PTO-1390 (05-13)
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TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371

Attorney Docket No.	
19299.0008	
U.S. Application No. (if known, see 37 CFR 1.5)	

International Application No.	International Filing Date	Priority Date Claimed
PCT/US2015/014940	07 February 2015	07 July 2014

Title of Invention
VIDEO TO DATA

First Named Inventor
Naeem LAKHANI

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information.

1. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). NOTE: The express request under 35 U.S.C. 371(f) will not be effective unless the requirements under 35 U.S.C. 371(c)(1), (2), and (4) for payment of the basic national fee, copy of the International Application and English translation thereof (if required), and the oath or declaration of the inventor(s) have been received.
2. ☐ A copy of the International Application (35 U.S.C. 371(c)(2)) is attached hereto (not required if the International Application was previously communicated by the International Bureau or was filed in the United States Receiving Office (RO/US)).
3. An English language translation of the International Application (35 U.S.C. 371(c)(2))
   a. ☐ is attached hereto.
   b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
4. An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4))
   a. ☐ is attached.
   b. ☐ was previously filed in the international phase under PCT Rule 4.17(iv).

Items 5 to 8 below concern amendments made in the international phase.

PCT Article 19 and 34 amendments

5. ☐ Amendments to the claims under PCT Article 19 are attached (not required if communicated by the International Bureau) (35 U.S.C. 371(c)(3)).
6. ☐ English translation of the PCT Article 19 amendment is attached (35 U.S.C. 371(c)(3)).
7. ☐ English translation of annexes (Article 19 and/or 34 amendments only) of the International Preliminary Examination Report is attached (35 U.S.C. 371(c)(5)).

Cancellation of amendments made in the international phase

8a. ☐ Do not enter the amendment made in the international phase under PCT Article 19.

8b. ☐ Do not enter the amendment made in the international phase under PCT Article 34.

NOTE: A proper amendment made in English under Article 19 or 34 will be entered in the U.S. national phase application absent a clear instruction from applicant not to enter the amendment(s).

The following items 9 to 17 concern a document(s) or information included.

9. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
10. ☑ A preliminary amendment.
11. ☑ An Application Data Sheet under 37 CFR 1.76.
12. ☐ A substitute specification. NOTE: A substitute specification cannot include claims. See 37 CFR 1.125(b).
13. ☐ A power of attorney and/or change of address letter.
14. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13*ter*.3 and 37 CFR 1.821-1.825.
15. ☐ Assignment papers *(cover sheet and document(s))*. Name of Assignee: _____
16. ☐ 37 CFR 3.73(c) Statement *(when there is an Assignee)*.

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. 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 15 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: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

U.S. APPLN. No. (if known – see 37 CFR 1.5)	INTERNATIONAL APPLICATION No.	ATTORNEY DOCKET No.
	PCT/US2015/014940	19299.0008

17. ☐ Other items or information:

The following fees have been submitted.	CALCULATIONS	PTO USE ONLY
18. ☑ Basic national fee (37 CFR 1.492(a)) **$280**	$ 280	
19. ☑ Examination fee (37 CFR 1.492(c)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) ..... **$0** All other situations **$720**	$ 720	
20. ☑ Search fee (37 CFR 1.492(b)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) ..... **$0** Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority ..... **$120** International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB ..... **$480** All other situations **$600**	$ 120	
TOTAL OF 18, 19, and 20 =	$ 1120	
☐ Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) in an electronic medium or computer program listing in an electronic medium) (37 CFR 1.492(j)). Fee for each additional 50 sheets of paper or fraction thereof **$400**		

Total Sheets	Extra Sheets	Number of each addition 50 or fraction thereof (round up to a whole number)	RATE	
- 100 =	/ 50 =		x **$400**	$

Surcharge of **$140.00** for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).	$	

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	20 - 20 =	0	x **$80**	$	
Independent claims	2 - 3 =	0	x **$420**	$	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ **$780**	$	
Processing fee of **$140.00** for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)). +				$ 140	
TOTAL OF ABOVE CALCULATIONS =				$ 1260	
☐ **Applicant asserts small entity status.** See 37 CFR 1.27. Fees above are reduced by ½.					
☐ **Applicant certifies micro entity status.** See 37 CFR 1.29. Fees above are reduced by ¾. Applicant must attach form PTO/SB/15A or B or equivalent.					
TOTAL NATIONAL FEE =				$ 1260	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **$40.00** per property. +				$	
TOTAL FEES ENCLOSED =				$ 1260	
				Amount to be refunded:	$
				Amount to be charged:	$

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a. ☐ A check in the amount of $_____ to cover the above fees is enclosed.

b. ☑ Please charge my Deposit Account No. 18-4283 in the amount of $ 1380 to cover the above fees.

c. ☑ The Director is hereby authorized to charge additional fees which may be required, or credit any overpayment, to Deposit Account No. 18-4283 as follows:

i. ☐ any required fee.

ii. ☑ any required fee except for excess claims fees required under 37 CFR 1.492(d) and (e) and multiple dependent claim fee required under 37 CFR 1.492(f).

d. ☐ Fees are to be charged to a credit card. **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. The PTO-2038 should only be mailed or faxed to the USPTO. However, when paying the basic national fee, the PTO-2038 may NOT be faxed to the USPTO.

ADVISORY: If filing by EFS-Web, do **NOT** attach the PTO-2038 form as a PDF along with your EFS-Web submission. Please be advised that this is **not** recommended and by doing so your **credit card information may be displayed via PAIR**. To protect your information, it is recommended to pay fees online by using the electronic payment method.

NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.

Correspondence Address

☑ The address associated with Customer Number: 27888 **OR** ☐ Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone			
Email					

Signature	/Harold H. FOX REG#41498/	Date	2016-02-06
Name (Print/Type)	Harold H. Fox	Registration No. (Attorney/Agent)	41,498

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Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Naeem		LAKHANI	

Residence Information (Select One) US Residency ● Non US Residency Active US Military Service

City	Country of Residence i
Croydon	GB

Mailing Address of Inventor:

Address 1	45 Chepstow Rise, Park Hill
Address 2	
City	Croydon
State/Province	
Postal Code	CRO 5LX
Country i	GB

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Bartlett	Wade	SMITH	IV

Residence Information (Select One) ● US Residency ○ Non US Residency Active US Military Service

City	State/Province	Country of Residence i
Madison	MS	US

Mailing Address of Inventor:

Address 1	109 Antlers Lane
Address 2	
City	Madison
State/Province	MS
Postal Code	39110
Country i	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Allison	A.	TALLEY	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

Residence Information (Select One) ◉ US Residency ○ Non US Residency Active US Military Service

City	Ridgeland	State/Province	MS	Country of Residence	US

Mailing Address of Inventor:

Address 1	211 Winsmere Way		
Address 2			
City	Ridgeland	State/Province	MS
Postal Code	39157	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	27890		
Email Address	IPdocketing@steptoe.com	Add Email	Remove Email
Email Address	hfox@steptoe.com	Add Email	Remove Email

Application Information:

Title of the Invention	VIDEO TO DATA		
Attorney Docket Number	19299.0008	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	9	Suggested Figure for Publication (if any)	1

Filing By Reference :

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	◯ Limited Recognition (37 CFR 11.9)
Customer Number	27890		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	a 371 of international	PCT/US2015/014940	2015-02-07
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
PCT/US2015/014940	Claims benefit of provisional	62021666	2014-07-07
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
PCT/US2015/014940	Claims benefit of provisional	14175741	2014-02-07
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
14175741	Claims benefit of provisional	61866175	2013-08-15

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date o f filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
● Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☒

Organization Name	CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS		
Mailing Address Information For Applicant:			
Address 1	1018 Highland Colony Parkway, Suite 700		
Address 2			
City	Ridgeland	**State/Province**	MS
Country	US	Postal Code	39157-2060
Phone Number		Fax Number	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

Email Address	

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	1018 Highland Colony Parkway, Suite 700		
Address 2			
City	Ridgeland	**State/Province**	MS
Country i	US	Postal Code	39157-2060
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Signature	/Harold H Fox Reg # 41498/			Date (YYYY-MM-DD)	2016-02-06
First Name	Harold	Last Name	Fox	Registration Number	41498

Additional Signature may be generated within this form by selecting the Add button. Add

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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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Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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IPR2025-00876 - Page 0012

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Naeem LAKHANI, et al.	Art Unit	: Unknown
Serial No.	: Not yet assigned	Examiner	: Unknown
Filing Date:	Herewith	Confirmation No.:	
Title	: VIDEO TO DATA		

U.S. Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

PRELIMINARY AMENDMENT

Prior to examination, please amend the application as indicated on the following pages.

Amendment to the Specification:

Prior to examination, please amend the specification as follows:

Please amend the paragraph beginning at page 1, line 3, as follows:

This application claims the benefit under 35 USC 371 to International Application No. PCT/US2015/014940, filed February 7, 2015, which claims priority to U.S. Patent Application No. 14/175,741, filed February 7, 2014, which claims priority to U.S. Provisional Patent Application No. 61/866,175, filed on August 15, 2013, and claims priority to U.S. Provisional Patent Application No. 62/021,666, filed July 7, 2014, each of which is incorporated by reference in its entirety.

REMARKS

The specification has been amended to include amend the title and priority statement. No new matter has been added.

Applicants respectfully request these amendments be entered.

Respectfully submitted,

Date: February 6, 2016

/Harold H. FOX REG#41498/
Harold H. Fox
Reg. No. 41,498

Customer No.: 27890
STEPTOE & JOHNSON LLP
1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Telephone: 202 429-3000
Facsimile: 202 429-3902

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	Video to data
First Named Inventor/Applicant Name:	Naeem LAKHANI
Filer:	Harold H. Fox
Attorney Docket Number:	19299.0008

Filed as Large Entity

Filing Fees for U.S. National Stage under 35 USC 371

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
National Stage Fee	1631	1	280	280
National Stage Search - all other cases	1632	1	600	600
National Stage Exam - all other cases	1633	1	720	720
Pages:				
Claims:				
Miscellaneous-Filing:				
Oath/Decl > 30 Mos From 371 commencement	1617	1	140	140
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1740**

Electronic Acknowledgement Receipt

EFS ID:	24845017
Application Number:	14910698
International Application Number:	PCT/US2015/014940
Confirmation Number:	3701
Title of Invention:	Video to data
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008
Receipt Date:	06-FEB-2016
Filing Date:	
Time Stamp:	19:46:36
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1740
RAM confirmation Number	7938
Deposit Account	194293
Authorized User	FOX, HAROLD H.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.492 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 CFR 1.19 (Document supply fees)

Charge any Additional Fees required under 37 CFR 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

Charge any Additional Fees required under 37 CFR 1.492(a) (basic national fee only)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	0008Trans.pdf	2067643 d6f95ba6004c28d5f5b6d8812e15f29a96b36280	no	4
Warnings:					
Information:					
2	Application Data Sheet	0008ADS.pdf	1819836 116a6cc8e04e4517729938 2d84f6868015161601	no	8
Warnings:					
Information:					
3		0008prelimamend.pdf	92785 ba77685aa88781215e382cd76aa14858245e45ed	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Preliminary Amendment	1	1
	Specification	2	2
	Applicant Arguments/Remarks Made in an Amendment	3	3

Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	36184 4514cb63dad184849c052460079260ea57d6a936	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	4016448	

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.

Electronic Acknowledgement Receipt

EFS ID:	24845017
Application Number:	14910698
International Application Number:	PCT/US2015/014940
Confirmation Number:	3701
Title of Invention:	Video to data
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008
Receipt Date:	06-FEB-2016
Filing Date:	
Time Stamp:	19:46:36
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1740
RAM confirmation Number	7938
Deposit Account	194293
Authorized User	FOX, HAROLD H.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.492 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 CFR 1.17 (Patent application and reexamination processing fees)

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Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

Charge any Additional Fees required under 37 CFR 1.492(a) (basic national fee only)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	0008Trans.pdf	2067643 d6f95ba6004c28d5f5b6d8812e15f29a96b36280	no	4
Warnings:					
Information:					
2	Application Data Sheet	0008ADS.pdf	1819836 116a6cc8e04e4517729938 2d84f6868015161601	no	8
Warnings:					
Information:					
3		0008prelimamend.pdf	92785 ba77685aa88781215e382cd76aa14858245e45ed	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Preliminary Amendment	1	1
	Specification	2	2
	Applicant Arguments/Remarks Made in an Amendment	3	3

Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	36184 4514cb63dad184849c052460079260ea57d6a936	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	4016448	

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.

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National Stage of an International Application under 35 U.S.C. 371

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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.

685149

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

February 20, 2015

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE.

APPLICATION NUMBER: ***14/175,741***
FILING DATE: ***February 07, 2014***
RELATED PCT APPLICATION NUMBER: ***PCT/US15/14940***

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS ***US14/175,741***

Certified by

David J. Kappos

Under Secretary of Commerce
for Intellectual Property
and Director of the United States
Patent and Trademark Office

PTO/AIA/15 (03-13)
Approved for use through 01/31/2014. 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

UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	19299.0006
First Named Inventor	Naeem Lakhani
Title	VIDEO TO DATA
Express Mail Label No.	

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☐ **Fee Transmittal Form** (PTO/SB/17 or equivalent)
2. ☑ **Applicant asserts small entity status.** See 37 CFR 1.27
3. ☐ **Applicant certifies micro entity status.** See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent.
4. ☑ **Specification** [*Total Pages* 13] Both the claims and abstract must start on a new page. *(See MPEP § 608.01(a) for information on the preferred arrangement)*
5. ☑ **Drawing(s)** (35 U.S.C. 113) [*Total Sheets* 5]
6. **Inventor's Oath or Declaration** [*Total Pages* ____] *(including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e))*
   a. ☐ Newly executed (original or copy)
   b. ☐ A copy from a prior application (37 CFR 1.63(d))
7. ☐ **Application Data Sheet** ** See note below.* See 37 CFR 1.76 (PTO/AIA/14 or equivalent)
8. **CD-ROM or CD-R** in duplicate, large table, or Computer Program (*Appendix*)
   ☐ Landscape Table on CD
9. **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: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**

ACCOMPANYING APPLICATION PAPERS

10. ☐ **Assignment Papers** (cover sheet & document(s)) Name of Assignee ____
11. ☐ **37 CFR 3.73(c) Statement** (*when there is an assignee*) ☐ **Power of Attorney**
12. ☐ **English Translation Document** (*if applicable*)
13. ☐ **Information Disclosure Statement** (PTO/SB/08 or PTO-1449)
    ☐ Copies of citations attached
14. ☐ **Preliminary Amendment**
15. ☐ **Return Receipt Postcard** (*MPEP § 503*) (*Should be specifically itemized*)
16. ☐ **Certified Copy of Priority Document(s)** (*if foreign priority is claimed*)
17. ☐ **Nonpublication Request** Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent.
18. ☐ **Other:** ____

***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must** be included in an Application Data Sheet (ADS).
(2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS

☑ The address associated with Customer Number: 27890 **OR** ☐ Correspondence address below

Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	

Signature	/Harold H. FOX Reg#41498/	Date	February 7, 2014
Name (Print/Type)	Harold H. Fox	Registration No. (Attorney/Agent)	41,498

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.**

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

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

VIDEO TO DATA

CLAIM OF PRIORITY

This application claims priority to U.S. Provisional Patent Application No. 61/866,175, filed on August 15, 2013, which is incorporated by reference in its entirety.

TECHNICAL FIELD

The present invention relates to a method and a system for generating various and useful data from videos.

BACKGROUND

In the field of image contextualization, distributed reverse image similarity searching can be used to identify images similar to a target image. Reverse image searching can find exactly matching images as well as flipped, cropped, and altered versions of the target image. Distributed reverse image similarity searching can be used to identify symbolic similarity within images. Audio-to-text algorithms can be used to transcribe text from audio. An exemplary application is note-taking software. Audio-to-text, however, lacks semantic and contextual language understanding.

SUMMARY

The present invention is generally directed to a method to generate data from video content, such as text and/or image-related information. A server executing the method can be directed by a program stored on a non-transitory computer-readable medium. The video text can be, for example, a context description of the video.

An aspect of the method can include generating text from an image of the video, converting audio associated with the video to text, extracting topics from the text converted from the audio, cross-referencing the text generated from the image of the video and the topics extracted from audio associated with the video, and generating video text based on a result of the cross-referencing.

In some embodiments, natural language processing can be applied to the generation of text from an image of the video, converting audio associated with the video to text, or both.

In other embodiments, the text from the image of the video can be generated by identifying context, a symbol, a brand, a feature, an object, and/or a topic in the image of the video.

In yet other embodiments, the text from the image can be generated by first segmenting images of the video, and then converting the segments of images to text in parallel. The text from the audio can be generated by first segmenting images of the audio, and then converting the segments of images to text in parallel. The audio can be segmented at spectrum thresholds.

In some embodiments, the method can include generating advertising based on video content. The video content can be text, context, symbols, brands, features, objects, and/or topics related to or found in the video. An advertisement can be placed at a specific time in the video based on the video content and/or section symbol of a video image. In some embodiments, the method can include directing when one or more advertisements can be placed in a predetermined context at a preferred time.

DESCRIPTION OF THE DRAWINGS

The present invention is further described in the detailed description which follows, in reference to the noted plurality of drawings by way of non-limiting examples of certain embodiments of the present invention, in which like numerals represent like elements throughout the several views of the drawings, and wherein:

FIG. 1 illustrates an embodiment of present invention.

FIG. 2 illustrates an embodiment of image data processing.

FIG. 3 illustrates an embodiment of audio data processing.

FIG. 4 illustrates another embodiment of present invention.

FIG. 5 illustrates various exemplary embodiments of present invention.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

A detailed explanation of the system and method according to exemplary embodiments of the present invention are described below. Exemplary embodiments described, shown, and/or disclosed herein are not intended to limit the claims, but rather, are intended to instruct one of ordinary skill in the art as to various aspects of the invention. Other embodiments can be

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practiced and/or implemented without departing from the scope and spirit of the claimed invention.

The present invention is generally directed to system, device, and method of generating content from video files, such as text and information relating to context, symbols, brands, features, objects, faces and/or topics found in the images of such videos. In an embodiment, the video-to-content engine can perform the functions directed by programs stored in a computer-readable medium. That is, the embodiments may take the form of a hardware embodiment (including circuits), a software embodiment, or an embodiment combining software and hardware. The present invention can take the form of a computer-program product that includes computer-useable instructions embodied on one or more computer-readable media.

The various video-to-content techniques, methods, and systems described herein can be implemented in part or in whole using computer-based systems and methods. Additionally, computer-based systems and methods can be used to augment or enhance the functionality described herein, increase the speed at which the functions can be performed, and provide additional features and aspects as a part of or in addition to those described elsewhere in this document. Various computer-based systems, methods and implementations in accordance with the described technology are presented below.

A video-to-content engine can be embodied by the a general-purpose computer or a server and can have an internal or external memory for storing data and programs such as an operating system (e.g., DOS, Windows 2000™, Windows XP™, Windows NT™, OS/2, UNIX or Linux) and one or more application programs. Examples of application programs include computer programs implementing the techniques described herein for lyric and multimedia customization, authoring applications (e.g., word processing programs, database programs, spreadsheet programs, or graphics programs) capable of generating documents or other electronic content; client applications (e.g., an Internet Service Provider (ISP) client, an e-mail client, or an instant messaging (IM) client) capable of communicating with other computer users, accessing various computer resources, and viewing, creating, or otherwise manipulating electronic content; and browser applications (e.g., Microsoft's Internet Explorer) capable of rendering standard Internet content and other content formatted according to standard protocols such as the Hypertext Transfer Protocol (HTTP). One or more of the application programs can be installed on the internal or external storage of the general-purpose computer. Alternatively,

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IPR2025-00876 - Page 0029

application programs can be externally stored in or performed by one or more device(s) external to the general-purpose computer.

The general-purpose computer or server may include a central processing unit (CPU) for executing instructions in response to commands, and a communication device for sending and receiving data. One example of the communication device can be a modem. Other examples include a transceiver, a communication card, a satellite dish, an antenna, a network adapter, or some other mechanism capable of transmitting and receiving data over a communications link through a wired or wireless data pathway.

The general-purpose computer or server may also include an input/output interface that enables wired or wireless connection to various peripheral devices. In one implementation, a processor-based system of the general-purpose computer can include a main memory, preferably random access memory (RAM), and can also include a secondary memory, which may be a tangible computer-readable medium. The tangible computer-readable medium memory can include, for example, a hard disk drive or a removable storage drive, a flash based storage system or solid-state drive, a floppy disk drive, a magnetic tape drive, an optical disk drive (Blu-Ray, DVD, CD drive), magnetic tape, paper tape, punched cards, standalone RAM disks, Iomega Zip drive, etc. The removable storage drive can read from or write to a removable storage medium. A removable storage medium can include a floppy disk, magnetic tape, optical disk (Blu-Ray disc, DVD, CD) a memory card (CompactFlash card, Secure Digital card, Memory Stick), paper data storage (punched card, punched tape), etc., which can be removed from the storage drive used to perform read and write operations. As will be appreciated, the removable storage medium can include computer software or data.

In alternative embodiments, the tangible computer-readable medium memory can include other similar means for allowing computer programs or other instructions to be loaded into a computer system. Such means can include, for example, a removable storage unit and an interface. Examples of such can include a program cartridge and cartridge interface (such as the found in video game devices), a removable memory chip (such as an EPROM or flash memory) and associated socket, and other removable storage units and interfaces, which allow software and data to be transferred from the removable storage unit to the computer system.

An embodiment of video-to-text engine operation is illustrated in FIG. 1. At 110, a video stream is presented. The video stream may be in format of (but not limited to): Advanced Video

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Codec High Definition (AVCHD), Audio Video Interlaced (AVI), Flash Video Format (FLV), Motion Picture Experts Group (MPEG), Windows Media Video (WMV), or Apple QuickTime (MOV), h.264 (MP4).

The engine can extract audio data and image data (e.g. images or frames forming the video) from the video stream.

In some embodiments, the video stream and the extracted image data can be stored in a memory or storage device such as those discussed above. A copy of the extracted image data can be used for processing.

At 120, the video-to-text engine performs an image data processing on the video stream. An example of the image data processing is illustrated in FIG. 2. In FIG. 2, the image data 310 can be segmented into N segments and processed in parallel (e.g., distributed processing 320-1 to 320-N), allowing for near real-time processing.

An example of the video image data processing can be symbol (or object) based. Using image processing technique such as color edge detection, a symbol of a screen or an image of the video can be isolated. The symbol can be identified using an object template database. For example, the symbol includes 4 legs and a tail, and when matched with the object template database, the symbol may be identified as a dog. The object template database can be adaptive and therefore, the performance would improve with usage.

Other image data processing techniques may include image extraction, high-level vision and symbol detection, figure-ground separation, depth and motion perception.

Another example of video image processing can be color segmentation. The colors of an image (e.g., a screen) of the video can be segmented or grouped. The result can be compared to a database using color similarity matching.

Based on the identified symbol, a plurality of instances of the symbol can be compared to a topic database to identify a topic (such as an event). For example, the result may identify the dog (symbol) as running or jumping. The topic database can be adaptive to improve its performance with usage.

Thus, using the processing example above, text describing a symbol of the video and topic relating to the symbol may be generated. Data generated from an image and/or from audio transcription can be time stamped, for example, according to when it appeared, was heard, and/or according to the video frame from which it was pulled.

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At 330, the engine combines the topics as an array of keys and values with respect to the segments. The engine can segment the topics over a period of time and weight the strength of each topic. Further, the engine applies the topical meta-data to the original full video. The image topics can be stored as topics for the entire video or each image segment. The topic generation process can be repeated for all identifiable symbols in a video in a distributed process. The outcome would be several topical descriptors of the content within a video. An example of the aggregate information that would be derived using the above example would be understanding that the video presented a dog, which was jumping, on the beach, with people, by a resort.

