First inventor's signature _____ _____
date

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Citizenship **USA**
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Full name of second inventor **Christopher W. Otto**

Second inventor's signature _____ _____
date

Residence **Fremont, CA (USA)**
Citizenship **USA**
Post Office Address **68802 Lyra St., Fremont, CA 94539**

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

06/01/2005 STEUMEL1 00000025 11139330

01 FC:2011	150.00	OP
02 FC:2111	250.00	OP
03 FC:2311	100.00	OP
04 FC:2202	1050.00	OP
05 FC:2201	600.00	OP

PTO-1556
(5/87)

*U.S. Government Printing Office: 2002 — 489-267/69033

PTO/SB/03 (12-04)
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875 Effective December 8, 2004

Application or Docket Number: 11/139,330

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	150.00		N/A	300.00
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	$250		N/A	$500
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	$100		N/A	$200
TOTAL CLAIMS (37 CFR 1.16(i))	62 minus 20 =	* 42	X$ 25 =	1050	OR	X$50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	9 minus 3 =	* 6	X100 =	600		X200 =	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))			+180=			+360=	
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	2150		TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	X$ 25 =		OR	X$50 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X100 =		OR	X200 =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					+180=		OR	+360=	
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	X$ 25 =		OR	X$50 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X100 =		OR	X200 =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					+180=		OR	+360=	
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Application Data Sheet

Application Information

Application Type::	Regular
Subject Matter::	Utility
Suggested Group Art Unit::	Not Yet Assigned
CD-ROM or CD-R?::	None
Sequence submission?::	None
Computer Readable Form (CRF)?::	No
Title::	Media Measurement System and Method
Attorney Docket Number::	10042000100
Request for Early Publication?::	No
Request for Non-Publication?::	No
Small Entity?::	Yes
Petition included?::	No
Secrecy Order in Parent Appl.?::	No

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State or Province of Residence::	New York
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Domestic Priority Information

Present Application	Continuity Type	Priority to provisional application	Parent's Filing Date
Enclosed	Non-Provisional	60/574,836	May 27, 2004

Foreign Priority Information

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