Natural language processing can be useful in creating an intuitive and/or user-friendly computer-human interaction. In some embodiments, the system can select semantics or topics, following certain rules, from a plurality of possible semantics or topics, can give them weight based on strength of context, and/or can do this a distributed environment. The natural language processing can be augmented and/or improved by implementing machine-learning. A large training set of data can be obtained from proprietary or publicly available resources. For example, CBS News maintains a database of segments and episodes of "60-Minutes" with full transcripts, which can be useful for building a training set and for unattended verification of audio segmentation. The machine learning can include ensemble learning based on the concatenation of several classifiers, i.e. cascade classifiers.

At 130, an optional step of natural language processing can be applied to the image text. For example, based on dictionary, grammar, and a knowledge database, the text extracted from video images can be modified as the video-to-text engine selects primary semantics from a plurality of possible semantics. In some embodiments, the system and method can incorporate a Fourier transform of the audio signal. Such filtering can improve silence recognition, which can be useful for determining proper placement of commas and periods in the text file.

In parallel, at 140, the video-to-text engine can perform audio-to-text processing on audio data associated with the video. For example, for a movie video, the associated audio may be the dialog or even background music.

An example of the audio data processing is illustrated in FIG. 3. In FIG. 3, the audio data 410 can be segmented into N segments and processed in parallel (e.g., distributed processing 420-1 to 420-N), allowing for near real-time processing.

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In some embodiments, the segmentation can be performed by a fixed period of time. In another example, quiet periods in the audio data can be detected, and the segmentation can be defined by the quiet periods. For example, the audio data can be processed and converted into a spectrum. Locations where the spectrum volatility is below a threshold can be detected and segmented. Such locations can represent silence or low audio activities in the audio data. The quiet periods in the audio data can be ignored, and the processing requirements thereof can be reduced.

Audio data and/or segments of audio data can be stored in, for example, memory or storage device discussed above. Copies of the audio segments can be sent to audio processing.

The audio data for each segment can be translated into text in parallel, for example through distributed computing, which can reduce processing time. Various audio analysis tools and processes can be used, such as audio feature detection and extraction, audio indexing, hashing and searching, semantic analysis, and synthesis.

At 430, text for a plurality of segments can then be combined. The combination can result in segmented transcripts and/or a full transcripts of the audio data. In an embodiment, the topics in each segment can be extracted. When combined, the topics in each segment can be given a different weight.

The audio topics can be stored as topics for the entire video or each audio segment.

At 150, an optional step of natural language processing can be applied to the text. For example, based on dictionary, grammar, and/or a knowledge database, the text extract from the audio stream of a video can be given context, an applied sentiment, and topical weightings.

At 160, the topics generated from an image or a frame and the topics extracted from audio can be combined. The text can be cross-referenced, and topics common to both texts would be given additional weights. At 170, the video-to-text engine generates video text, such as text describing the content of the video, using the result of the combined texts and cross reference. For example, key words indicating topic and semantic that appear in both texts can be selected or emphasized.

FIG. 4 illustrates another embodiment of the present invention. User equipment (UE) 210 can communicate with a server or servers 220 via a network 230. An exemplary embodiment of the system can be implemented over a cloud computing network.

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The UE 210 can include, for example, a laptop, a tablet, a mobile phone, a personal digital assistant (PDA), a keyboard, a display monitor with or without a touch screen input, and an audiovisual input device. In another implementation, the peripheral devices may themselves include the functionality of the general-purpose computer. For example, the mobile phone or the PDA may include computing and networking capabilities and function as a general purpose computer by accessing a network and communicating with other computer systems.

The server 220 includes the general purpose computer discussed above.

The network 230 includes, for example, the Internet, the World Wide Web, WANs, LANs, analog or digital wired and wireless telephone networks (e.g., Public Switched Telephone Network (PSTN), Integrated Services Digital Network (ISDN), and Digital Subscriber Line (xDSL)), radio, television, cable, or satellite systems, and other delivery mechanisms for carrying data. A communications link can include communication pathways that enable communications through one or more networks.

In some embodiments, a video-to-content engine can be embodied in a server or servers 220. The UE 210, for example, requests an application relating to the video stream. The servers 220 perform the audio-to-text process on the segmented audio in parallel. The distributed audio-to-text processing reduces the overall response time. This method allows real-time audio-to-text conversion.

The UE 210 communicates with the server 220 via the network 230 for video stream application. The video-to-content engine can generate the video text as illustrated in FIG. 1. The server 220 then generates advertisement (text, images, or animation) based on the video text. In some embodiments, the server adds the advertisement to a specific symbol, image, frame, or a specific time in the video stream. The specific symbol, image, frame, or the specific time in the video stream can be selected based on the video text.

The server 220 can add the audio text to the video stream in real time (i.e. real time close caption).

The server 220 can generate video recommendation based on a database of the video text. In some embodiments, the server 220 can search videos based on the video text (e.g., via a database of video text). In this fashion, video search can be optimized. Applications for the video search optimization may include search engine optimization (SEO), search engine marketing (SEM), censorship and removal materials of copyright violation.

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The video streams can be videos viewed by a user, and the server 220 generates a preference profile for the user using the video data.

In an embodiment, as shown in FIG. 5 for example, a server node can fetch a video file. For example, a URL can be used to fetch the video file from an Internet such as YouTube, and from such URL the video can be scraped. The server can divide the video into chunks of smaller data files for processing on several nodes of a cluster in parallel. For example, the video file can be separated into audio files and image frame files. Each of the types of files can be normalized.

The normalized audio files can be split into constituent files for processing and reduction in parallel by various nodes. Various reduction processes can be performed on the constituent audio files such as phoneme detection and assembly as well as grammar assembly. An output of the audio processing steps can be an extracted text map.

The normalized image frame files can be processed in order to extract various data maps, such as a text map, a tag map, a brand, an object map, a feature map, and/or a tracking map. Such maps can be achieved through various extraction steps. For example, the normalized image frame files can be analyzed for text identification and/or by optical character recognition. The data can be improved through a dictionary verification step. Various maps can be created based on edge detection and/or image segmentation techniques. Such techniques can be improved by focusing on regions of interest, for example based on brands, logos, objects, and/or features of interest. Additionally, or alternatively, pixel gradients of the normalized image frame files can be analyzed and/or the files can be segmented by temporal and/or spatial components, and thus, for example, allow extraction of motion within the video images, which in turn can be used for tracking.

An advantage of present embodiments includes the ability to provide real-time or faster-than-real-time content output. This can be achieved through one or more components and/or steps. For example, a video file can be distributed across at least two layers for processing. The audio can be converted to text on at least one layer, and the images can be processed on at least one other layer. In some embodiments, natural language processing can abstract topics, sentiments, temporal topic-tagging, and can be used for further optimization and/or machine learning. The layers can include node clusters for parallel processing chunks of the video file into the preferred content. In some embodiments, the files can be maintained and processed in

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parallel at each step, and then combined into a single data file as one of the terminal processing steps.

Present embodiments have wide application. For example, video indexing, reverse image lookup, video co-groupings and graph searches, and video similarity indexing, as described herein, can be used for searching, for classification, and for recommendations regarding processed videos. Law enforcement and security industries can implement embodiments for object recognition and motion detection. Media, entertainment, and industrial entities can implement embodiments to monitor for trademark infringement, captioning, advertising and targeting, brand and product monitoring and data collection, and marketing analytics. These exemplary implementation are not intended to be limiting, merely exemplary.

Additionally, or alternatively, to actively fetching and scraping a video, the system and method can be automated as a push system and/or a web crawling system. For example, the server can monitor an RSS feed or online content of specific providers, such as YouTube, Vimeo, the growing myriad of video-content creating websites, or other online video providers. Monitoring of published videos can be tailored to search for extracted data relevant to specific requesters. For example, a purveyor of certain products can be apprised in real-time of new content relevant to the products. Such relevant content can include the context in which the products are found in the video, the appearance of competing products, verification of product placement, and other useful information.

All of the methods disclosed and claimed herein can be made and executed without undue experimentation in light of the present disclosure. While the apparatus and methods of this invention have been described in terms of preferred embodiments, it will be apparent to those of skill in the art that variations may be applied to the methods and in the steps or in the sequence of steps of the method described herein without departing from the concept, spirit and scope or the invention. In addition, from the foregoing it will be seen that this invention is one well adapted to attain all the ends and objects set forth above, together with other advantages. It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and sub-combinations. This is contemplated and within the scope of the appended claims. All such similar substitutes and modifications apparent to those skilled in the art are deemed to be within the spirit and scope of the invention as defined by the appended claims.

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CLAIMS

1. A method to generate video data from a video comprising:

generating audio files and image files from the video;

distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel;

converting audio files associated with the video to text;

converting the image files associated with the video to video data;

cross-referencing the text and the video data with the video.

2. The method according to claim 1, further comprising:

generating a content-rich video based on the video, the text, and the video data.

3. The method according to claim 1, further comprising:

applying natural language processing to the text to determine context associated with the video.

4. The method according to claim 2, further comprising:

applying natural language processing to the text to extract a topic.

5. The method according to claim 1, further comprising:

processing the image files to extract additional text.

6. The method according to claim 5, wherein the additional text is generated by segmenting the image files before processing the image files in parallel.

7. The method according to claim 1, further comprising:

processing the image files to extract an object and determine a motion associated with the object.

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8. The method according to claim 1, wherein the text is generated by segmenting the audio before processing the audio files in parallel.

9. The method according to claim 7, wherein the audio files and the image files are segmented at spectrum thresholds.

10. The method according to claim 1, further comprising:

generating an advertisement based on the text and the video data.

11. The method according to claim 10, further comprising:

placing the advertisement in the video at a preferred time.

12. A system for extracting data from a video, comprising:

a computer processor; and

a non-transitory computer readable medium containing instructions directing the system to execute the steps of:

converting audio associated with the video to text;

converting images associated with the video to video data;

extracting topics from the text and the video data;

cross-referencing the text, the video data, and the topics with the video; and

generating a content-rich video.

13. The system according to claim 12, wherein converting the audio comprises natural language processing.

14. The system according to claim 12, the computer directs the audio to be converted by at least one node of a cluster and the computer directs the images to be converted by at least one other node of the cluster in parallel.

15. The server according to claim 12, wherein the audio and the images are segmented at spectrum thresholds.

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ABSTRACT

A method and system can generate video content from a video. The method and system can include generating audio files and image files from the video, distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel. The audio files associated with the video to text and the image files associated with the video to video content can be converted. The text and the video content can be cross-referenced with the video.

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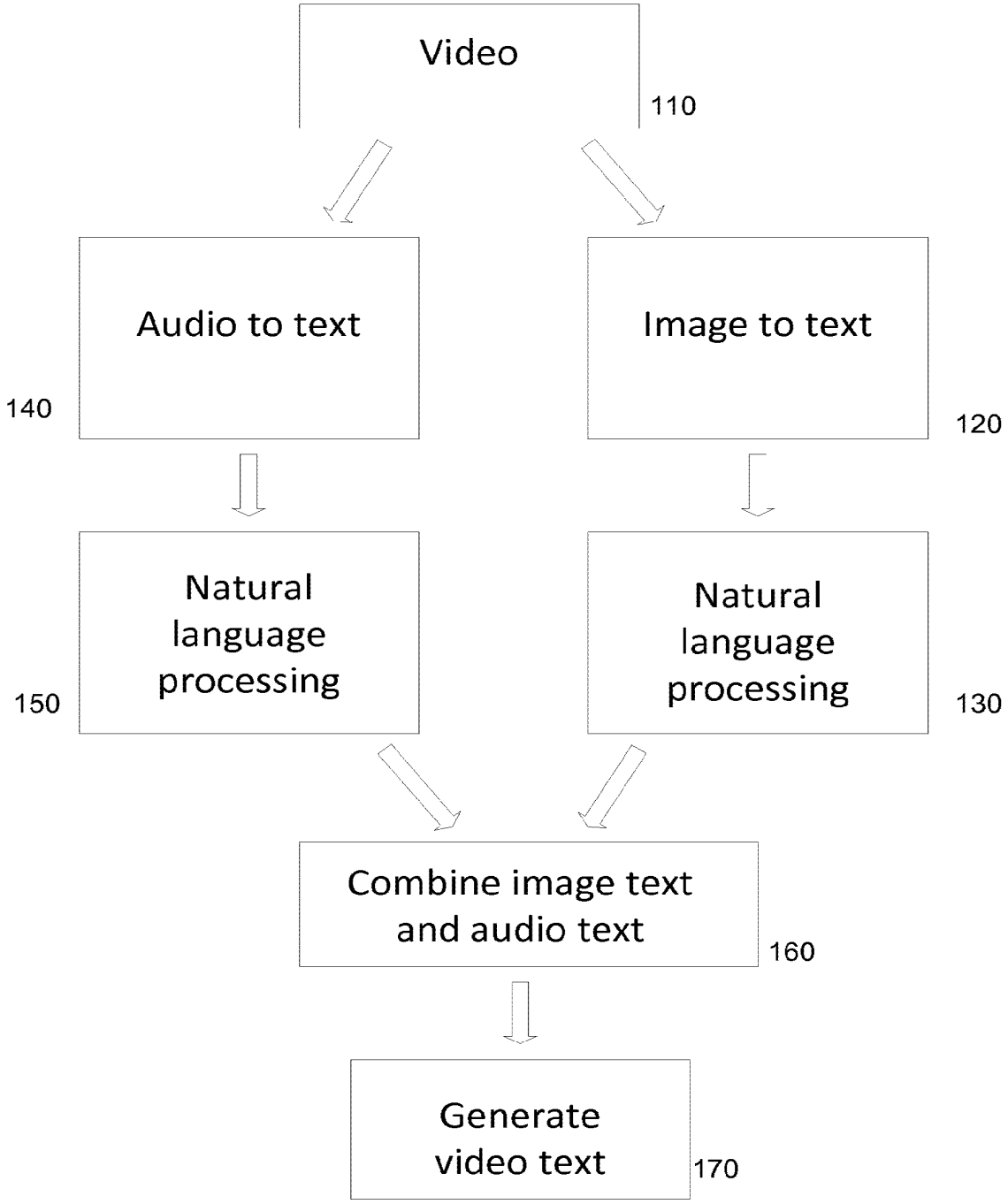


Figure 1

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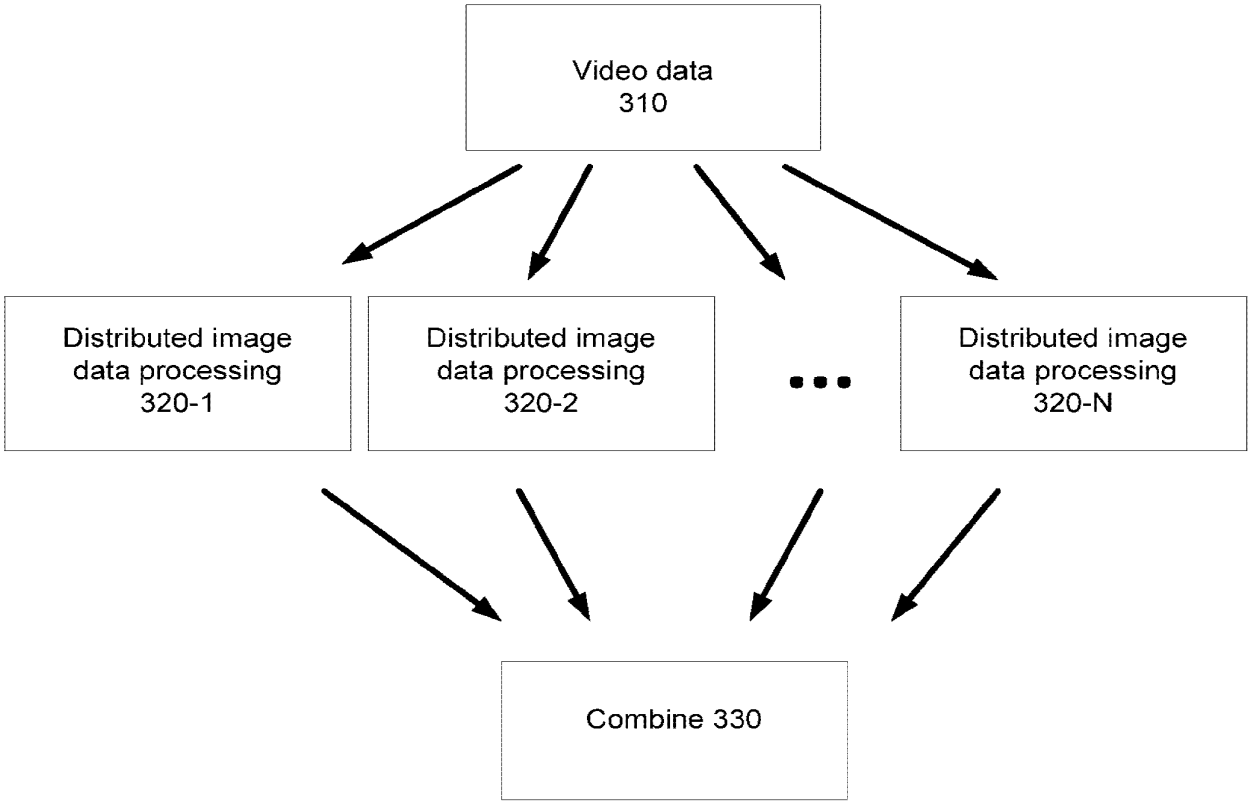


Figure 2

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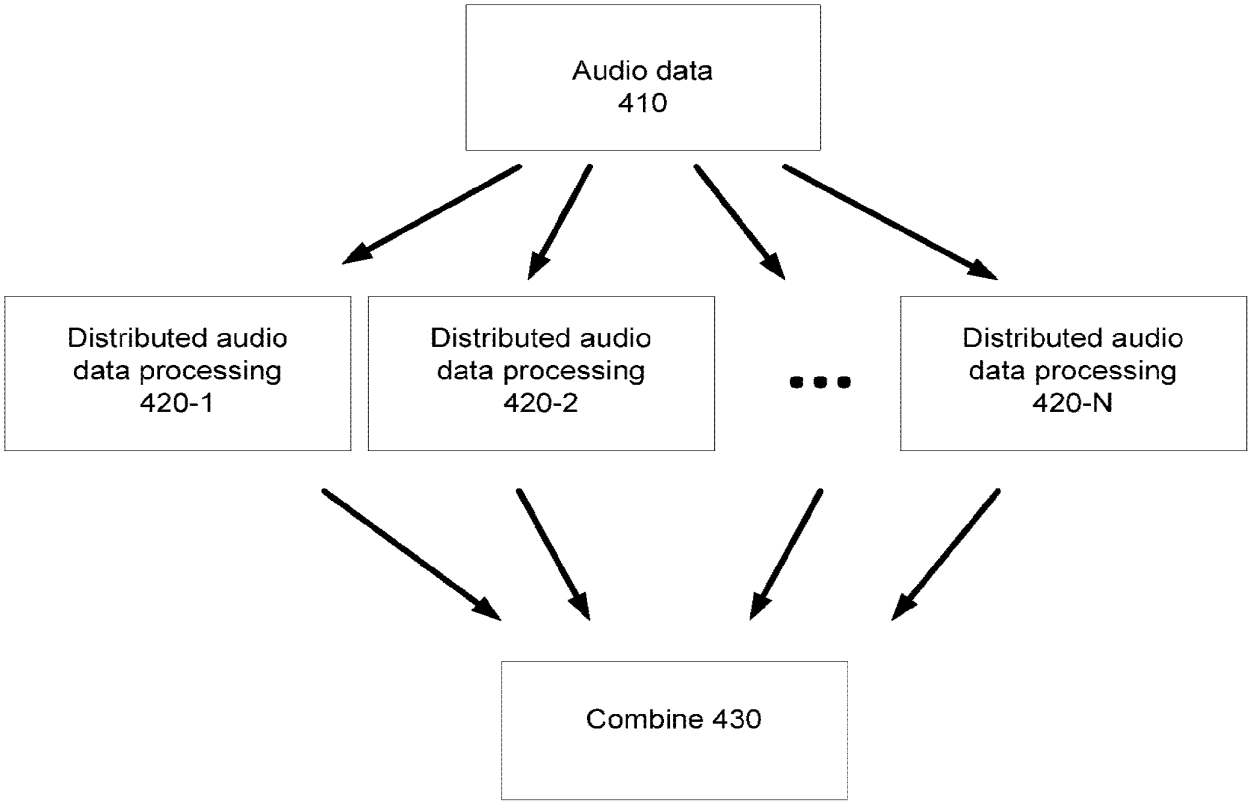


Figure 3

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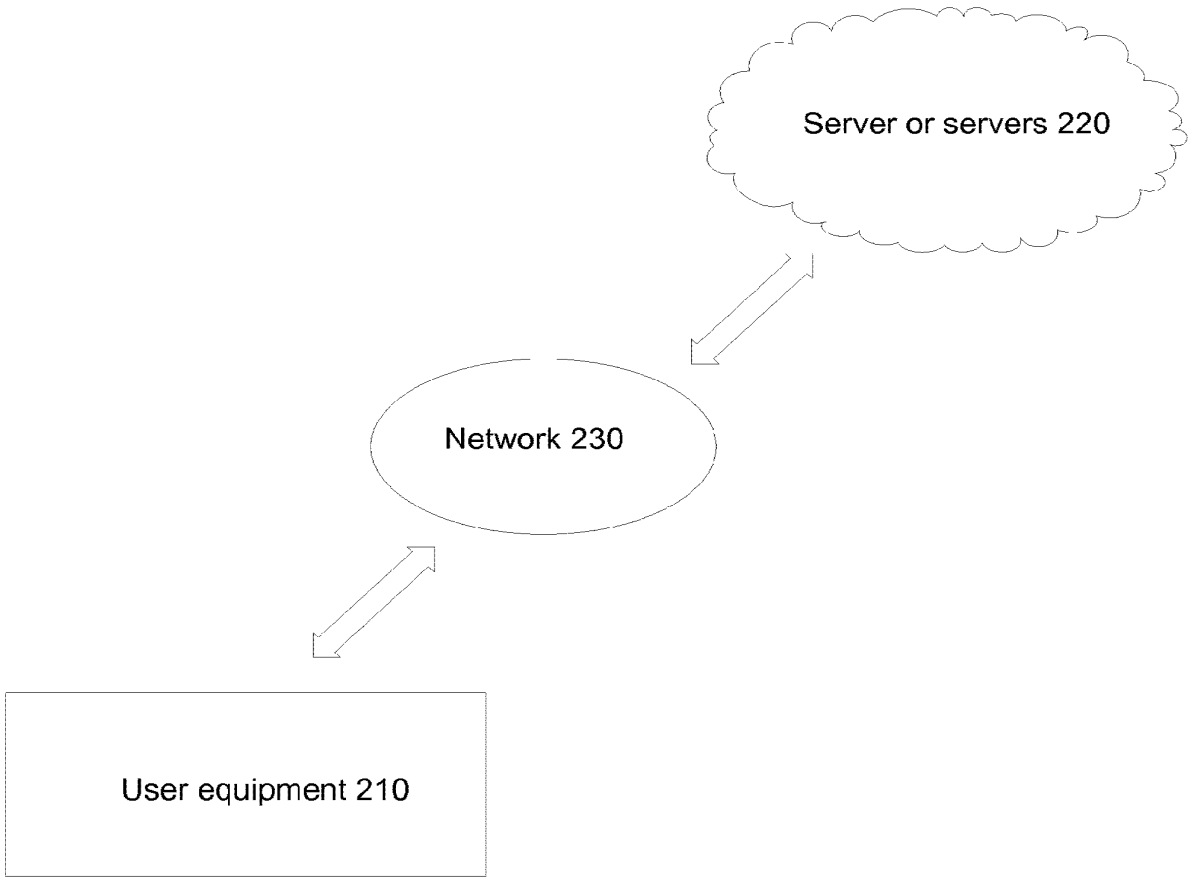


Figure 4

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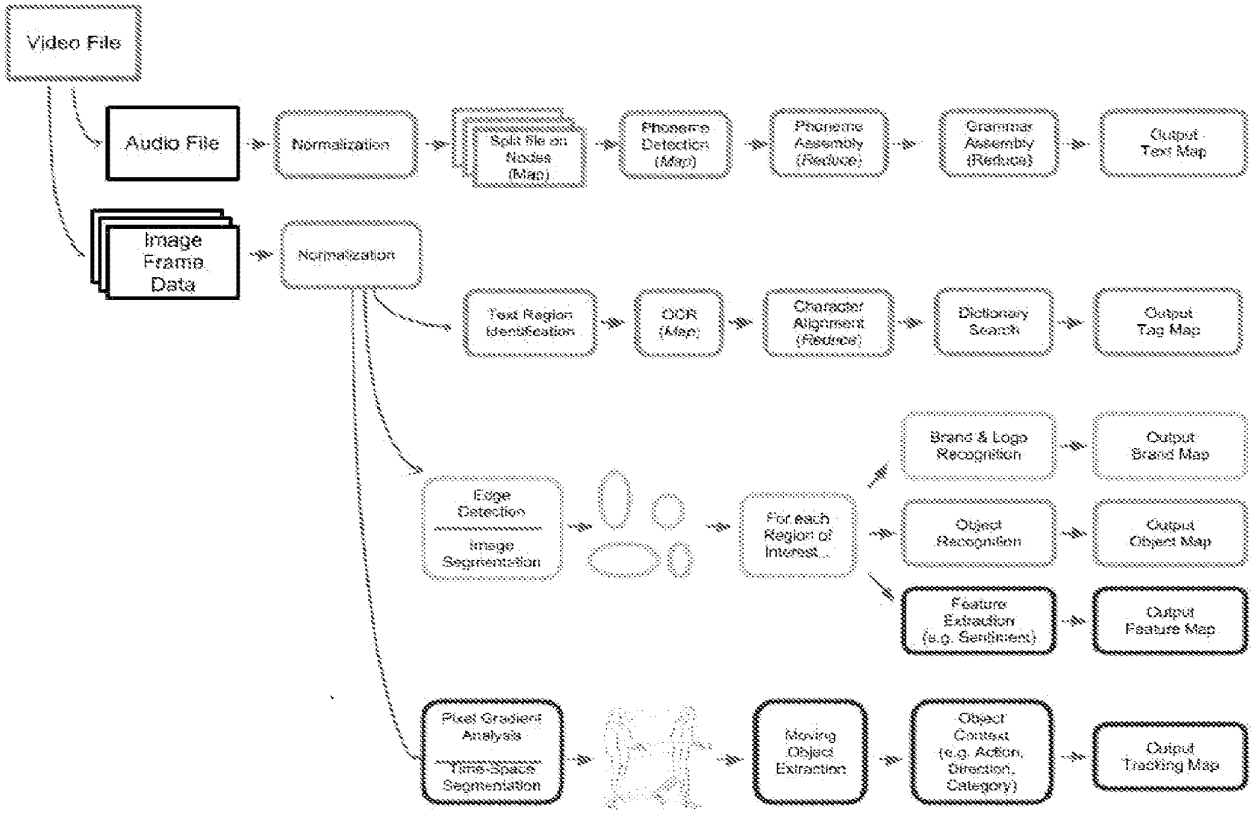


Figure 5

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Electronic Acknowledgement Receipt

EFS ID:	18151743
Application Number:	14175741
International Application Number:	
Confirmation Number:	2791
Title of Invention:	Video to data
First Named Inventor/Applicant Name:	Naeem Lakhani
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0006
Receipt Date:	07-FEB-2014
Filing Date:	
Time Stamp:	17:56:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1740
RAM confirmation Number	4747
Deposit Account	194293
Authorized User	

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	0006Trans.pdf	86367 d3c693e81147ea2b7916f23deac5909b85a5eb37	no	2
Warnings:					
Information:					
2		AppInfinal.pdf	238892 7f9558a220496b86d3fb7bbcd2dcdd5f5ab31131	yes	18

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Specification	1	10
Claims	11	12
Abstract	13	13
Drawings-other than black and white line drawings	14	18

Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	35834 8db92f7eaee7341e0b62287757cbfd473c2bedc3	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	361093	

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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

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DocCode – SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 14175741 Document Date: 02/07/2014

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

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- External customers may access SCORE content via PAIR using the Supplemental Content tab.

Form Revision Date: August 26, 2013

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DOCUMENT MADE AVAILABLE UNDER THE PATENT COOPERATION TREATY (PCT)

International application number:		**PCT/US2015/014940**
International filing date:		**07 February 2015 (07.02.2015)**
Document type:		**Certified copy of priority document**
Document details:	Country/Office:	**US**
	Number:	**14/175,741**
	Filing date:	**07 February 2014 (07.02.2014)**
Date of receipt at the International Bureau:		**21 February 2015 (21.02.2015)**

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a),(b) or (b-*bis*)

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PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No. PCT/US15/14940

International Filing Date 07 FEB 2015 (07.02.15)

Name of receiving Office and "PCT International Application" RO/US

Applicant's or agent's file reference *(if desired) (12 characters maximum)* 19299.0006PCT

Box No. I TITLE OF INVENTION

VIDEO TO DATA

Box No. II APPLICANT ☐ This person is also inventor

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS
1018 Highland Colony Parkway, Suite 700
Ridgeland, MS 39157-2060
United States of America

Telephone No.

Facsimile No.

Applicant's registration No. with the Office

E-mail authorization: Marking one of the check-boxes below authorizes the receiving Office, the International Searching Authority, the International Bureau and the International Preliminary Examining Authority to use the e-mail address indicated in this Box to send, notifications issued in respect of this international application to that e-mail address if those offices are willing to do so.

☐ as advance copies followed by paper notifications; or ☐ exclusively in electronic form (no paper notifications will be sent).

E-mail address:

State *(that is, country)* of nationality: US

State *(that is, country)* of residence: US

This person is applicant for the purposes of: ☒ all designated States ☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: ☒ agent ☐ common representative

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

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Agent's registration No. with the Office 41,498

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E-mail address: IPDocketing@steptoe.com

☐ **Address for correspondence:** Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

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Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

If none of the following sub-boxes is used, this sheet should not be included in the request.

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

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Croydon
CRO 5LX
United Kingdom

This person is:
- ☐ applicant only
- ☐ applicant and inventor
- ☒ inventor only *(If this check-box is marked, do not fill in below.)*

Applicant's registration No. with the Office

State *(that is, country)* of nationality:

State *(that is, country)* of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ the States indicated in the Supplemental Box

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

SMITH, Bartlett Wade
109 Antlers Lane
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United States of America

This person is:
- ☐ applicant only
- ☐ applicant and inventor
- ☒ inventor only *(If this check-box is marked, do not fill in below.)*

Applicant's registration No. with the Office

State *(that is, country)* of nationality:

State *(that is, country)* of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ the States indicated in the Supplemental Box

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

TALLEY, Allison A.
211 Winsmore Way
Ridgeland, MS 39157
United States of America

This person is:
- ☐ applicant only
- ☐ applicant and inventor
- ☒ inventor only *(If this check-box is marked, do not fill in below.)*

Applicant's registration No. with the Office

State *(that is, country)* of nationality:

State *(that is, country)* of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ the States indicated in the Supplemental Box

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)*

This person is:
- ☐ applicant only
- ☐ applicant and inventor
- ☐ inventor only *(If this check-box is marked, do not fill in below.)*

Applicant's registration No. with the Office

State *(that is, country)* of nationality:

State *(that is, country)* of residence:

This person is applicant for the purposes of: ☐ all designated States ☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.

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Supplemental Box *If the Supplemental Box is not used, this sheet should not be included in the request.*

*1. If, in any of the Boxes, except Boxes Nos. VIII(i) to (v) for which a special continuation box is provided, **the space is insufficient** to furnish all the information: in such case, write "Continuation of Box No...." (indicate the number of the Box) and furnish the information in the same manner as required according to the captions of the Box in which the space was insufficient, in particular:*

*(i) **if more than one person is to be indicated as applicant and/or inventor** and no "continuation sheet" is available: in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below;*

*(ii) if, in Box No. II or in any of the sub-boxes of Box No. III, the indication **"the States indicated in the Supplemental Box"** is checked: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is applicant;*

*(iii) if, in Box No. II or in any of the sub-boxes of Box No. III, **the inventor or the inventor/applicant is not inventor for the purposes of all designated States**: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor(s) and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is inventor;*

*(iv) if, in addition to the agent(s) indicated in Box No. IV, there are **further agents**: in such case, write "Continuation of Box No. IV" and indicate for each further agent the same type of information as required in Box No. IV;*

*(v) if, in Box No. VI, there are **more than three earlier applications whose priority is claimed**: in such case, write "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI.*

*2. If the applicant intends to make an indication of the wish that the international application be treated, in certain designated States, as an application for a patent of addition, certificate of addition, inventor's certificate of addition or utility certificate of addition: in such case, write the name or two-letter code of each designated State concerned and the indication **"patent of addition," "certificate of addition," "inventor's certificate of addition"** or **"utility certificate of addition,"** the number of the parent application or parent patent or other parent grant and the date of grant of the parent patent or other parent grant or the date of filing of the parent application (Rules 4.11(a)(i) and 49bis.1(a) or (b)).*

*3. If the applicant intends to make an indication of the wish that the international application be treated, in the United States of America, as a continuation or continuation-in-part of an earlier application: in such case, write "United States of America" or "US" and the indication **"continuation"** or **"continuation-in-part"** and the number and the filing date of the parent application (Rules 4.11(a)(ii) and 49bis.1(d)).*

Continuation of Box No. IV:

ACORACI, Rose C., Reg. No. 63,130
BICKHAM, Timothy C., Reg. No. 41,618
CARACAPPA, John M., Reg. No. 43,532
MILLER, Gretchen, Reg. No. 65,091
MORAD, Houda, Reg. No. 56,742
PARKHURST, Roger W., Reg. No. 25,177
SCHILL, Charles F., Reg. No. 27,590

all of STEPTOE & JOHNSON LLP, USPTO CUSTOMER NO. 27890, at address listed in Box IV

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Box No. V DESIGNATIONS

The filing of this request **constitutes under Rule 4.9(a) the designation** of all Contracting States bound by the PCT on the international filing date, for the grant of every kind of protection available and, where applicable, for the grant of both regional and national patents.

However,

☐ DE Germany **is not designated** for any kind of national protection

☐ JP Japan **is not designated** for any kind of national protection

☐ KR Republic of Korea **is not designated** for any kind of national protection

(The check-boxes above may only be used to exclude (irrevocably) the designations concerned if, at the time of filing or subsequently under Rule 26bis.1, the international application contains in Box No. VI a priority claim to an earlier national application filed in the particular State concerned, in order to avoid the ceasing of the effect, under the national law, of this earlier national application.)

Box No. VI PRIORITY CLAIM AND DOCUMENT

The priority of the following earlier application(s) is hereby claimed:

Filing date of earlier application *(day/month/year)*	Number of earlier application	Where earlier application is:		
		national application: country or Member of WTO	regional application: regional Office	international application: receiving Office
item (1) 07 February 2014 (07.02.2014)	14/175,741	US		
item (2) 07 July 2014 (07.07.2014)	62/021,666	US		
item (3)				

☐ Further priority claims are indicated in the Supplemental Box.

Furnishing the priority document(s):

☒ The **receiving Office** is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) *(only if the earlier application(s) was filed with the receiving Office which, for the purposes of this international application, is the receiving Office)* identified above as:

☒ all items ☐ item (1) ☐ item (2) ☐ item (3) ☐ other, see Supplemental Box

☐ The **International Bureau** is requested to obtain from a digital library a certified copy of the earlier application(s) identified above, using, where applicable, the access code(s) indicated below *(if the earlier application(s) is available to it from a digital library)*:

☐ item (1) access code ..... ☐ item (2) access code ..... ☐ item (3) access code ..... ☐ other, see Supplemental Box

Restore the right of priority: the receiving Office is requested to restore the right of priority for the earlier application(s) identified above or in the Supplemental Box as item(s) (.....). *(See also the Notes to Box No. VI: further information **must** be provided to support a request to restore the right of priority.)*

Incorporation by reference: where an element of the international application referred to in Article 11(1)(iii)(d) or (e) or a part of the description, claims or drawings referred to in Rule 20.5(a) is not otherwise contained in this international application but is completely contained in an earlier application whose priority is claimed on the date on which one or more elements referred to in Article 11(1)(iii) were first received by the receiving Office, that element or part is, subject to confirmation under Rule 20.6, incorporated by reference in this international application for the purposes of Rule 20.6.

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) *(if more than one International Searching Authority is competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used)*:

ISA/ US .....

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Box No. IX CHECK LIST for EFS-Web filings - this sheet is only to be used when filing an international application with RO/US via EFS-Web

This international application **contains** the following:	Number of sheets
(a) request form PCT/RO/101 (including any declarations and supplemental sheets)	5
(b) description (excluding any sequence listing part of the description, see (f), below)	19
(c) claims	3
(d) abstract	1
(e) drawings (if any)	9
(f) sequence listing part of the description in the form of an **image file** (e.g. PDF)	
Total number of sheets (including the sequence listing part of the description if **filed as an image file**)	37

(g) sequence listing part of the description

- ☐ filed in the form of an **Annex C/ST.25 text file**
- ☐ WILL BE filed separately on physical data carrier(s), on the same day and in the form of an **Annex C/ST.25 text file**

Indicate type and number of physical data carrier(s)

This international application is **accompanied by** the following item(s) *(mark the applicable check-boxes below and indicate in right column the number of each item)*:	Number of items
1. ☒ fee calculation sheet	1
2. ☐ original separate power of attorney	
3. ☐ original general power of attorney	
4. ☐ copy of general power of attorney; reference number:	
5. ☐ priority document(s) identified in Box No. VI as item(s)	
6. ☐ Translation of international application into *(language)*:	
7. ☐ separate indications concerning deposited microorganism or other biological material	
8. ☐ *(only where item (f) is marked in the left column)* copy of the sequence listing in electronic form (Annex C/ST.25 text file) not forming part of the international application but **furnished only for the purposes of international search** under Rule 13*ter*	
9. ☐ *(only where item (f) is marked in the left column)* a statement confirming that "the information recorded in electronic form submitted under Rule 13*ter* is identical to the sequence listing as contained in the international application" as filed via EFS-Web:	
10. ☐ copy of results of earlier search(es) (Rule 12*bis*.1(a))	
11. ☐ other *(specify)*:	

Figure of the drawings which should accompany the abstract:

Language of filing of the international application: English

Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

/Harold H Fox Reg # 41498/

Harold H. Fox, agent

07-02-2015

For receiving Office use only

1. Date of actual receipt of the purported international application:	07 FEB 2015 (07.02.15)
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:	
4. Date of timely receipt of the required corrections under PCT Article 11(2):	
5. International Searching Authority (if two or more are competent): ISA / US	6. ☐ Transmittal of search copy delayed until search fee is paid

2. Drawings:
- ☐ received:
- ☐ not received:

For International Bureau use only

Date of receipt of the record copy by the International Bureau:

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685148

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

February 20, 2015

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE.

APPLICATION NUMBER: ***62/021,666***
FILING DATE: ***July 07, 2014***
RELATED PCT APPLICATION NUMBER: ***PCT/US15/14940***

THE COUNTRY CODE AND NUMBER OF YOUR PRIORITY APPLICATION, TO BE USED FOR FILING ABROAD UNDER THE PARIS CONVENTION, IS ***US62/021,666***

Certified by

David J. Kappos

Under Secretary of Commerce
for Intellectual Property
and Director of the United States
Patent and Trademark Office

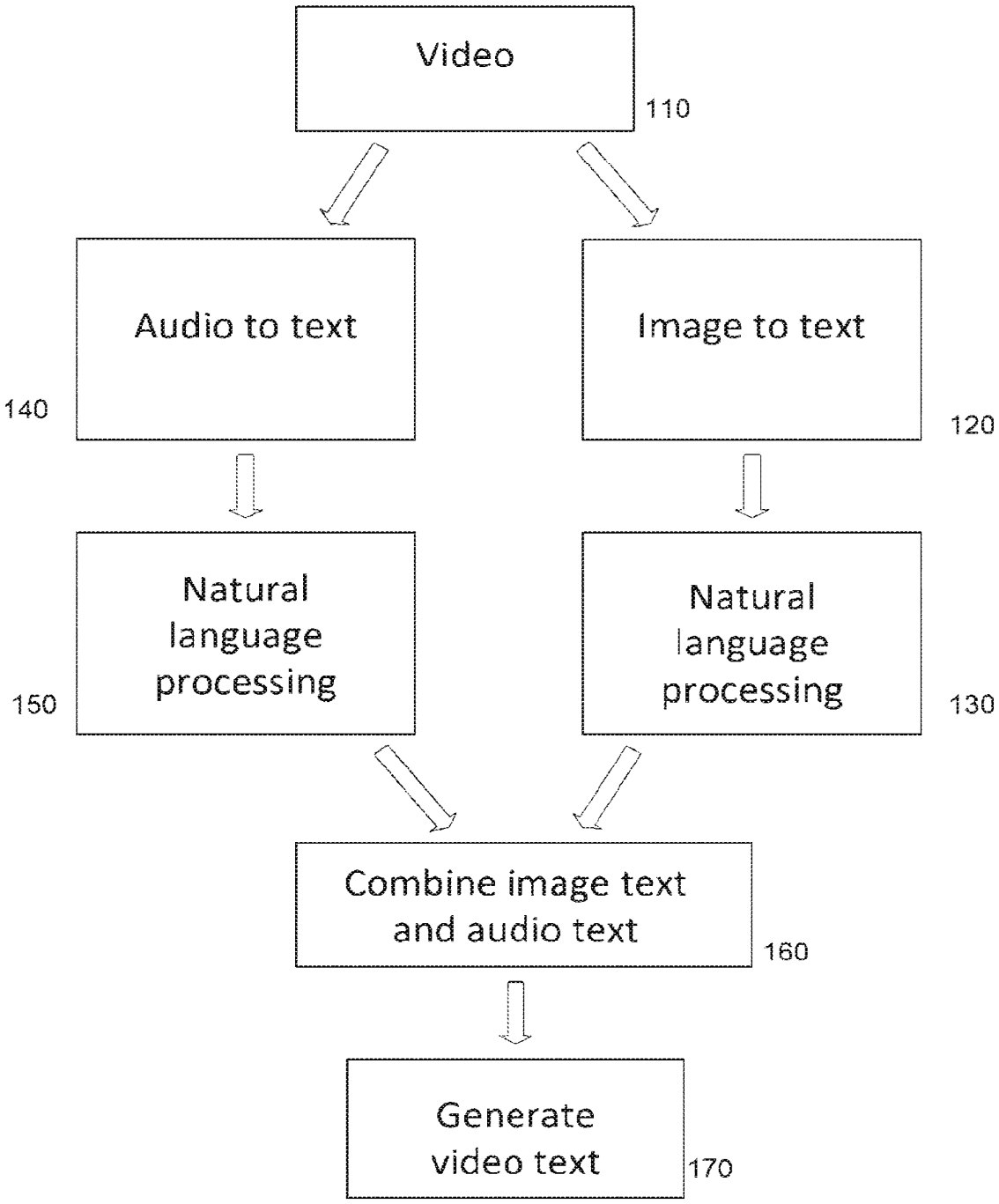


Figure 1

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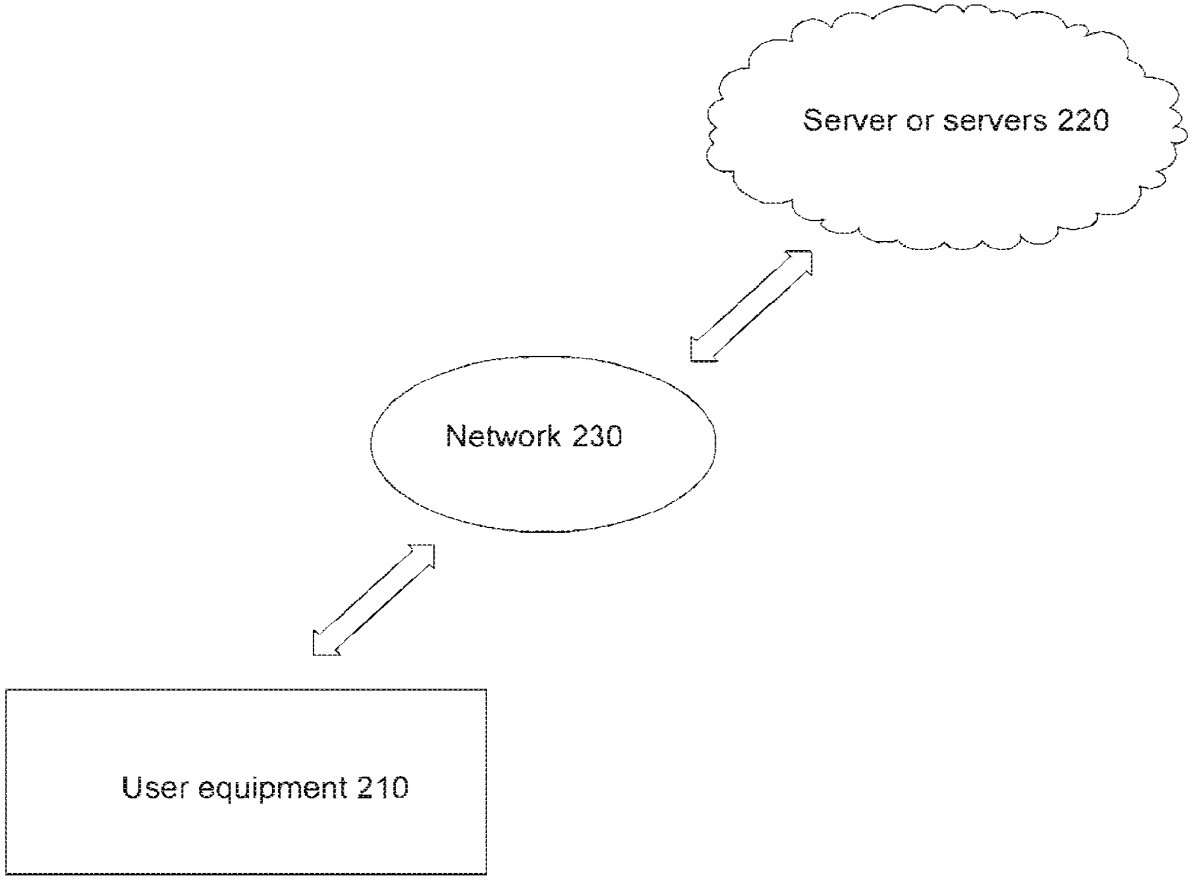


Figure 2

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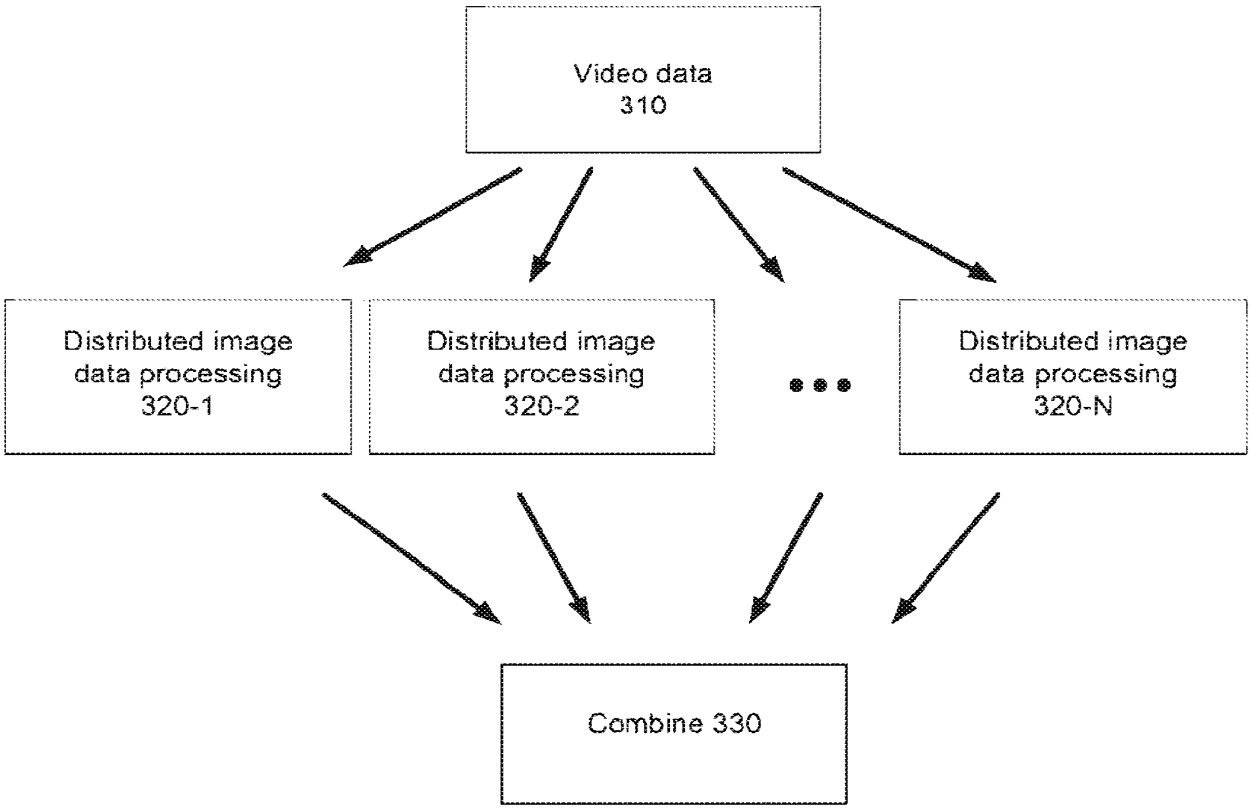


Figure 3

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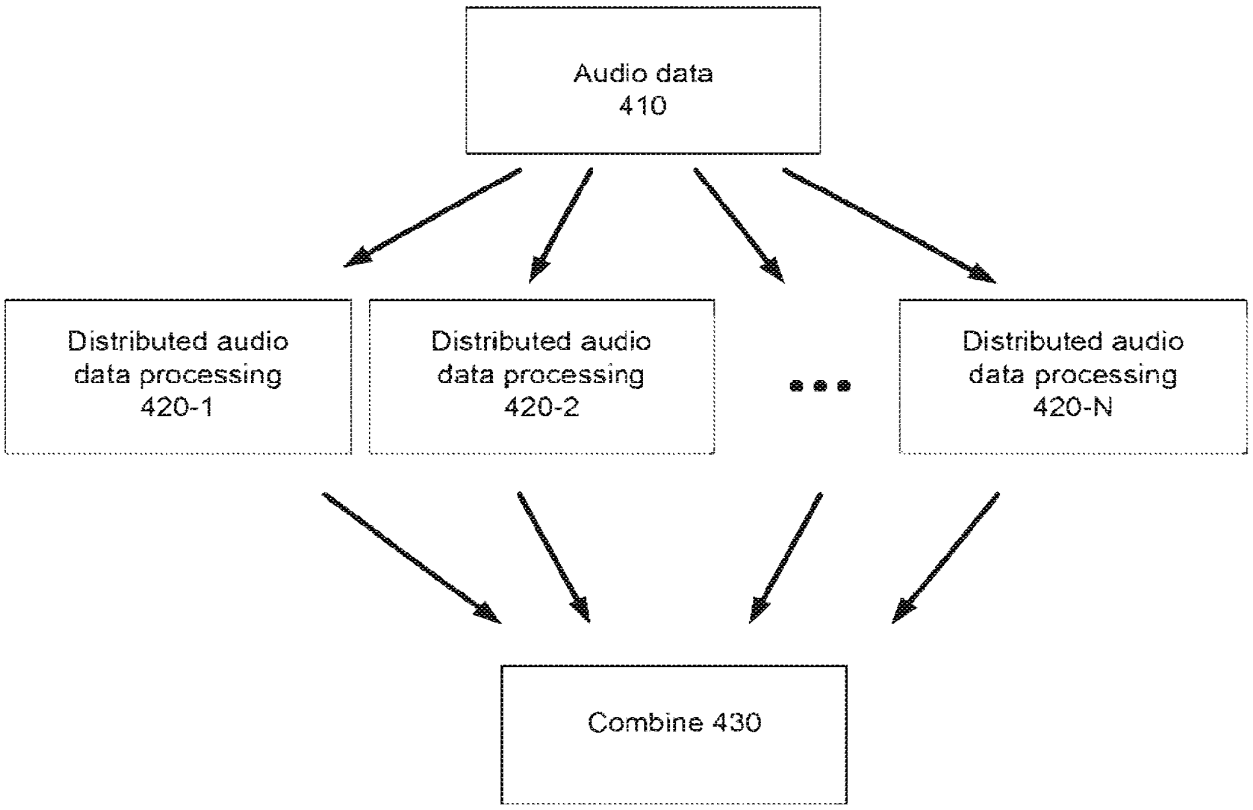


Figure 4

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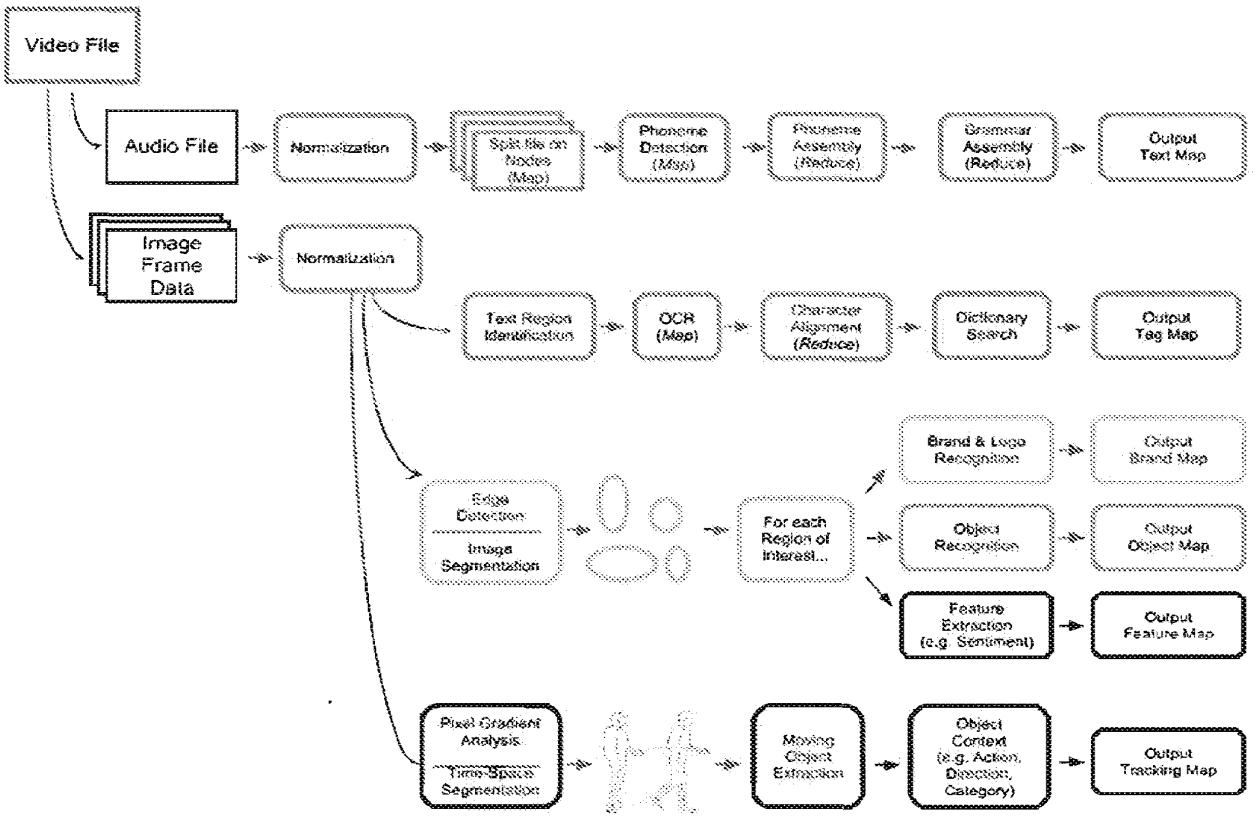
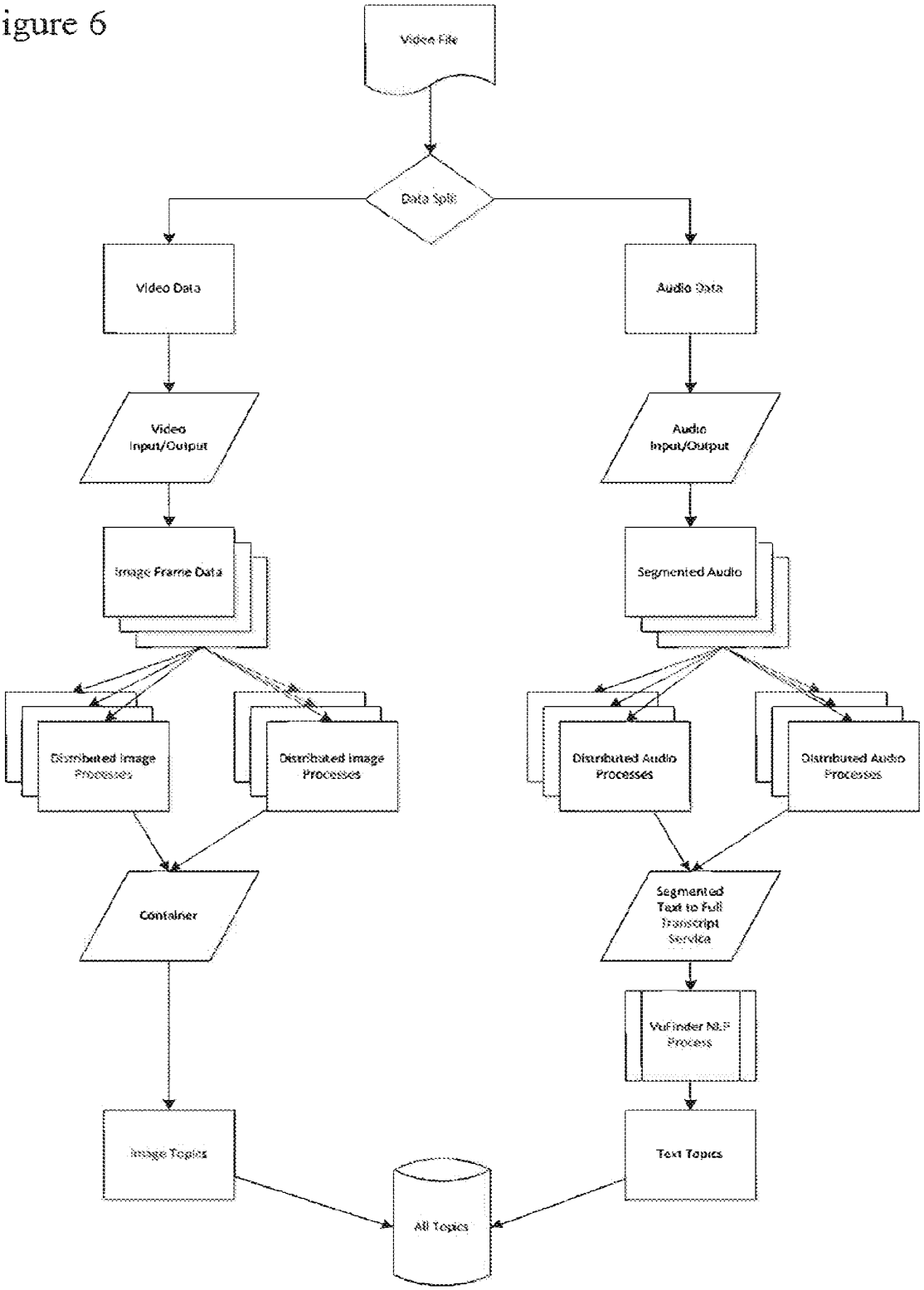


Figure 5

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Figure 6



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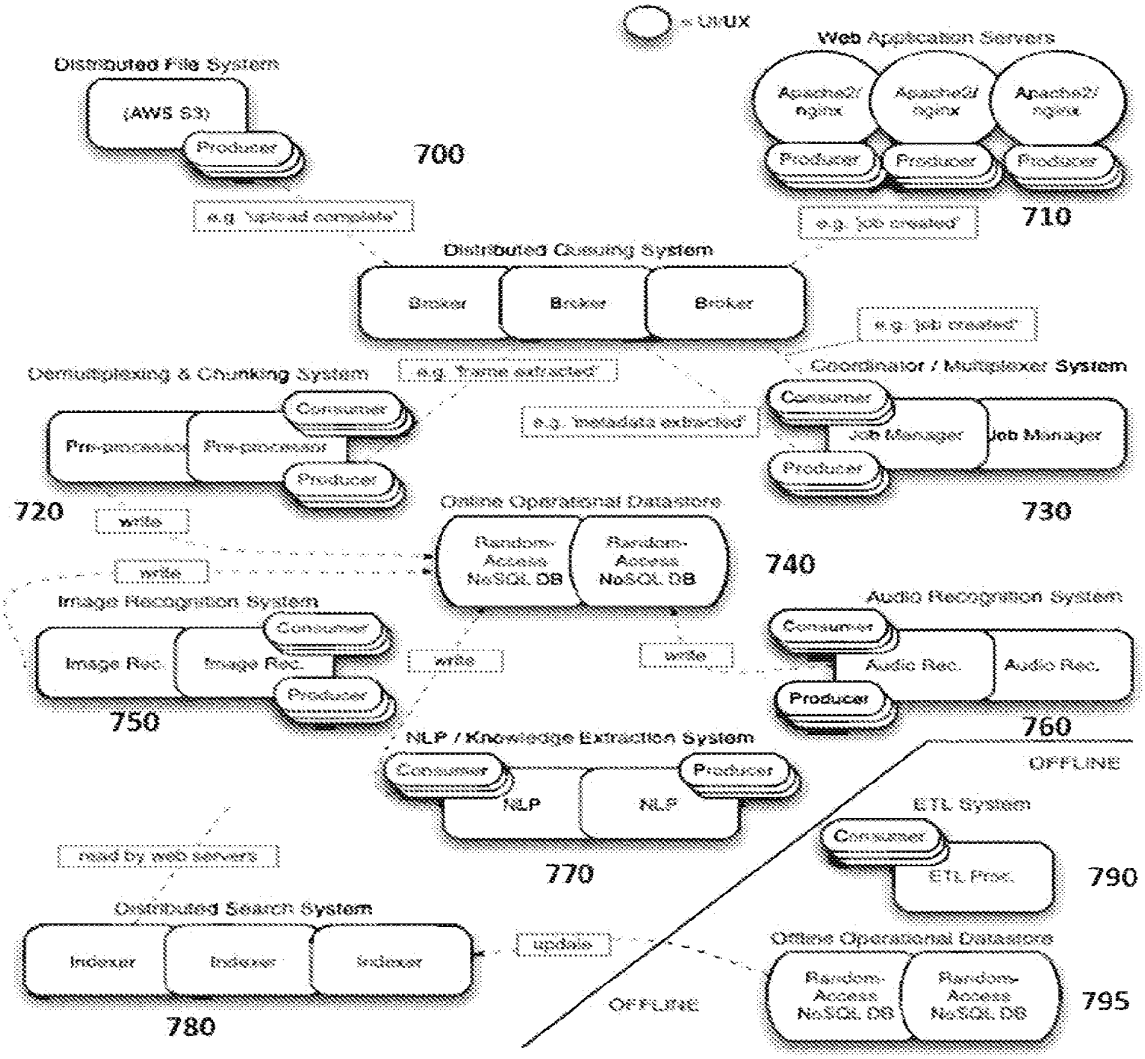


Figure 7

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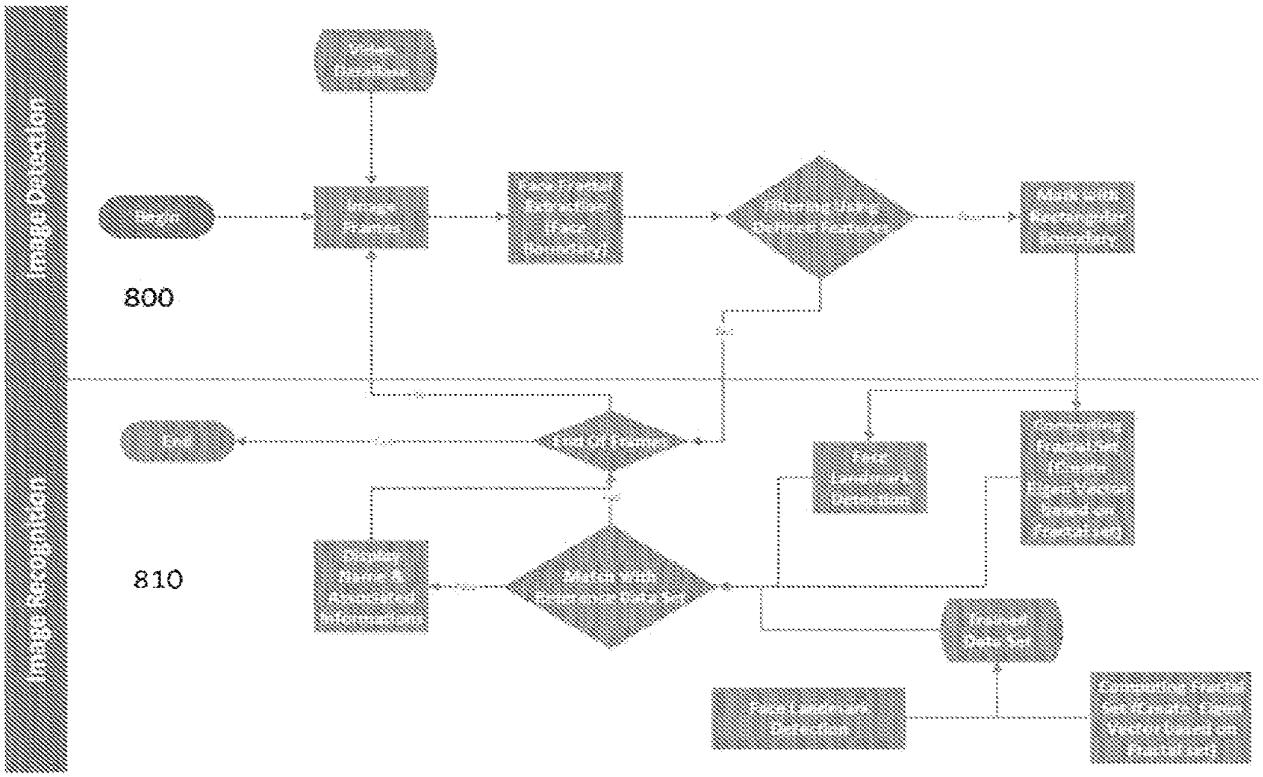


Figure 8

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Figure 9

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Electronic Acknowledgement Receipt

EFS ID:	19511935
Application Number:	62021666
International Application Number:	
Confirmation Number:	1576
Title of Invention:	Video to data
First Named Inventor/Applicant Name:	Bartlett Wade Smith, IV
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008P1
Receipt Date:	07-JUL-2014
Filing Date:	
Time Stamp:	21:31:03
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$260
RAM confirmation Number	8083
Deposit Account	194293
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	0008Transmittal.pdf	1421005 f1ea87c5a0c98566edf02ff2d6d6f32ebb6e32a0	no	3
Warnings:					
Information:					
2	Application Data Sheet	0008P1ADS.pdf	1561264 cf944705bab29d543d1118293e276b0c3664a12d	no	7
Warnings:					
Information:					
3		0008specificationa.pdf	562463 9592f095464f72dcb2f0b1ca9780e865c87fe843	yes	32

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	19
Claims	20	22
Abstract	23	23
Drawings-other than black and white line drawings	24	32

Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	29178 e5fe8d2cb3b566c822a6b64a48d3c30f7a877cf5	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	3573910		

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.

ABSTRACT

A method and system can generate video content from a video. The method and system can include generating audio files and image files from the video, distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel. The audio files associated with the video to text and the image files associated with the video to video content can be converted. The text and the video content can be cross-referenced with the video.

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PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. 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 contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008P1
	Application Number	
Title of Invention	VIDEO TO DATA	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Bartlett	Wade	Smith	IV

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Madison	State/Province	MS	Country of Residence i	US

Mailing Address of Inventor:

Address 1	109 Antlers Lane		
Address 2			
City	Madison	State/Province	MS
Postal Code	39110	Country i	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Allison	A.	Talley	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Ridgeland	State/Province	MS	Country of Residence i	US

Mailing Address of Inventor:

Address 1	211 Winsmere Way		
Address 2			
City	Ridgeland	State/Province	MS
Postal Code	39157	Country i	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

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PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008P1
	Application Number	
Title of Invention	VIDEO TO DATA	

☐ An Address is being provided for the correspondence Information of this application.			
Customer Number	27890		
Email Address	hfox@steptoe.com	Add Email	Remove Email
Email Address	ipdocketing@steptoe.com	Add Email	Remove Email

Application Information:

Title of the Invention	VIDEO TO DATA		
Attorney Docket Number	19299.0008P1	**Small Entity Status Claimed**	☐
Application Type	Provisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	9	**Suggested Figure for Publication (if any)**	1

Filing By Reference :

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	27890		

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. 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 contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008P1
	Application Number	
Title of Invention	VIDEO TO DATA	

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) [i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

			Remove
Application Number	Country [i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008P1
	Application Number	
Title of Invention	VIDEO TO DATA	

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VIDEO TO DATA

TECHNICAL FIELD

The present invention relates to a method and a system for generating various and useful data from videos.

BACKGROUND

In the field of image contextualization, distributed reverse image similarity searching can be used to identify images similar to a target image. Reverse image searching can find exactly matching images as well as flipped, cropped, and altered versions of the target image. Distributed reverse image similarity searching can be used to identify symbolic similarity within images. Audio-to-text algorithms can be used to transcribe text from audio. An exemplary application is note-taking software. Audio-to-text, however, lacks semantic and contextual language understanding.

SUMMARY

The present invention is generally directed to a method to generate data from video content, such as text and/or image-related information. A server executing the method can be directed by a program stored on a non-transitory computer-readable medium. The video text can be, for example, a context description of the video.

An aspect of the method can include generating text from an image of the video, converting audio associated with the video to text, extracting topics from the text converted from the audio, cross-referencing the text generated from the image of the video and the topics extracted from audio associated with the video, and generating video text based on a result of the cross-referencing.

In some embodiments, natural language processing can be applied to the generation of text from an image of the video, converting audio associated with the video to text, or both.

In other embodiments, the text from the image of the video can be generated by identifying context, a symbol, a brand, a feature, an object, and/or a topic in the image of the video.

In yet other embodiments, the text from the image can be generated by first segmenting images of the video, and then converting the segments of images to text in parallel. The text from the audio can be generated by first segmenting images of the audio, and then converting the segments of images to text in parallel. The audio can be segmented at spectrum thresholds. The generated text may be of different sizes. The size of the text can be adjusted by a ranking or scoring function that, for example, can adjust the text size based on confidence in the description or relevance to a search inquiry. The text can describe themes, identification of objects or other information of interest.

In some embodiments, the method can include generating advertising and/or product or service recommendations based on video content. The video content can be text, context, symbols, brands, features, objects, and/or topics related to or found in the video. An advertisement and/or product or service recommendations can be placed at a specific time in the video based on the video content and/or section symbol of a video image. The advertisement and/or product or service recommendations can also be placed at a specific time as part of the video player, e.g., side panel, and also may be placed on a second screen. In other embodiments, advertisements and/or product or service recommendations can be placed on a webpage. In some embodiments, the method can include directing when one or more advertisements can be placed in a predetermined context at a preferred time.

DESCRIPTION OF THE DRAWINGS

The present invention is further described in the detailed description which follows, in reference to the noted plurality of drawings by way of non-limiting examples of certain embodiments of the present invention, in which like numerals represent like elements throughout the several views of the drawings, and wherein:

Figure 1 illustrates an embodiment of present invention.

Figure 2 illustrates an embodiment of image data processing.

Figure 3 illustrates an embodiment of audio data processing.

Figure 4 illustrates another embodiment of present invention.

Figure 5 illustrates various exemplary embodiments of present invention.

Figure 6 illustrates a flow diagram of an embodiment

Figure 7 illustrates an embodiment of the architecture of the present invention.

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Figure 8 illustrates a flow diagram of an embodiment of image recognition.

Figure 9 illustrates an embodiment of a graphical user interface of the present invention.

DETAILED DESCRIPTION OF EXEMPLARY EMBODIMENTS

A detailed explanation of the system and method according to exemplary embodiments of the present invention are described below. Exemplary embodiments described, shown, and/or disclosed herein are not intended to limit the claims, but rather, are intended to instruct one of ordinary skill in the art as to various aspects of the invention. Other embodiments can be practiced and/or implemented without departing from the scope and spirit of the claimed invention.

The present invention is generally directed to system, device, and method of generating content from video files, such as text and information relating to context, symbols, brands, features, objects, faces and/or topics found in the images of such videos. In an embodiment, the video-to-data engine can perform the functions directed by programs stored in a computer-readable medium. That is, the embodiments may take the form of a hardware embodiment (including circuits), a software embodiment, or an embodiment combining software and hardware. The present invention can take the form of a computer-program product that includes computer-useable instructions embodied on one or more computer-readable media.

The various video-to-data techniques, methods, and systems described herein can be implemented in part or in whole using computer-based systems and methods. Additionally, computer-based systems and methods can be used to augment or enhance the functionality described herein, increase the speed at which the functions can be performed, and provide additional features and aspects as a part of or in addition to those described elsewhere in this document. Various computer-based systems, methods and implementations in accordance with the described technology are presented below.

A video-to-data engine can be embodied by the a general-purpose computer or a server and can have an internal or external memory for storing data and programs such as an operating system (e.g., DOS, Windows 2000™, Windows XP™, Windows NT™, OS/2, UNIX or Linux) and one or more application programs. Examples of application programs include computer programs implementing the techniques described herein for lyric and multimedia customization, authoring applications (e.g., word processing programs, database programs, spreadsheet

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programs, or graphics programs) capable of generating documents or other electronic content; client applications (e.g., an Internet Service Provider (ISP) client, an e-mail client, or an instant messaging (IM) client) capable of communicating with other computer users, accessing various computer resources, and viewing, creating, or otherwise manipulating electronic content; and browser applications (e.g., Microsoft's Internet Explorer) capable of rendering standard Internet content and other content formatted according to standard protocols such as the Hypertext Transfer Protocol (HTTP). One or more of the application programs can be installed on the internal or external storage of the general-purpose computer. Alternatively, application programs can be externally stored in or performed by one or more device(s) external to the general-purpose computer.

The general-purpose computer or server may include a central processing unit (CPU) for executing instructions in response to commands, and a communication device for sending and receiving data. One example of the communication device can be a modem. Other examples include a transceiver, a communication card, a satellite dish, an antenna, a network adapter, or some other mechanism capable of transmitting and receiving data over a communications link through a wired or wireless data pathway.

The general-purpose computer or server may also include an input/output interface that enables wired or wireless connection to various peripheral devices. In one implementation, a processor-based system of the general-purpose computer can include a main memory, preferably random access memory (RAM), and can also include a secondary memory, which may be a tangible computer-readable medium. The tangible computer-readable medium memory can include, for example, a hard disk drive or a removable storage drive, a flash based storage system or solid-state drive, a floppy disk drive, a magnetic tape drive, an optical disk drive (Blu-Ray, DVD, CD drive), magnetic tape, paper tape, punched cards, standalone RAM disks, Iomega Zip drive, etc. The removable storage drive can read from or write to a removable storage medium. A removable storage medium can include a floppy disk, magnetic tape, optical disk (Blu-Ray disc, DVD, CD) a memory card (CompactFlash card, Secure Digital card, Memory Stick), paper data storage (punched card, punched tape), etc., which can be removed from the storage drive used to perform read and write operations. As will be appreciated, the removable storage medium can include computer software or data.

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In alternative embodiments, the tangible computer-readable medium memory can include other similar means for allowing computer programs or other instructions to be loaded into a computer system. Such means can include, for example, a removable storage unit and an interface. Examples of such can include a program cartridge and cartridge interface (such as the found in video game devices), a removable memory chip (such as an EPROM or flash memory) and associated socket, and other removable storage units and interfaces, which allow software and data to be transferred from the removable storage unit to the computer system.

An embodiment of video-to-data engine operation is illustrated in Figure 1. At 110, a video stream is presented. The video stream may be in format of (but not limited to): Advanced Video Codec High Definition (AVCHD), Audio Video Interlaced (AVI), Flash Video Format (FLV), Motion Picture Experts Group (MPEG), Windows Media Video (WMV), or Apple QuickTime (MOV), h.264 (MP4).

The engine can extract audio data and image data (e.g. images or frames forming the video) from the video stream. The engine can detect and identify objects, faces, logos, text, music, sounds and spoken language in video by means of demultiplexing and extracting features from the video and passing those features into a distributed system as the video loads into the network I/O buffer. In some embodiments, the video stream and the extracted image data can be stored in a memory or storage device such as those discussed above. A copy of the extracted image data can be used for processing.

An example of the image data processing is illustrated in Figure 3. The video-to-data engine can segment the video into chunks for distributed, or parallel, processing as shown schematically in Figure 3. Distributed processing in this context can mean that the processing time for analyzing a video from beginning to end is a fraction of the play time of the video. This can be accomplished by breaking the processes into sections and processing them simultaneously. The images and audio can each be broken up into pieces that such that the meaning of a continuous message is preserved. At 120, the video-to-data engine performs an image data processing on the video stream. In Figure 3, the image data 310 can be segmented into N segments and processed in parallel (e.g., distributed processing 320-1 to 320-N), allowing for near real-time processing.

An example of the video image data processing can be symbol (or object) based. Using image processing technique such as color edge detection, a symbol of a screen or an image of the

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video can be isolated. The symbol can be identified using an object template database. For example, the symbol includes 4 legs and a tail, and when matched with the object template database, the symbol may be identified as a dog. The object template database can be adaptive and therefore, the performance would improve with usage.

Other image data processing techniques may include image extraction, high-level vision and symbol detection, figure-ground separation, depth and motion perception.

Another example of video image processing can be color segmentation. The colors of an image (e.g., a screen) of the video can be segmented or grouped. The result can be compared to a database using color similarity matching.

Based on the identified symbol, a plurality of instances of the symbol can be compared to a topic database to identify a topic (such as an event). For example, the result may identify the dog (symbol) as running or jumping. The topic database can be adaptive to improve its performance with usage.

Thus, using the processing example above, text describing a symbol of the video and topic relating to the symbol may be generated, as is illustrated in Figure 9. Data generated from an image and/or from audio transcription can be time stamped, for example, according to when it appeared, was heard, and/or according to the video frame from which it was pulled.

At 330, the engine combines the topics as an array of keys and values with respect to the segments. The engine can segment the topics over a period of time and weight the strength of each topic. Further, the engine applies the topical meta-data to the original full video. The image topics can be stored as topics for the entire video or each image segment. The topic generation process can be repeated for all identifiable symbols in a video in a distributed process. The outcome would be several topical descriptors of the content within a video. An example of the aggregate information that can be derived using the above example would be a determination that the video presented a dog, which was jumping, on the beach, with people, by a resort.

Although further described herein, image detection can be considered a process of determining if a pattern or patterns exist in an image and whether the pattern or patterns meet criteria of a face, image, and/or text. If the result is positive, image recognition can be employed. Image recognition can generally be considered matching of detected objection to known objects and/or matching through machine learning. Generally speaking, detection and recognition, while sharing various aspects, are distinct.

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Identifying various objects in an image can be a difficult task. For example, locating (segmenting) and positively identifying an object in a given frame or image can yield false positives — locating but wrongfully identifying an object. Therefore, present embodiments can be utilized to eliminate false positives, for example, by using context. As one example, if the audio soundtrack of a video is an announcer calling a football game, then identification of ball in a given frame as a basketball can be assigned a reduced probability or weighting. As another example of using context, if a given series of image frames from a video is positively or strongly identified as a horse race, then identifying an object to be a mule or donkey can be given a reduced weight.

Using the context or arrangement of certain objects in a given still or static image to aid in computer visual recognition accuracy can be an extremely difficult task given certain challenges associated with partially visible or self-occluded objects, lack of objects, and/or faces, and/or words or an overly cluttered image, etc. However, the linear sequencing of frames from a video – as opposed to a stand-alone image – avails itself to a set images {images x-y} from which context can be derived. This contextual methodology can be viewed as systematic detection of probable image false positives by identifying an object from one video frame (or image) as an anomaly when compared to and associated with a series of image frames both prior and subsequent to the purported anomaly. According to the objects, faces, words, etc. of a given set of frames (however defined), a probability can be associated with an identified anomaly to determine whether an image may be a false positive and, if so, what other likely results should be.

In certain instances, identification of an individual can be a difficult task. For example, facial recognition can become difficult when an individual's face is obstructed by another object like a football, a baseball helmet, a musical instrument, or other obstructions. An advantage of some embodiments described herein can include the ability to identify an individual without identification of the individual's face. Embodiments can use contextual information such as associations of objects, text, and/or other context within an image or video. As one example, a football player scores a touchdown but rather than identifying the player using facial recognition, the player can be identified by object recognition of, for example, the player's team's logo, text recognition of the player's jersey number, and by cross referencing this data with that team's roster (as oppose to another team, which is an example of why the logo recognition can be

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important). Such embodiments can further learn to identify that player more readily and save his image as data.

Similarly, the audio transcript of a video can be used to derive certain context helpful in identifying and correcting or eliminating image false positives. In this way, an image anomaly or anomalies identified in a given video frame(s) are associated with time (time stamped) and correlated with a time range from the transcribed audio to establish certain probabilities of accuracy.

Moreover, the aforementioned methodologies – establishing probabilities of accuracy of image identification from a set of frames and from the audio transcription – can be combined to improve the results.

In some embodiments, a similar context methodology can be used to identify unknown objects in a given image by narrowing a large, or practically infinite, number of possibilities to a relatively small number of object possibilities and assigning probabilities. For example, neuro-linguistic programming (NLP), neural network programming, or deep neural networks can be utilized to achieve sufficient narrowing and weighting. For further example, based on a contextual review of a large number of objects over a period of time, a series of nodes in parallel and/or in series can be developed by the processor. Upon initial recognition of objects and context, these nodes can assign probabilities to the initial identification of the objection with each node in turn using context and further description to narrow the probabilistic choices of an object. Other methodologies can be utilized to determine and/or utilize context as described herein.

Natural language processing can be useful in creating an intuitive and/or user-friendly computer-human interaction. In some embodiments, the system can select semantics or topics, following certain rules, from a plurality of possible semantics or topics, can give them weight based on strength of context, and/or can do this a distributed environment. The natural language processing can be augmented and/or improved by implementing machine-learning. A large training set of data can be obtained from proprietary or publicly available resources. For example, CBS News maintains a database of segments and episodes of "60-Minutes" with full transcripts, which can be useful for building a training set and for unattended verification of audio segmentation. The machine learning can include ensemble learning based on the concatenation of several classifiers, i.e. cascade classifiers.

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At 130, an optional step of natural language processing can be applied to the image text. For example, based on dictionary, grammar, and a knowledge database, the text extracted from video images can be modified as the video-to-data engine selects primary semantics from a plurality of possible semantics. In some embodiments, the system and method can incorporate a Fourier transform of the audio signal. Such filtering can improve silence recognition, which can be useful for determining proper placement of commas and periods in the text file.

In parallel, at 140, the video-to-data engine can perform audio-to-text processing on audio data associated with the video. For example, for a movie video, the associated audio may be the dialog or even background music.

In addition to filtering of the audio signal, images from the video signal can be processed to address, for example, the problem of object noise in a given frame or image. Often images are segmented only to locate and positively identify one or very few main images in the foreground of a given frame. The non-primary or background images are often treated as noise. Nevertheless, these can provide useful information, context and/or branding for two examples. To fine-tune the amount of object noise cluttering a data set, it can be useful to provide a user with an option to dial image detection sensitivity. For certain specific embodiments, identification of only certain clearly identifiable faces or large unobstructed objects or band logos can be required with all other image noise disregarded or filtered, which can require less computational processing and image database referencing, in turn reducing costs. However, it may become necessary or desirable to detect more detail from a frame or set of frames. In such circumstances, the computational thresholds for identification of an object, face, etc. can be altered according to a then stated need or desire for non-primary, background, obstructed and/or grainy type images. Such image identification threshold adjustment capability can be implemented, for example, as user-controlled interface, dial, slider, or button, which enables the user to make adjustments to suit specific needs or preferences.

An example of the audio data processing is illustrated in Figure 4. In Figure 4, the audio data 410 can be segmented into N segments and processed in parallel (e.g., distributed processing 420-1 to 420-N), allowing for near real-time processing.

In some embodiments, the segmentation can be performed by a fixed period of time. In another example, quiet periods in the audio data can be detected, and the segmentation can be defined by the quiet periods. For example, the audio data can be processed and converted into a

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spectrum. Locations where the spectrum volatility is below a threshold can be detected and segmented. Such locations can represent silence or low audio activities in the audio data. The quiet periods in the audio data can be ignored, and the processing requirements thereof can be reduced.

Audio data and/or segments of audio data can be stored in, for example, memory or storage device discussed above. Copies of the audio segments can be sent to audio processing.

The audio data for each segment can be translated into text in parallel, for example through distributed computing, which can reduce processing time. Various audio analysis tools and processes can be used, such as audio feature detection and extraction, audio indexing, hashing and searching, semantic analysis, and synthesis.

At 430, text for a plurality of segments can then be combined. The combination can result in segmented transcripts and/or a full transcript of the audio data. In an embodiment, the topics in each segment can be extracted. When combined, the topics in each segment can be given a different weight.

The audio topics can be stored as topics for the entire video or each audio segment.

At 150, an optional step of natural language processing can be applied to the text. For example, based on dictionary, grammar, and/or a knowledge database, the text extract from the audio stream of a video can be given context, an applied sentiment, and topical weightings.

At 160, the topics generated from an image or a frame and the topics extracted from audio can be combined. The text can be cross-referenced, and topics common to both texts would be given additional weights. At 170, the video-to-data engine generates video text, such as text describing the content of the video, using the result of the combined texts and cross reference. For example, key words indicating topic and semantic that appear in both texts can be selected or emphasized. The output can also include metadata that can be time-stamped with frame references. The metadata can include the number of frames, the range of frames, and/or timestamp references.

Figure 2 illustrates another embodiment of the present invention. User equipment (UE) 210 can communicate with a server or servers 220 via a network 230. An exemplary embodiment of the system can be implemented over a cloud computing network.

For exemplary purposes only, and not to limit one or more embodiments herein, Figure 6 illustrates a flow diagram of an embodiment. A video file is first split into video data and audio

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data. A data pipeline, indicated in the figure as Video Input/Output, can extract sequences of image frames and can warehouse compressed images in a distributed data store as image frame data. A distributed computation engine can be dedicated to image pre-processing, performing e.g. corner and/or edge detection and/or image segmentation. The engine can also be dedicated to pattern recognition, e.g. face detection and/or logo recognition, and/or other analysis, such as motion tracking. Processed data can be sent to one or more machines that can combine and/or sort results in a time-ordered fashion. Similarly, the Audio Input/Output represents a data pipeline for e.g. audio analysis, compression, and/or warehousing in a distributed file system. The audio can be, for example but not limited to WAV, .MP3, or other known formats. Also similarly to the video branch, a distributed computation engine can be dedicated to audio pre-processing, e.g. noise removal and/or volume adjustment, pattern recognition, e.g. transcription and/or keyword detection, and/or other analysis, e.g. identifying unique speakers. Processed audio data can be sent to one or more machines that reassemble transcript segments in their correct time-order. A time-stamped transcript can be sent through an NLP, or other preferred system or analysis, which can transform the data in time-ordered topics and/or subject matter. Both branches converge to output data from parallel video and audio pipelines. The output data can be synced into one or more machines that can combine image and audio generated topics and/or tags which can be applied towards a number of user experiences or user-defined outputs. Such experiences can include search engine optimization, video categorization, recommendation engines, advertisement targeting, content personalization, analytics, etc. The output can include metadata that is time-stamped with frame references. The metadata can include the number of frames, the range of frames, and/or timestamp references.

The UE 210 can include, for example, a laptop, a tablet, a mobile phone, a personal digital assistant (PDA), a keyboard, a display monitor with or without a touch screen input, and an audiovisual input device. In another implementation, the peripheral devices may themselves include the functionality of the general-purpose computer. For example, the mobile phone or the PDA may include computing and networking capabilities and function as a general purpose computer by accessing a network and communicating with other computer systems.

The server 220 can include the general purpose computer discussed above.

The network 230 includes, for example, the Internet, the World Wide Web, WANs, LANs, analog or digital wired and wireless telephone networks (e.g., Public Switched Telephone

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Network (PSTN), Integrated Services Digital Network (ISDN), and Digital Subscriber Line (xDSL)), radio, television, cable, or satellite systems, and other delivery mechanisms for carrying data. A communications link can include communication pathways that enable communications through one or more networks.

In some embodiments, a video-to-data engine can be embodied in a server or servers 220. The UE 210, for example, requests an application relating to the video stream. The servers 220 perform the audio-to-text process on the segmented audio in parallel. The distributed audio-to-text processing reduces the overall response time. This method allows real-time audio-to-text conversion.

The UE 210 communicates with the server 220 via the network 230 for video stream application. The video-to-data engine can generate the video text as illustrated in Figure 2. The server 220 then generates advertisement (text, images, or animation) based on the video text. In some embodiments, the server adds the advertisement to a specific symbol, image, frame, or a specific time in the video stream. The specific symbol, image, frame, or the specific time in the video stream can be selected based on the video text.

The server 220 can add the audio text to the video stream in real time (i.e. real time close caption).

The server 220 can generate video recommendation based on a database of the video text. In some embodiments, the server 220 can search videos based on the video text (e.g., via a database of video text). In this fashion, video search can be optimized. Applications for the video search optimization may include search engine optimization (SEO), search engine marketing (SEM), censorship and removal materials of copyright violation.

The video streams can be videos viewed by a user, and the server 220 generates a preference profile for the user using the video data.

In an embodiment, as shown in Figure 5 for example, a server node can fetch a video file. For example, a URL can be used to fetch the video file from an Internet such as YouTube, and from such URL the video can be scraped. The server can divide the video into chunks of smaller data files for processing on several nodes of a cluster in parallel. For example, the video file can be separated into audio files and image frame files. Each of the types of files can be normalized.

The normalized audio files can be split into constituent files for processing and reduction in parallel by various nodes. Various reduction processes can be performed on the constituent

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audio files such as phoneme detection and assembly as well as grammar assembly. An output of the audio processing steps can be an extracted text map.

The normalized image frame files can be processed in order to extract various data maps, such as a text map, a tag map, a brand, an object map, a feature map, and/or a tracking map. Such maps can be achieved through various extraction steps. For example, the normalized image frame files can be analyzed for text identification and/or by optical character recognition. The data can be improved through a dictionary verification step. Various maps can be created based on edge detection and/or image segmentation techniques. Such techniques can be improved by focusing on regions of interest, for example based on brands, logos, objects, and/or features of interest. Additionally, or alternatively, pixel gradients of the normalized image frame files can be analyzed and/or the files can be segmented by temporal and/or spatial components, and thus, for example, allow extraction of motion within the video images, which in turn can be used for tracking.

Identification of motion or action in a still image can be a challenge in the vision science field. However, the linear sequencing of frames from a video – as opposed to a stand-alone image – avails itself motion detection. A series of sequential frames can be analyzed in groups to identify actions, rather than merely objects, or, as a manifestation of data, verbs rather than nouns. For example, an object found across several frames can be identified and the object's motion can be determined with a high degree of accuracy. For further example, a processor can analyze a collection of x sequential frames to identify a basketball found in each frame. The processor then can analyze the motion of the basketball to determine that a basket was made by slam-dunking. Or, a certain automobile may be identified in frame a, with a crashed automobile identified in frame z, with the sequential frames in between a and z identifying the action of said car crashing. The accuracy of the action-identification can be improved by utilizing contextual recognition methodologies discussed herein. For example, the probability of positively identifying a slam-dunk action can be increased if Michael Jordan is identified in the context of the video and/or images. Action identification can be further improved, in addition to modeling context of objects, by analyzing human poses, for example by building a learning set of still images capturing known actions.

In an embodiment, as shown in Figure 7 for example, to generate metadata, several sub-systems may operate on the video. An image recognition sub-system 750 can take frames from

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the video, and isolate and identify objects present in the frame. An audio recognition sub-system 760 can include automatic speech recognition, sound identification and music identification. A natural language processing (NLP) sub-system 770 can annotate and assign meaning to keywords that are generated by the image and audio sub-systems.

The automatic speech recognition (ASR) model can be a set of statistical structures and operation used for determining words from expected audio signals. The ASR model can consist of an acoustic model (AM) and a language model (LM) between which there is near perfect overlap. The acoustic model can map audio speech features to sounds/word-parts. For example, a series of features might be mapped to the "ah" sound in "bath." The language model can consist of a dictionary of known words and their phonetic mappings to sounds/word-parts and a statistical weighting of likelihood of a given word occurring given the previous one or two words. Speech may contain words and phrases not commonly used in "regular" language, e.g., double dribble, free throw, slap shot, high-sticking, etc. Accordingly, the language model can also consist of a topic-specific dictionary, with associated phonetic variants for each word, and may also consist of a statistical N-gram model of word probabilities, e.g., "slam dunk" is a common phrase but will be used more frequently in sports reporting than in general language.

The acoustic model can process audio waveforms to generate a series of speech features based on Mel-Frequency Cepstral Coefficients (MFCCs) that are generated using a series of signal processing techniques including pre-emphasis, cosine or hamming windowing, FFT, Mel-filtering, log power spectrum, DCT and the computation of delta and delta-delta coefficients. The automatic speech recognition can encompass a wide variety of tasks, e.g., connected digit recognition, dialogue systems, large vocabulary continuous speech recognition (LVCSR). Automatic speech recognition can work in part by having a statistical understanding of what words can follow other words.

The following operational sub-systems (710,720, 730, 740, 780, 790, and 795) can be utilized to support the metadata generation process. Web application servers 710 can provide clients with the ability to use the service provided by the system, e.g., upload, monitor progress and receive outcomes. A video processing sub-system 720 can transform the video file into data on which the metadata generating sub-systems operate. An auditing/coordination sub-system 730 can monitor the overall system performance, and can generate operational and business analytic data. An operational data storage sub-system 740 can store the generated metadata as well as

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operational and business analytic data for use in active, online processes. A search sub-system 780 can index client results, and can make them searchable via the web application. An offline data storage system 795 can hold the history of all operations performed in the system including business and operational data. An extract-transform-load (ETL) subsystem 790 can regularly write the to the offline data storage sub-system.

An architecture based on distributed message queuing and distributed data storage 700 may be utilized to build a scalable system, to optimally allocate resources for performance, to enhance failure and overload resiliency. A distributed message queuing system may produce data that gets delivered to a particular queue at which time it gets consumed by a component that watches that queue. The distributed queuing system can be removed.

For exemplary purposes only, and not to limit one or more embodiments herein, Figure 8 illustrates a flow diagram of an embodiment of image recognition. The images can be classified as faces and objects, and typically an image can contain faces and objects. Image recognition can include two components: image detection 800 and image recognition 810. Image detection can be utilized to determine if there is a pattern or patterns in an image that meet the criteria of a face, image, or text. If the result is positive, the detection processing then moves to recognition, i.e. image matching. Fractal computations can occur in recognition. Recognition processing can include creating a fractal representation of the face or object that was detected, performing a match to an existing database of faces and objects, and assigning a value (or a name) to the face or object and then returning to the requesting program.

The system can utilize facial recognition algorithms to identify facial fractals by extracting landmarks from an image of the subject's face. For example, the algorithm can analyze the relative position, size, and/or shape of the eyes, nose, cheekbones, and jaw. These features can then be used to search for other images with matching features. Other algorithms can normalize a gallery of face images and then compress the face data, only saving the fractal data in the image that is useful for face recognition. A probe image can then be compared with the face data. Two exemplary approaches to recognition algorithms can be generally divided into two: geometric, which looks at distinguishing features; and photometric, which is a statistical approach that distills an image into values and compares the values with templates to eliminate variances.

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The recognition algorithms of some embodiments can include principal component analysis using eigen faces, linear discriminate analysis, elastic bunch graph matching using the Fisherface algorithm, hidden Markov model, multi-linear subspace learning using tensor representation, and neuronal motivated dynamic link matching. A hybrid using, for example, fractal genesis can be constructed to detect the face with one or more of the elements described above.

Three-dimensional face recognition can also be used. This technique can use 3D sensors to capture fractal information about the shape of a face. This information can then be used to identify distinctive features on the surface of a face, such as the contour of the eye sockets, the nose, and/or the chin. An advantage of 3D facial recognition is that it is not affected by changes in lighting. It can also identify a face from a range of viewing angles, including a profile view. Three-dimensional data points from a face can vastly improve the precision of facial recognition. Although called "facial" recognition, the algorithms can be used to detect other objects, animate or inanimate.

To improve the accuracy of detection, the hybrid can also use the visual details of the skin or other surfaces. This technique, called skin texture analysis, turns the unique lines, patterns, and spots apparent in a person's skin or an object's surface into a mathematical fractal space. With the addition of skin texture analysis, performance in recognizing faces can increase roughly 20 to 25 percent.

Although not a requirement of any embodiment, the following recognition models can be utilized, alone or in combination, and are provided to illustrate exemplary alternative embodiments.

PCA: Principal component analysis (PCA) is derived from Karhunen-Loeve's transformation. Given an s-dimensional vector representation of each face in a training set of images, PCA can find a t-dimensional subspace whose basis vectors correspond to the maximum variance direction in the original image space. This new subspace can typically have a lower dimensionality (often $t << s$). If the image elements are considered as random variables, the PCA basis vectors are defined as eigenvectors of the scatter matrix.

LDA: Linear discriminant analysis can find vectors in an underlying space that best discriminate among classes. For all samples of all classes the between-class scatter

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matrix SB and the within-class scatter matrix SW are defined. A goal can be to maximize SB while minimizing SW, in other words, maximize the ratio det|SB|/det|SW| . This ratio can be maximized when the column vectors of the projection matrix are the eigenvectors of ($SW^{-1} \times SB$).

EAA: An eigenspace-based adaptive approach (EAA) can search for a best set of projection axes in order to maximize a fitness function, measuring at the same time the classification accuracy and generalization ability of the system. Because the dimension of the solution space of this problem can be large, EAA can be solved using a specific kind of genetic algorithm, for example, evolutionary pursuit (EP).

EBGM: Elastic bunch graph matching (EBGM) can be utilized. Human faces share similar topological structures. Faces can be represented as graphs, with nodes positioned at fiducial points. Edges can be labelled with 2-D distance vectors. Each node can contain a set of complex Gabor wavelet coefficients, for example 40 coefficients, at different scales and orientations, which can represent phase and/or amplitude, called "jets". Recognition can be based on labelled graphs. A labelled graph is a set of nodes connected by edges; nodes are labelled with jets; edges are labelled with distances.

KM: The face manifold in subspace need not be linear. Kernel methods (KM) are a generalization of linear methods. Direct non-linear manifold schemes can be exploited to learn the non-linear manifold.

TT: Trace transform (TT), a generalization of the Radom transform, is a tool for image processing which can be used for recognizing objects under transformations, e.g. rotation, translation, and/or scaling. A trace transform can be produced by computing functionals of the image function along lines crisscrossing its domain and/or along tracing lines of an image. Different trace transforms can be produced from an image using different trace functionals.

3-DMM: A human face is a surface lying in the 3-D space intrinsically. Therefore a 3-D model can be better for representing faces, especially to handle facial variations, such as pose, illumination, etc. A 3-D morphable model (3-DMM) can be utilized to encode shapes and textures in terms of model parameters. The 3-DMM algorithm can recover these parameters from a single image of a face.

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BF: The Bayesian framework can be utilized to determine and/or measure probabilistic similarities based on the image intensity differences characteristic of typical variations in appearance between individuals. Two classes of facial image variations can be defined: intrapersonal variations and extrapersonal variations. Similarity among faces can then be measured using Bayesian rule.

HMM: Hidden Markov models (HMM) are a set of statistical models used to characterize the statistical properties of a signal. HMM can include two interrelated processes: (1) an underlying, unobservable Markov chain with a finite number of states, a state transition probability matrix, and an initial state probability distribution; and (2) a set of probability density functions associated with each state.

FG-h: Image intensity differences are characteristic of typical variations in appearance of an individual. A human face is a surface lying in the fractal space intrinsically. Since many of the parameters are self-similar, the fractal model can better represent faces, especially in handling facial variations, such as pose, illumination, etc. An improvement, fractal genesis (hybrid) (FG-h), can integrate components of other algorithms into the fractal model to form fractal genesis.

An advantage of present embodiments includes the ability to provide real-time or faster-than-real-time content output. This can be achieved through one or more components and/or steps. For example, a video file can be distributed across at least two layers for processing. The audio can be converted to text on at least one layer, and the images can be processed on at least one other layer. In some embodiments, natural language processing can abstract topics, sentiments, temporal topic-tagging, and can be used for further optimization and/or machine learning. The layers can include node clusters for parallel processing chunks of the video file into the preferred content. In some embodiments, the files can be maintained and processed in parallel at each step, and then combined into a single data file as one of the terminal processing steps.

Present embodiments have wide application. For example, video indexing, reverse image lookup, video co-groupings and graph searches, and video similarity indexing, as described herein, can be used for searching, for classification, and for recommendations regarding processed videos. Law enforcement and security industries can implement embodiments for object recognition and motion detection. Media, entertainment, and industrial entities can

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implement embodiments to monitor for trademark infringement, captioning, advertising and targeting, brand and product monitoring and data collection, and marketing analytics. These exemplary implementations are not intended to be limiting, merely exemplary.

Additionally, or alternatively, to actively fetching and scraping a video, the system and method can be automated as a push system and/or a web crawling system. For example, the server can monitor or online content of specific providers, such as YouTube, Vimeo, Blip, the growing myriad of video-content creating websites, and/or other online video providers. The system and method can also be used in the context of specific databases and/or stored private video content. Monitoring of published videos can be tailored to search for extracted data relevant to specific requesters. For example, a purveyor of certain products can be apprised in real-time of new content relevant to the products. Such relevant content can include the context in which the products are found in the video, the appearance of competing products, verification of product placement, and other useful information.

All of the methods disclosed and claimed herein can be made and executed without undue experimentation in light of the present disclosure. While the apparatus and methods of this invention have been described in terms of preferred embodiments, it will be apparent to those of skill in the art that variations may be applied to the methods and in the steps or in the sequence of steps of the method described herein without departing from the concept, spirit and scope or the invention. In addition, from the foregoing it will be seen that this invention is one well adapted to attain all the ends and objects set forth above, together with other advantages. It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and sub-combinations. This is contemplated and within the scope of the appended claims. All such similar substitutes and modifications apparent to those skilled in the art are deemed to be within the spirit and scope of the invention as defined by the appended claims.

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CLAIMS

1. A method to generate video data from a video comprising:

generating audio files and image files from the video;

distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel;

converting audio files associated with the video to text;

converting the image files associated with the video to video data;

cross-referencing the text and the video data with the video.

2. The method according to claim 1, further comprising:

generating a content-rich video based on the video, the text, and the video data.

3. The method according to claim 1, further comprising:

applying natural language processing to the text to determine context associated with the video.

4. The method according to claim 2, further comprising:

applying natural language processing to the text to extract a topic.

5. The method according to claim 1, further comprising:

processing the image files to extract additional text.

6. The method according to claim 5, wherein the additional text is generated by segmenting the image files before processing the image files in parallel.

7. The method according to claim 1, further comprising:

processing the image files to extract an object and determine a motion associated with the object.

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8. The method according to claim 1, wherein the text is generated by segmenting the audio before processing the audio files in parallel.

9. The method according to claim 7, wherein the audio files and the image files are segmented at spectrum thresholds.

10. The method according to claim 1, further comprising:

generating an advertisement based on the text and the video data.

11. The method according to claim 10, further comprising:

placing the advertisement in the video at a preferred time.

12. The method according to claim 1, further comprising:

generating metadata.

13. The method according to claim 12, wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references.

14. A system for extracting data from a video, comprising:

a computer processor; and

a non-transitory computer readable medium containing instructions directing the system to execute the steps of:

converting audio associated with the video to text;

converting images associated with the video to video data;

extracting topics from the text and the video data;

cross-referencing the text, the video data, and the topics with the video; and

generating a content-rich video.

15. The system according to claim 14, wherein converting the audio comprises natural language processing.

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16. The system according to claim 14, wherein the computer directs the audio to be converted by at least one node of a cluster and the computer directs the images to be converted by at least one other node of the cluster in parallel.

17. The server according to claim 14, wherein the audio and the images are segmented at spectrum thresholds.

18. The system according to claim 14, wherein the computer directs the system to generate metadata.

19. The system according to claim 14, wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references.

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PROVISIONAL APPLICATION FOR PATENT COVER SHEET – Page 1 of 2

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No. _____

INVENTOR(S)		
Given Name (first and middle (if any))	Family Name or Surname	Residence (City and either State or Foreign Country)
Bartlett Wade	Smith, IV	Madison, MS
Allison A.	Talley	Ridgeland, MS

Additional inventors are being named on the _____ separately numbered sheets attached hereto.

TITLE OF THE INVENTION (500 characters max):

VIDEO TO DATA

Direct all correspondence to: **CORRESPONDENCE ADDRESS**

☑ The address corresponding to Customer Number: 27890

OR

☐ Firm or Individual Name

Address

City	State	Zip
Country	Telephone	Email

ENCLOSED APPLICATION PARTS (*check all that apply*)

☑ Application Data Sheet. See 37 CFR 1.76.
☐ CD(s), Number of CDs _____
☑ Drawing(s) *Number of Sheets* 23
☐ Other (specify) _____
☑ Specification (e.g., description of the invention) *Number of Pages* 9

Fees Due: Filing Fee of $260 ($130 for small entity) ($65 for micro entity). If the specification and drawings exceed 100 sheets of paper, an application size fee is also due, which is $400 ($200 for small entity) ($100 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

METHOD OF PAYMENT OF THE FILING FEE AND APPLICATION SIZE FEE FOR THIS PROVISIONAL APPLICATION FOR PATENT

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☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Applicant must attach form PTO/SB/15A or B or equivalent.
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PROVISIONAL APPLICATION FOR PATENT COVER SHEET – Page 2 of 2

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☑ No.

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SIGNATURE /Harold H. FOX Reg# 41498/ DATE July 7, 2014

TYPED OR PRINTED NAME Harold H. Fox REGISTRATION NO. 41,498 (*if appropriate*)

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DocCode – SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 62021666 Document Date: 07/07/2014

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Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

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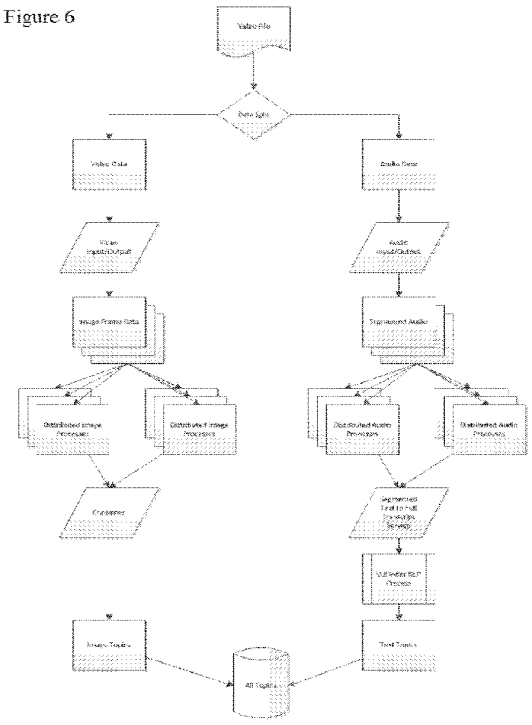
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[Continued on next page]

(54) Title: VIDEO TO DATA

Figure 6



(57) Abstract: A method and system can generate video content from a video. The method and system can include generating audio files and image files from the video, distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel. The audio files associated with the video to text and the image files associated with the video to video content can be converted. The text and the video content can be cross-referenced with the video.

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VIDEO TO DATA

CLAIM OF PRIORITY

This application claims priority to U.S. Patent Application No. 14/175,741, filed February 7, 2014, which claims priority to U.S. Provisional Patent Application No. 61/866,175, filed on August 15, 2013, and claims priority to U.S. Provisional Patent Application No. 62/021,666, filed July 7, 2014, each of which is incorporated by reference in its entirety.

TECHNICAL FIELD

The present invention relates to a method and a system for generating various and useful data from videos.

BACKGROUND

In the field of image contextualization, distributed reverse image similarity searching can be used to identify images similar to a target image. Reverse image searching can find exactly matching images as well as flipped, cropped, and altered versions of the target image. Distributed reverse image similarity searching can be used to identify symbolic similarity within images. Audio-to-text algorithms can be used to transcribe text from audio. An exemplary application is note-taking software. Audio-to-text, however, lacks semantic and contextual language understanding.

SUMMARY

The present invention is generally directed to a method to generate data from video content, such as text and/or image-related information. A server executing the method can be directed by a program stored on a non-transitory computer-readable medium. The video text can be, for example, a context description of the video.

An aspect of the method can include generating text from an image of the video, converting audio associated with the video to text, extracting topics from the text converted from the audio, cross-referencing the text generated from the image of the video and the topics extracted from audio associated with the video, and generating video text based on a result of the cross-referencing.

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In some embodiments, natural language processing can be applied to the generation of text from an image of the video, converting audio associated with the video to text, or both.

In other embodiments, the text from the image of the video can be generated by identifying context, a symbol, a brand, a feature, an object, and/or a topic in the image of the video.

In yet other embodiments, the text from the image can be generated by first segmenting images of the video, and then converting the segments of images to text in parallel. The text from the audio can be generated by first segmenting images of the audio, and then converting the segments of images to text in parallel. The audio can be segmented at spectrum thresholds. The generated text may be of different sizes. The size of the text can be adjusted by a ranking or scoring function that, for example, can adjust the text size based on confidence in the description or relevance to a search inquiry. The text can describe themes, identification of objects or other information of interest.

In some embodiments, the method can include generating advertising and/or product or service recommendations based on video content. The video content can be text, context, symbols, brands, features, objects, and/or topics related to or found in the video. An advertisement and/or product or service recommendations can be placed at a specific time in the video based on the video content and/or section symbol of a video image. The advertisement and/or product or service recommendations can also be placed at a specific time as part of the video player, e.g., side panel, and also may be placed on a second screen. In some embodiments, the method can include directing when one or more advertisements can be placed in a predetermined context at a preferred time.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is further described in the detailed description which follows, in reference to the noted plurality of drawings by way of non-limiting examples of certain embodiments of the present invention, in which like numerals represent like elements throughout the several views of the drawings, and wherein:

FIG. 1 illustrates an embodiment of present invention.

FIG. 2 illustrates an embodiment of image data processing.

FIG. 3 illustrates an embodiment of audio data processing.

FIG. 4 illustrates another embodiment of present invention.

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FIG. 5 illustrates various exemplary embodiments of present invention.

FIG. 6 illustrates a flow diagram of an embodiment

FIG. 7 illustrates an embodiment of the architecture of the present invention.

FIG. 8 illustrates a flow diagram of an embodiment of image recognition.

FIG. 9 illustrates an embodiment of a graphical user interface of the present invention.

DETAILED DESCRIPTION

A detailed explanation of the system and method according to exemplary embodiments of the present invention are described below. Exemplary embodiments described, shown, and/or disclosed herein are not intended to limit the claims, but rather, are intended to instruct one of ordinary skill in the art as to various aspects of the invention. Other embodiments can be practiced and/or implemented without departing from the scope and spirit of the claimed invention.

The present invention is generally directed to system, device, and method of generating content from video files, such as text and information relating to context, symbols, brands, features, objects, faces and/or topics found in the images of such videos. In an embodiment, the video-to-content engine can perform the functions directed by programs stored in a computer-readable medium. That is, the embodiments may take the form of a hardware embodiment (including circuits), a software embodiment, or an embodiment combining software and hardware. The present invention can take the form of a computer-program product that includes computer-useable instructions embodied on one or more computer-readable media.

The various video-to-content techniques, methods, and systems described herein can be implemented in part or in whole using computer-based systems and methods. Additionally, computer-based systems and methods can be used to augment or enhance the functionality described herein, increase the speed at which the functions can be performed, and provide additional features and aspects as a part of or in addition to those described elsewhere in this document. Various computer-based systems, methods and implementations in accordance with the described technology are presented below.

A video-to-content engine can be embodied by the a general-purpose computer or a server and can have an internal or external memory for storing data and programs such as an operating system (e.g., DOS, Windows 2000™, Windows XP™, Windows NT™,

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OS/2, UNIX or Linux) and one or more application programs. Examples of application programs include computer programs implementing the techniques described herein for lyric and multimedia customization, authoring applications (e.g., word processing programs, database programs, spreadsheet programs, or graphics programs) capable of generating documents or other electronic content; client applications (e.g., an Internet Service Provider (ISP) client, an e-mail client, or an instant messaging (IM) client) capable of communicating with other computer users, accessing various computer resources, and viewing, creating, or otherwise manipulating electronic content; and browser applications (e.g., Microsoft's Internet Explorer) capable of rendering standard Internet content and other content formatted according to standard protocols such as the Hypertext Transfer Protocol (HTTP). One or more of the application programs can be installed on the internal or external storage of the general-purpose computer. Alternatively, application programs can be externally stored in or performed by one or more device(s) external to the general-purpose computer.

The general-purpose computer or server may include a central processing unit (CPU) for executing instructions in response to commands, and a communication device for sending and receiving data. One example of the communication device can be a modem. Other examples include a transceiver, a communication card, a satellite dish, an antenna, a network adapter, or some other mechanism capable of transmitting and receiving data over a communications link through a wired or wireless data pathway.

The general-purpose computer or server may also include an input/output interface that enables wired or wireless connection to various peripheral devices. In one implementation, a processor-based system of the general-purpose computer can include a main memory, preferably random access memory (RAM), and can also include a secondary memory, which may be a tangible computer-readable medium. The tangible computer-readable medium memory can include, for example, a hard disk drive or a removable storage drive, a flash based storage system or solid-state drive, a floppy disk drive, a magnetic tape drive, an optical disk drive (Blu-Ray, DVD, CD drive), magnetic tape, paper tape, punched cards, standalone RAM disks, Iomega Zip drive, etc. The removable storage drive can read from or write to a removable storage medium. A removable storage medium can include a floppy disk, magnetic tape, optical disk (Blu-Ray disc, DVD, CD) a memory card (CompactFlash card, Secure Digital card, Memory Stick), paper data storage (punched card, punched tape), etc., which can be removed from

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the storage drive used to perform read and write operations. As will be appreciated, the removable storage medium can include computer software or data.

In alternative embodiments, the tangible computer-readable medium memory can include other similar means for allowing computer programs or other instructions to be loaded into a computer system. Such means can include, for example, a removable storage unit and an interface. Examples of such can include a program cartridge and cartridge interface (such as the found in video game devices), a removable memory chip (such as an EPROM or flash memory) and associated socket, and other removable storage units and interfaces, which allow software and data to be transferred from the removable storage unit to the computer system.

An embodiment of video-to-content engine operation is illustrated in FIG. 1. At 110, a video stream is presented. The video stream may be in format of (but not limited to): Advanced Video Codec High Definition (AVCHD), Audio Video Interlaced (AVI), Flash Video Format (FLV), Motion Picture Experts Group (MPEG), Windows Media Video (WMV), or Apple QuickTime (MOV), h.264 (MP4).

The engine can extract audio data and image data (e.g. images or frames forming the video) from the video stream.

In some embodiments, the video stream and the extracted image data can be stored in a memory or storage device such as those discussed above. A copy of the extracted image data can be used for processing.

At 120, the video-to-content engine performs an image data processing on the video stream. An example of the image data processing is illustrated in FIG. 2. In FIG. 2, the image data 310 can be segmented into N segments and processed in parallel (e.g., distributed processing 320-1 to 320-N), allowing for near real-time processing.

An example of the video image data processing can be symbol (or object) based. Using image processing technique such as color edge detection, a symbol of a screen or an image of the video can be isolated. The symbol can be identified using an object template database. For example, the symbol includes 4 legs and a tail, and when matched with the object template database, the symbol may be identified as a dog. The object template database can be adaptive and therefore, the performance would improve with usage.

Other image data processing techniques may include image extraction, high-level vision and symbol detection, figure-ground separation, depth and motion perception.

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Another example of video image processing can be color segmentation. The colors of an image (e.g., a screen) of the video can be segmented or grouped. The result can be compared to a database using color similarity matching.

Based on the identified symbol, a plurality of instances of the symbol can be compared to a topic database to identify a topic (such as an event). For example, the result may identify the dog (symbol) as running or jumping. The topic database can be adaptive to improve its performance with usage.

Thus, using the processing example above, text describing a symbol of the video and topic relating to the symbol may be generated, as is illustrated in FIG. 9. Data generated from an image and/or from audio transcription can be time stamped, for example, according to when it appeared, was heard, and/or according to the video frame from which it was pulled.

At 330, the engine combines the topics as an array of keys and values with respect to the segments. The engine can segment the topics over a period of time and weight the strength of each topic. Further, the engine applies the topical meta-data to the original full video. The image topics can be stored as topics for the entire video or each image segment. The topic generation process can be repeated for all identifiable symbols in a video in a distributed process. The outcome would be several topical descriptors of the content within a video. An example of the aggregate information that would be derived using the above example would be understanding that the video presented a dog, which was jumping, on the beach, with people, by a resort.

Identifying various objects in an image can be a difficult task. For example, locating (segmenting) and positively identifying an object in a given frame or image can yield false positives — locating but wrongfully identifying an object. Therefore, present embodiments can be utilized to eliminate false positives, for example, by using context. As one example, if the audio soundtrack of a video is an announcer calling a football game, then identification of ball in a given frame as a basketball can be assigned a reduced probability or weighting. As another example of using context, if a given series of image frames from a video is positively or strongly identified as a horse race, then identifying an object to be a mule or donkey can be given a reduced weight.

Using the context or arrangement of certain objects in a given still or static image to aid in computer visual recognition accuracy can be an extremely difficult task given certain challenges associated with partially visible or self-occluded objects, lack of

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objects, and/or faces, and/or words or an overly cluttered image, etc. However, the linear sequencing of frames from a video – as opposed to a stand-alone image – avails itself to a set images {images x-y} from which context can be derived. This contextual methodology can be viewed as systematic detection of probable image false positives by identifying an object from one video frame (or image) as an anomaly when compared to and associated with a series of image frames both prior and subsequent to the purported anomaly. According to the objects, faces, words, etc. of a given set of frames (however defined), a probability can be associated with an identified anomaly to determine whether an image may be a false positive and, if so, what other likely results should be.

In certain instances, identification of an individual can be a difficult task. For example, facial recognition can become difficult when an individual's face is obstructed by another object like a football, a baseball helmet, a musical instrument, or other obstructions. An advantage of some embodiments described herein can include the ability to identify an individual without identification of the individual's face. Embodiments can use contextual information such as associations of objects, text, and/or other context within an image or video. As one example, a football player scores a touchdown but rather than identifying the player using facial recognition, the player can be identified by object recognition of, for example, the player's team's logo, text recognition of the player's jersey number, and by cross referencing this data with that team's roster (as oppose to another team, which is an example of why the logo recognition can be important). Such embodiments can further learn to identify that player more readily and save his image as data.

Similarly, the audio transcript of a video can be used to derive certain context helpful in identifying and correcting or eliminating image false positives. In this way, an image anomaly or anomalies identified in a given video frame(s) are associated with time (time stamped) and correlated with a time range from the transcribed audio to establish certain probabilities of accuracy.

Moreover, the aforementioned methodologies – establishing probabilities of accuracy of image identification from a set of frames and from the audio transcription – can be combined to improve the results.

In some embodiments, a similar context methodology can be used to identify unknown objects in a given image by narrowing a large, or practically infinite, number of possibilities to a relatively small number of object possibilities and assigning

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probabilities. For example, neuro-linguistic programming (NLP), neural network programming, or deep neural networks can be utilized to achieve sufficient narrowing and weighting. For further example, based on a contextual review of a large number of objects over a period of time, a series of nodes in parallel and/or in series can be developed by the processor. Upon initial recognition of objects and context, these nodes can assign probabilities to the initial identification of the objection with each node in turn using context and further description to narrow the probabilistic choices of an object. Other methodologies can be utilized to determine and/or utilize context as described herein.

Natural language processing can be useful in creating an intuitive and/or user-friendly computer-human interaction. In some embodiments, the system can select semantics or topics, following certain rules, from a plurality of possible semantics or topics, can give them weight based on strength of context, and/or can do this a distributed environment. The natural language processing can be augmented and/or improved by implementing machine-learning. A large training set of data can be obtained from proprietary or publicly available resources. For example, CBS News maintains a database of segments and episodes of "60-Minutes" with full transcripts, which can be useful for building a training set and for unattended verification of audio segmentation. The machine learning can include ensemble learning based on the concatenation of several classifiers, i.e. cascade classifiers.

At 130, an optional step of natural language processing can be applied to the image text. For example, based on dictionary, grammar, and a knowledge database, the text extracted from video images can be modified as the video-to-content engine selects primary semantics from a plurality of possible semantics. In some embodiments, the system and method can incorporate a Fourier transform of the audio signal. Such filtering can improve silence recognition, which can be useful for determining proper placement of commas and periods in the text file.

In parallel, at 140, the video-to-content engine can perform audio-to-text processing on audio data associated with the video. For example, for a movie video, the associated audio may be the dialog or even background music.

In addition to filtering of the audio signal, images from the video signal can be processed to address, for example, the problem of object noise in a given frame or image. Often images are segmented only to locate and positively identify one or very few main images in the foreground of a given frame. The non-primary or background images are

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often treated as noise. Nevertheless, these can provide useful information, context and/or branding for two examples. To fine-tune the amount of object noise cluttering a data set, it can be useful to provide a user with an option to dial image detection sensitivity. For certain specific embodiments, identification of only certain clearly identifiable faces or large unobstructed objects or band logos can be required with all other image noise disregarded or filtered, which can require less computational processing and image database referencing, in turn reducing costs. However, it may become necessary or desirable to detect more detail from a frame or set of frames. In such circumstances, the computational thresholds for identification of an object, face, etc. can be altered according to a then stated need or desire for non-primary, background, obstructed and/or grainy type images. Such image identification threshold adjustment capability can be implemented, for example, as user-controlled interface, dial, slider, or button, which enables the user to make adjustments to suit specific needs or preferences.

An example of the audio data processing is illustrated in FIG. 3. In FIG. 3, the audio data 410 can be segmented into N segments and processed in parallel (e.g., distributed processing 420-1 to 420-N), allowing for near real-time processing.

In some embodiments, the segmentation can be performed by a fixed period of time. In another example, quiet periods in the audio data can be detected, and the segmentation can be defined by the quiet periods. For example, the audio data can be processed and converted into a spectrum. Locations where the spectrum volatility is below a threshold can be detected and segmented. Such locations can represent silence or low audio activities in the audio data. The quiet periods in the audio data can be ignored, and the processing requirements thereof can be reduced.

Audio data and/or segments of audio data can be stored in, for example, memory or storage device discussed above. Copies of the audio segments can be sent to audio processing.

The audio data for each segment can be translated into text in parallel, for example through distributed computing, which can reduce processing time. Various audio analysis tools and processes can be used, such as audio feature detection and extraction, audio indexing, hashing and searching, semantic analysis, and synthesis.

At 430, text for a plurality of segments can then be combined. The combination can result in segmented transcripts and/or a full transcript of the audio data. In an

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embodiment, the topics in each segment can be extracted. When combined, the topics in each segment can be given a different weight.

The audio topics can be stored as topics for the entire video or each audio segment.

At 150, an optional step of natural language processing can be applied to the text. For example, based on dictionary, grammar, and/or a knowledge database, the text extract from the audio stream of a video can be given context, an applied sentiment, and topical weightings.

At 160, the topics generated from an image or a frame and the topics extracted from audio can be combined. The text can be cross-referenced, and topics common to both texts would be given additional weights. At 170, the video-to-content engine generates video text, such as text describing the content of the video, using the result of the combined texts and cross reference. For example, key words indicating topic and semantic that appear in both texts can be selected or emphasized. The output can also include metadata that can be time-stamped with frame references. The metadata can include the number of frames, the range of frames, and/or timestamp references.

FIG. 4 illustrates another embodiment of the present invention. User equipment (UE) 210 can communicate with a server or servers 220 via a network 230. An exemplary embodiment of the system can be implemented over a cloud computing network.

For exemplary purposes only, and not to limit one or more embodiments herein, FIG. 6 illustrates a flow diagram of an embodiment. A video file is first split into video data and audio data. A data pipeline, indicated in the figure as Video Input/Output, can extract sequences of image frames and can warehouse compressed images in a distributed data store as image frame data. A distributed computation engine can be dedicated to image pre-processing, performing e.g. corner and/or edge detection and/or image segmentation. The engine can also be dedicated to pattern recognition, e.g. face detection and/or logo recognition, and/or other analysis, such as motion tracking. Processed data can be sent to one or more machines that can combine and/or sort results in a time-ordered fashion. Similarly, the Audio Input/Output represents a data pipeline for e.g. audio analysis, compression, and/or warehousing in a distributed file system. The audio can be, for example but not limited to WAV, .MP3, or other known formats. Also similarly to the video branch, a distributed computation engine can be dedicated to audio pre-processing, e.g. noise removal and/or volume adjustment, pattern recognition, e.g.

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transcription and/or keyword detection, and/or other analysis, e.g. identifying unique speakers. Processed audio data can be sent to one or more machines that reassemble transcript segments in their correct time-order. A time-stamped transcript can be sent through an NLP, or other preferred system or analysis, which can transform the data in time-ordered topics and/or subject matter. Both branches converge to output data from parallel video and audio pipelines. The output data can be synced into one or more machines that can combine image and audio generated topics and/or tags which can be applied towards a number of user experiences or user-defined outputs. Such experiences can include search engine optimization, video categorization, recommendation engines, advertisement targeting, content personalization, analytics, etc. The output can include metadata that is time-stamped with frame references. The metadata can include the number of frames, the range of frames, and/or timestamp references.

The UE 210 can include, for example, a laptop, a tablet, a mobile phone, a personal digital assistant (PDA), a keyboard, a display monitor with or without a touch screen input, and an audiovisual input device. In another implementation, the peripheral devices may themselves include the functionality of the general-purpose computer. For example, the mobile phone or the PDA may include computing and networking capabilities and function as a general purpose computer by accessing a network and communicating with other computer systems.

The server 220 can include the general purpose computer discussed above.

The network 230 includes, for example, the Internet, the World Wide Web, WANs, LANs, analog or digital wired and wireless telephone networks (e.g., Public Switched Telephone Network (PSTN), Integrated Services Digital Network (ISDN), and Digital Subscriber Line (xDSL)), radio, television, cable, or satellite systems, and other delivery mechanisms for carrying data. A communications link can include communication pathways that enable communications through one or more networks.

In some embodiments, a video-to-content engine can be embodied in a server or servers 220. The UE 210, for example, requests an application relating to the video stream. The servers 220 perform the audio-to-text process on the segmented audio in parallel. The distributed audio-to-text processing reduces the overall response time. This method allows real-time audio-to-text conversion.

The UE 210 communicates with the server 220 via the network 230 for video stream application. The video-to-content engine can generate the video text as illustrated

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in FIG. 1. The server 220 then generates advertisement (text, images, or animation) based on the video text. In some embodiments, the server adds the advertisement to a specific symbol, image, frame, or a specific time in the video stream. The specific symbol, image, frame, or the specific time in the video stream can be selected based on the video text.

The server 220 can add the audio text to the video stream in real time (i.e. real time close caption).

The server 220 can generate video recommendation based on a database of the video text. In some embodiments, the server 220 can search videos based on the video text (e.g., via a database of video text). In this fashion, video search can be optimized. Applications for the video search optimization may include search engine optimization (SEO), search engine marketing (SEM), censorship and removal materials of copyright violation.

The video streams can be videos viewed by a user, and the server 220 generates a preference profile for the user using the video data.

In an embodiment, as shown in FIG. 5 for example, a server node can fetch a video file. For example, a URL can be used to fetch the video file from an Internet such as YouTube, and from such URL the video can be scraped. The server can divide the video into chunks of smaller data files for processing on several nodes of a cluster in parallel. For example, the video file can be separated into audio files and image frame files. Each of the types of files can be normalized.

The normalized audio files can be split into constituent files for processing and reduction in parallel by various nodes. Various reduction processes can be performed on the constituent audio files such as phoneme detection and assembly as well as grammar assembly. An output of the audio processing steps can be an extracted text map.

The normalized image frame files can be processed in order to extract various data maps, such as a text map, a tag map, a brand, an object map, a feature map, and/or a tracking map. Such maps can be achieved through various extraction steps. For example, the normalized image frame files can be analyzed for text identification and/or by optical character recognition. The data can be improved through a dictionary verification step. Various maps can be created based on edge detection and/or image segmentation techniques. Such techniques can be improved by focusing on regions of interest, for example based on brands, logos, objects, and/or features of interest. Additionally, or alternatively, pixel gradients of the normalized image frame files can be analyzed and/or

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the files can be segmented by temporal and/or spatial components, and thus, for example, allow extraction of motion within the video images, which in turn can be used for tracking.

Identification of motion or action in a still image can be a challenge in the vision science field. However, the linear sequencing of frames from a video – as opposed to a stand-alone image – avails itself motion detection. A series of sequential frames can be analyzed in groups to identify actions, rather than merely objects, or, as a manifestation of data, verbs rather than nouns. For example, an object found across several frames can be identified and the object's motion can be determined with a high degree of accuracy. For further example, a processor can analyze a collection of *x* sequential frames to identify a basketball found in each frame. The processor then can analyze the motion of the basketball to determine that a basket was made by slam-dunking. Or, a certain automobile may be identified in frame *a*, with a crashed automobile identified in frame *z,* with the sequential frames in between *a* and *z* identifying the action of said car crashing. The accuracy of the action-identification can be improved by utilizing contextual recognition methodologies discussed herein. For example, the probability of positively identifying a slam-dunk action can be increased if Michael Jordan is identified in the context of the video and/or images. Action identification can be further improved, in addition to modeling context of objects, by analyzing human poses, for example by building a learning set of still images capturing known actions.

In an embodiment, as shown in FIG. 7 for example, to generate metadata, several sub-systems may operate on the video. An image recognition sub-system 750 can take frames from the video, and isolate and identify objects present in the frame. An audio recognition sub-system 760 can include automatic speech recognition, sound identification and music identification. A natural language processing (NLP) sub-system 770 can annotate and assign meaning to keywords that are generated by the image and audio sub-systems.

The automatic speech recognition (ASR) model can be a set of statistical structures and operation used for determining words from expected audio signals. The ASR model can consist of an acoustic model (AM) and a language model (LM) between which there is near perfect overlap. The acoustic model can map audio speech features to sounds/word-parts. For example, a series of features might be mapped to the ah sound in 'bath.' The language model can consist of a dictionary of known words and their

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phonetic mappings to sounds/word-parts and a statistical weighting of likelihood of a given word occurring given the previous one or two words. Speech may contain words and phrases not commonly used in "regular" language, e.g., double dribble, free throw, slap shot, high-sticking, etc. Accordingly, the language model can also consist of a topic-specific dictionary, with associated phonetic variants for each words, and may also consist of a statistical N-gram model of word probabilities, e.g, "slam dunk" is a common phrase but will be used more frequently in sports reporting than in general language.

The acoustic model can process audio waveforms to generate a series of speech features based on Mel-Frequency Cepstral Coefficients (MFCCs) that are generated using a series of signal processing techniques including pre-emphasis, cosine or hamming windowing, FFT, Mel-filtering, log power spectrum, DCT and the computation of delta and delta-delta coefficients. The automatic speech recognition can encompass a wide variety of tasks, e.g., connected digit recognition, dialogue systems, large vocabulary continuous speech recognition (LVCSR). Automatic speech recognition can work in part by having a statistical understanding of what words can follow other words.

The following operational sub-systems (710,720, 730, 740, 780, 790, 795) can be utilized to support the metadata generation process. Web application servers 710 can provide clients with the ability to use the service provided by the system, e.g., upload, monitor progress and receive outcomes. A video processing sub-system 720 can transform the video file into data on which the metadata generating sub-systems operate. An auditing/coordination sub-system 730 can monitor the overall system performance, and can generate operational and business analytic data. An operational data storage sub-system 740 can store the generated metadata as well as operational and business analytic data for use in active, online processes. A search sub-system 780 can index client results, and can make them searchable via the web application. An offline data storage system 795 can hold the history of all operations performed in the system including business and operational data. An extract-transform-load (ETL) subsystem 790 can regularly write the to the offline data storage sub-system.

An architecture based on distributed message queuing and distributed data storage 700 may be utilized to build a scalable system, to optimally allocate resources for performance, to enhance failure and overload resiliency. A distributed message queuing system may produce data that gets delivered to a particular queue at which time it gets

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consumed by a component that watches that queue. The distributed queuing system can be removed.

For exemplary purposes only, and not to limit one or more embodiments herein, FIG. 8 illustrates a flow diagram of an embodiment of image recognition. The images can be classified as faces and objects, and typically an image can contain faces and objects. Image recognition can include two components: image detection 800 and image recognition 810. Image detection can be utilized to determine if there is a pattern or patterns in an image that meet the criteria of a face, image, or text. If the result is positive, the detection processing then moves to recognition. All fractal computations can occur in recognition. Recognition processing can include creating a fractal representation of the face or object that was detected, performing a match to an existing database of faces and objects, and assigning a value (name) to the face or object and then returning to the requesting program.

The system can utilize facial recognition algorithms to identify facial fractals by extracting landmarks from an image of the subject's face. For example, the algorithm may analyze the relative position, size, and/or shape of the eyes, nose, cheekbones, and jaw. These features can then be used to search for other images with matching features. Other algorithms can normalize a gallery of face images and then compress the face data, only saving the fractal data in the image that is useful for face recognition. A probe image can then be compared with the face data. Recognition algorithms can be divided into two main approaches, geometric, which looks at distinguishing features, or photometric, which is a statistical approach that distills an image into values and compares the values with templates to eliminate variances.

The recognition algorithms may include Principal Component Analysis using Eigen faces, Linear Discriminate Analysis, Elastic Bunch Graph Matching using the Fisherface algorithm, the Hidden Markov model, the Multi-linear Subspace Learning using tensor representation, and the neuronal motivated dynamic link matching. A hybrid using fractal genesis can be constructed to detect the face with elements described above.

Three-dimensional face recognition can also be used. This technique can use 3D sensors to capture fractal information about the shape of a face. This information can then be used to identify distinctive features on the surface of a face, such as the contour of the eye sockets, nose, and chin.

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One advantage of 3D facial recognition is that it is not affected by changes in lighting like other techniques. It can also identify a face from a range of viewing angles, including a profile view. Three-dimensional data points from a face vastly improve the precision of facial recognition.

To improve the accuracy of detection, the hybrid can also use the visual details of the skin, as captured in standard digital or scanned images. This technique, called skin texture analysis, turns the unique lines, patterns, and spots apparent in a person's skin into a mathematical fractal space. Tests have shown that with the addition of skin texture analysis, performance in recognizing faces can increase 20 to 25 percent.

The following recognition models may be utilized:

PCA : Derived from Karhunen-Loeve's transformation. Given an s-dimensional vector representation of each face in a training set of images, Principal Component Analysis (PCA) tends to find a t-dimensional subspace whose basis vectors correspond to the maximum variance direction in the original image space. This new subspace is normally lower dimensional (t<<s). If the image elements are considered as random variables, the PCA basis vectors are defined as eigenvectors of the scatter matrix.

Linear Discriminant Analysis (LDA): finds the vectors in the underlying space that best discriminate among classes. For all samples of all classes the between-class scatter matrix SB and the within-class scatter matrix SW are defined. The goal is to maximize SB while minimizing SW, in other words, maximize the ratio det|SB|/det|SW| . This ratio is maximized when the column vectors of the projection matrix are the eigenvectors of (SW^-1 × SB).

Aa eigenspace-based adaptive approach: searches for the best set of projection axes in order to maximize a fitness function, measuring at the same time the classification accuracy and generalization ability of the system. Because the dimension of the solution space of this problem is too big, it is solved using a specific kind of genetic algorithm called Evolutionary Pursuit (EP).

Elastic Bunch Graph Matching (EBGM): All human faces share a similar topological structure. Faces are represented as graphs, with nodes positioned at fiducial points. (exes, nose...) and edges labeled with 2-D distance vectors. Each node contains a set of 40 complex Gabor wavelet coefficients at different scales and orientations (phase, amplitude). They are called "jets". Recognition is based on labeled

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graphs. A labeled graph is a set of nodes connected by edges, nodes are labeled with jets, edges are labeled with distances.

Kernel Methods: The face manifold in subspace need not be linear. Kernel methods are a generalization of linear methods. Direct non-linear manifold schemes are explored to learn this non-linear manifold.

Trace transform: A generalization of the Radom transform, is a new tool for image processing which can be used for recognizing objects under transformations, e.g. rotation, translation and scaling. To produce the Trace transform one computes a functional along tracing lines of an image. Different Trace transforms can be produced from an image using different trace functional.

3-D Morphable Model: Human face is a surface lying in the 3-D space intrinsically. Therefore the 3-D model should be better for representing faces, especially to handle facial variations, such as pose, illumination etc. Blantz et al. proposed a method based on a 3-D morphable face model that encodes shape and texture in terms of model parameters, and algorithm that recovers these parameters from a single image of a face.

Bayesian Framework: A probabilistic similarity measure based on Bayesian belief that the image intensity differences are characteristic of typical variations in appearance of an individual. Two classes of facial image variations are defined: intrapersonal variations and extrapersonal variations. Similarity among faces is measures using Bayesian rule.

Hidden Markov Models (HMM): These are a set of statistical models used to characterize the statistical properties of a signal. HMM consists of two interrelated processes: (1) an underlying, unobservable Markov chain with a finite number of states, a state transition probability matrix and an initial state probability distribution and (2) a set of probability density functions associated with each state.

Fractal Genesis(Hybrid): The image intensity differences are characteristic of typical variations in appearance of an individual. Human face is a surface lying in the Fractal space intrinsically. Since most of the parameters are self-similar, the Fractal model should be better for representing faces, especially to handle facial variations, such as pose, illumination etc. A Hybrid, wherein many proponents of other algorithms are integrated to form a fractal genesis.

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An advantage of present embodiments includes the ability to provide real-time or faster-than-real-time content output. This can be achieved through one or more components and/or steps. For example, a video file can be distributed across at least two layers for processing. The audio can be converted to text on at least one layer, and the images can be processed on at least one other layer. In some embodiments, natural language processing can abstract topics, sentiments, temporal topic-tagging, and can be used for further optimization and/or machine learning. The layers can include node clusters for parallel processing chunks of the video file into the preferred content. In some embodiments, the files can be maintained and processed in parallel at each step, and then combined into a single data file as one of the terminal processing steps.

Present embodiments have wide application. For example, video indexing, reverse image lookup, video co-groupings and graph searches, and video similarity indexing, as described herein, can be used for searching, for classification, and for recommendations regarding processed videos. Law enforcement and security industries can implement embodiments for object recognition and motion detection. Media, entertainment, and industrial entities can implement embodiments to monitor for trademark infringement, captioning, advertising and targeting, brand and product monitoring and data collection, and marketing analytics. These exemplary implementation are not intended to be limiting, merely exemplary.

Additionally, or alternatively, to actively fetching and scraping a video, the system and method can be automated as a push system and/or a web crawling system. For example, the server can monitor or online content of specific providers, such as YouTube, Vimeo, the growing myriad of video-content creating websites, or other online video providers. Monitoring of published videos can be tailored to search for extracted data relevant to specific requesters. For example, a purveyor of certain products can be apprised in real-time of new content relevant to the products. Such relevant content can include the context in which the products are found in the video, the appearance of competing products, verification of product placement, and other useful information.

All of the methods disclosed and claimed herein can be made and executed without undue experimentation in light of the present disclosure. While the apparatus and methods of this invention have been described in terms of preferred embodiments, it will be apparent to those of skill in the art that variations may be applied to the methods and in the steps or in the sequence of steps of the method described herein without departing

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from the concept, spirit and scope or the invention. In addition, from the foregoing it will be seen that this invention is one well adapted to attain all the ends and objects set forth above, together with other advantages. It will be understood that certain features and sub-combinations are of utility and may be employed without reference to other features and sub-combinations. This is contemplated and within the scope of the appended claims. All such similar substitutes and modifications apparent to those skilled in the art are deemed to be within the spirit and scope of the invention as defined by the appended claims.

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CLAIMS

1. A method to generate video data from a video comprising:

generating audio files and image files from the video;

distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel;

converting audio files associated with the video to text;

converting the image files associated with the video to video data;

cross-referencing the text and the video data with the video.

2. The method according to claim 1, further comprising:

generating a content-rich video based on the video, the text, and the video data.

3. The method according to claim 1, further comprising:

applying natural language processing to the text to determine context associated with the video.

4. The method according to claim 2, further comprising:

applying natural language processing to the text to extract a topic.

5. The method according to claim 1, further comprising:

processing the image files to extract additional text.

6. The method according to claim 5, wherein the additional text is generated by segmenting the image files before processing the image files in parallel.

7. The method according to claim 1, further comprising:

processing the image files to extract an object and determine a motion associated with the object.

8. The method according to claim 1, wherein the text is generated by segmenting the audio before processing the audio files in parallel.

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9. The method according to claim 7, wherein the audio files and the image files are segmented at spectrum thresholds.

10. The method according to claim 1, further comprising:
generating an advertisement based on the text and the video data.

11. The method according to claim 10, further comprising:
placing the advertisement in the video at a preferred time.

12. The method according to claim 1, further comprising:
generating metadata.

13. The method according to claim 12, wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references.

14. A system for extracting data from a video, comprising:
a computer processor; and
a non-transitory computer readable medium containing instructions directing the system to execute the steps of:
converting audio associated with the video to text;
converting images associated with the video to video data;
extracting topics from the text and the video data;
cross-referencing the text, the video data, and the topics with the video; and
generating a content-rich video.

15. The system according to claim 14, wherein converting the audio comprises natural language processing.

16. The system according to claim 14, wherein the computer directs the audio to be converted by at least one node of a cluster and the computer directs the images to be converted by at least one other node of the cluster in parallel.

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17. The server according to claim 14, wherein the audio and the images are segmented at spectrum thresholds.

18. The system according to claim 14, wherein the computer directs the system to generate metadata.

19. The system according to claim 14, wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references.

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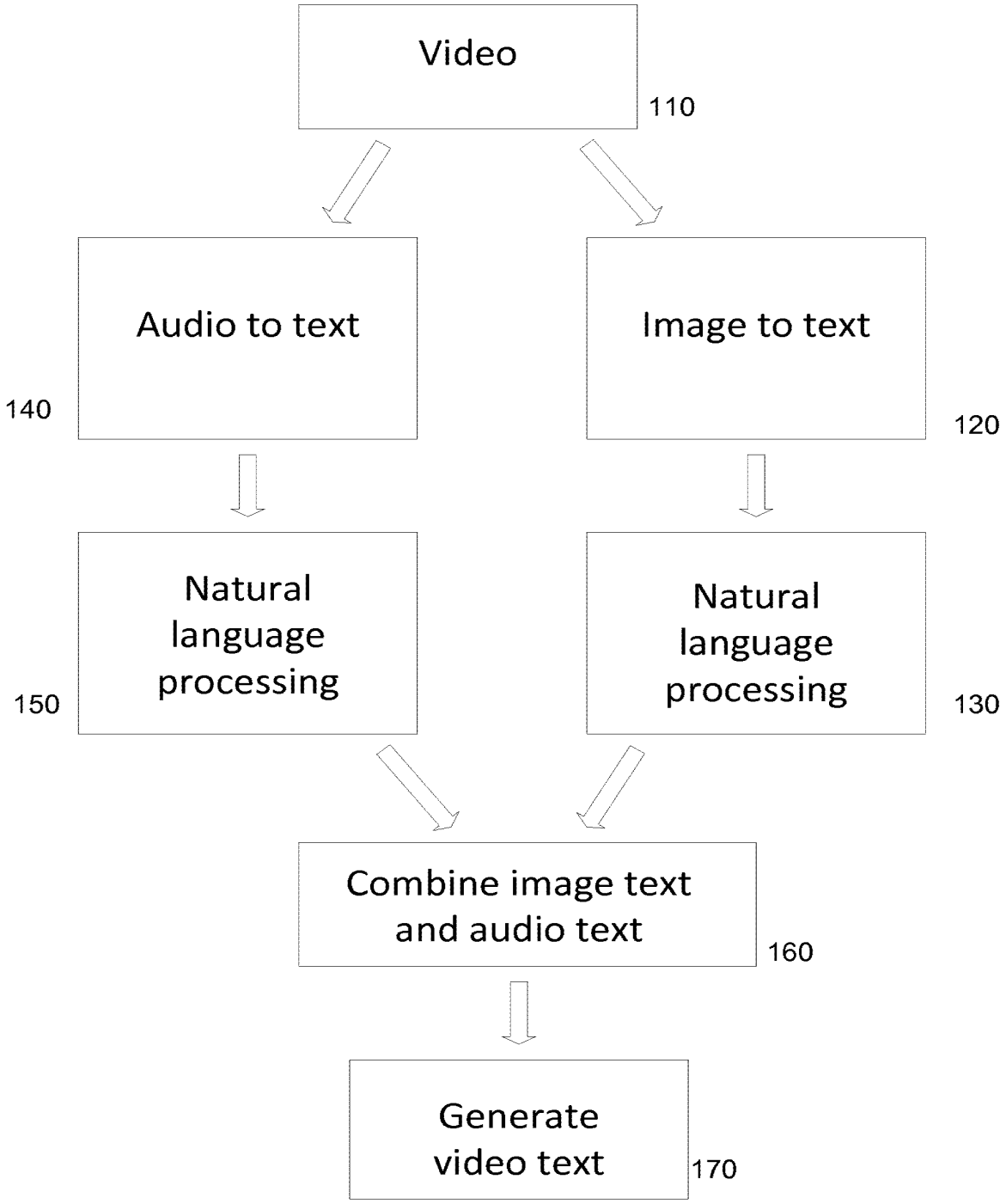

Video
110
Audio to text
140
Image to text
120
Natural language processing
150
Natural language processing
130
Combine image text and audio text
160
Generate video text
170

FIG. 1

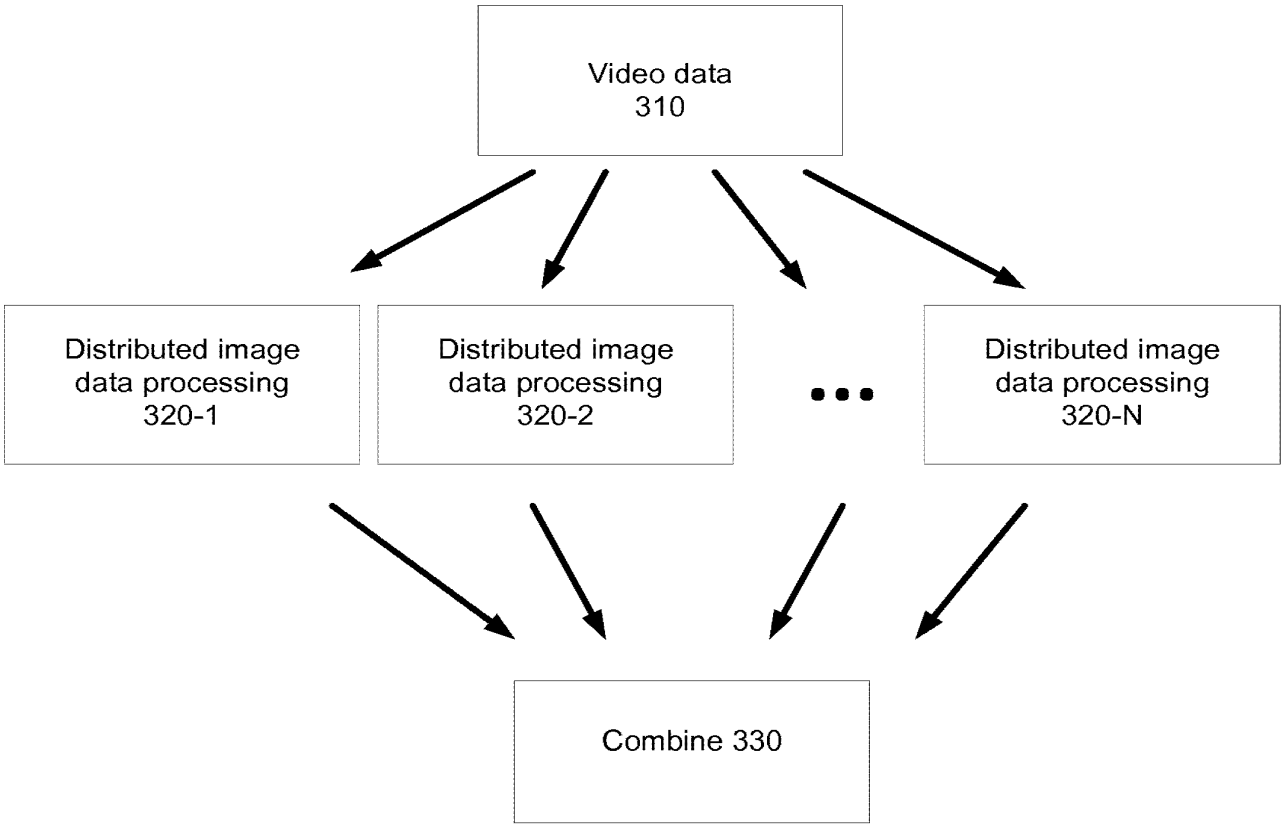

Video data
310
Distributed image
data processing
320-1
Distributed image
data processing
320-2
Distributed image
data processing
320-N
Combine 330

FIG. 2

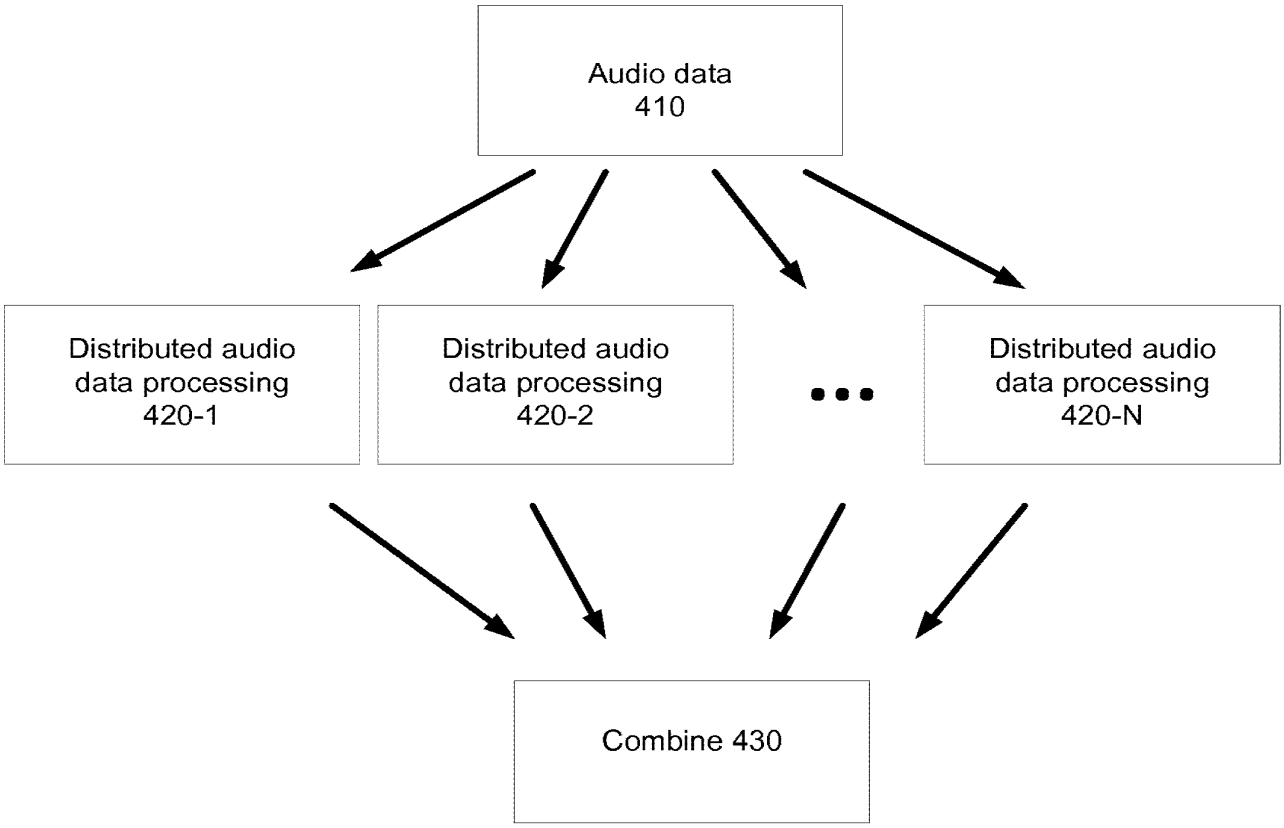

Audio data
410
Distributed audio
data processing
420-1
Distributed audio
data processing
420-2
Distributed audio
data processing
420-N
Combine 430

FIG. 3

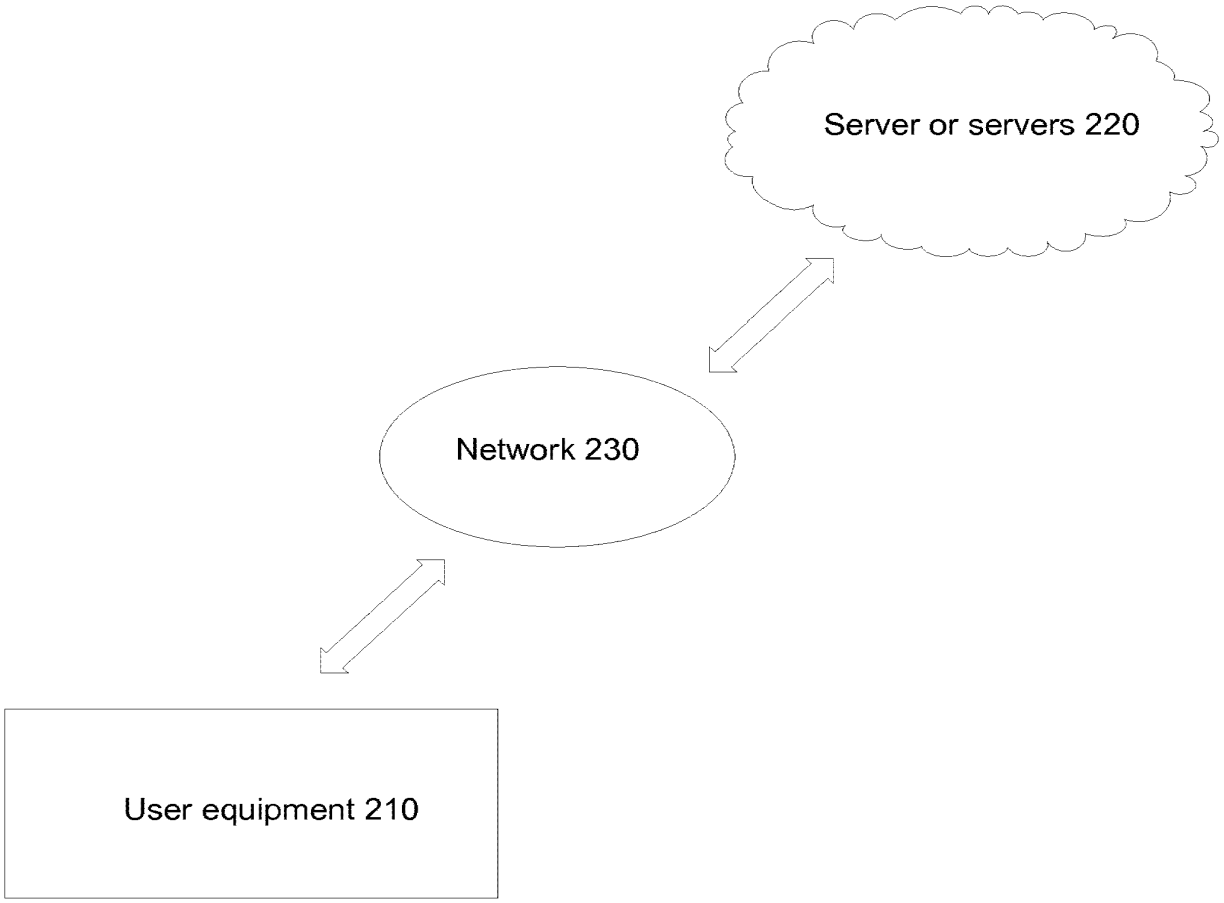


FIG. 4

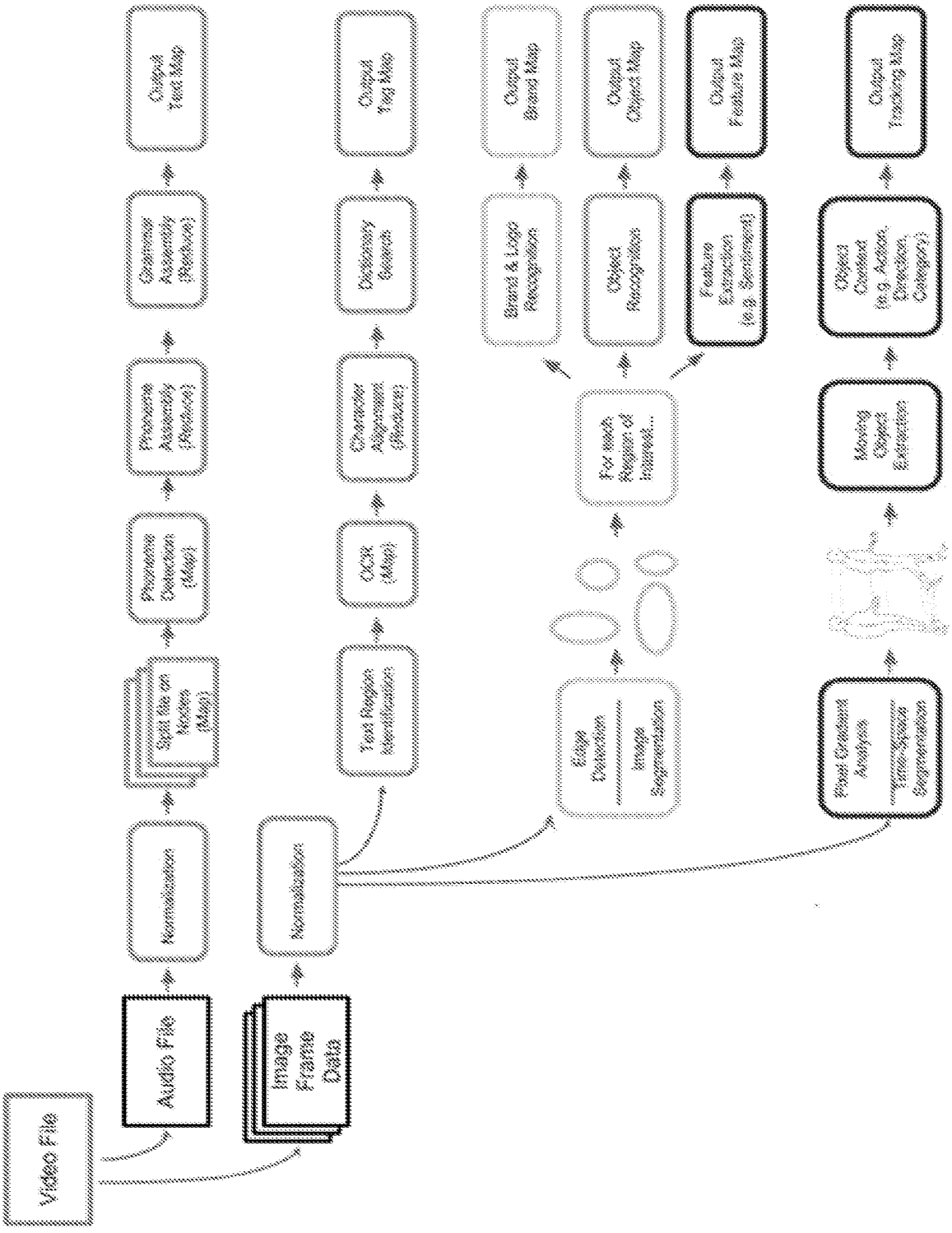
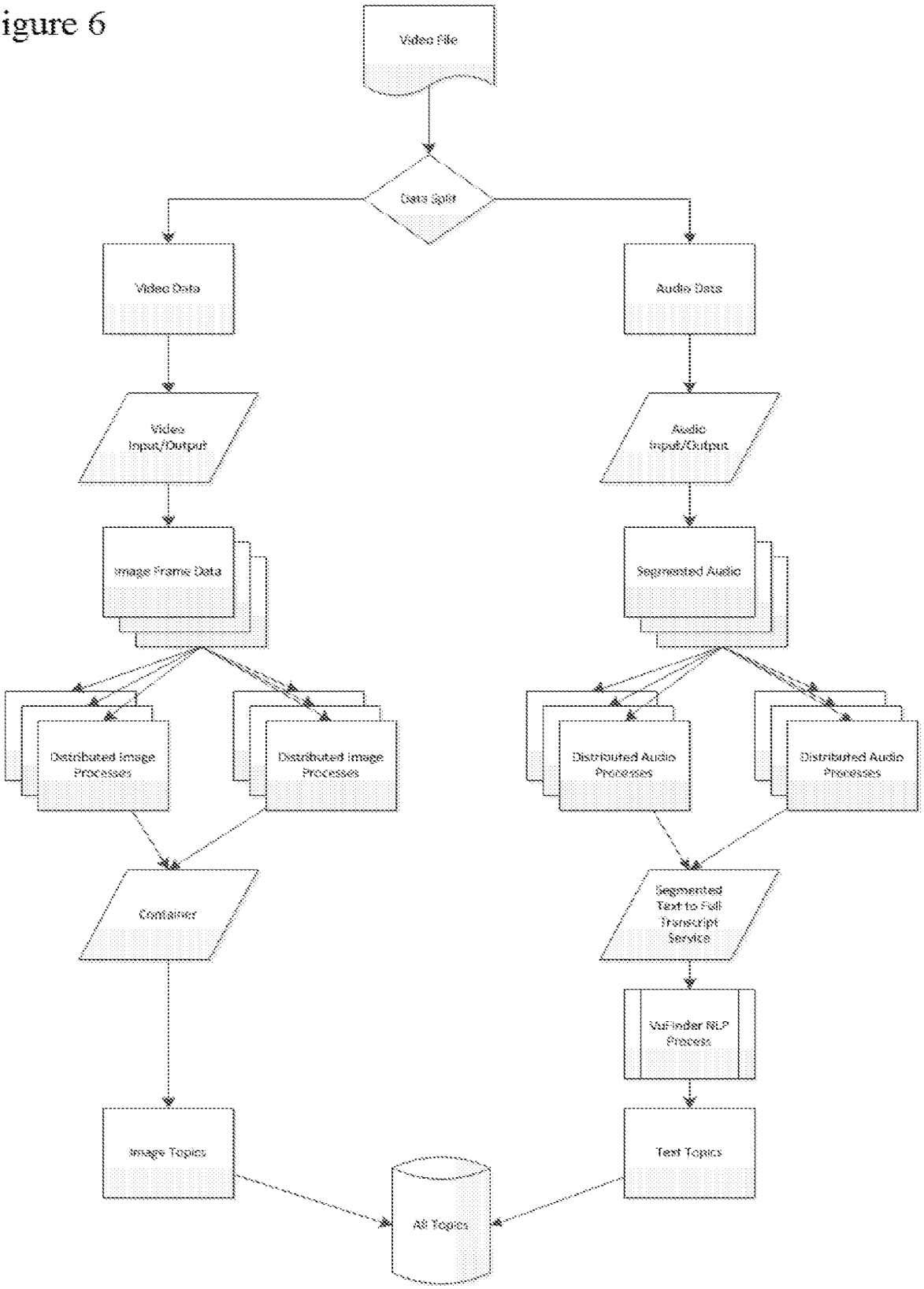

Video File
Audio File
Image Frame Data
Normalization
Normalization
Split file on Action (Map)
Text Region Identification
Edge Detection / Image Segmentation
Post Contextual Analysis / Transcription Segmentation
Paramo Detection (Map)
OCR (Map)
For each Region of Interest...
Moving Object Extraction
Paramo Assembly (Reduce)
Character Alignment (Reduce)
Brand & Logo Recognition
Object Recognition
Feature Extraction (e.g. Sentiment)
Object Content (e.g. Action, Direction, Category)
Common Assembly (Reduce)
Dictionary Search
Output Text Map
Output Text Map
Output Brand Map
Output Object Map
Output Feature Map
Output Tracking Map

FIG. 5

Figure 6


Video File
Data Split
Video Data
Audio Data
Video Input/Output
Audio Input/Output
Image Frame Data
Segmented Audio
Distributed Image Processes
Distributed Image Processes
Distributed Audio Processes
Distributed Audio Processes
Container
Segmented Text to Full Transcript Service
VuFinder NLP Process
Image Topics
Text Topics
All Topics

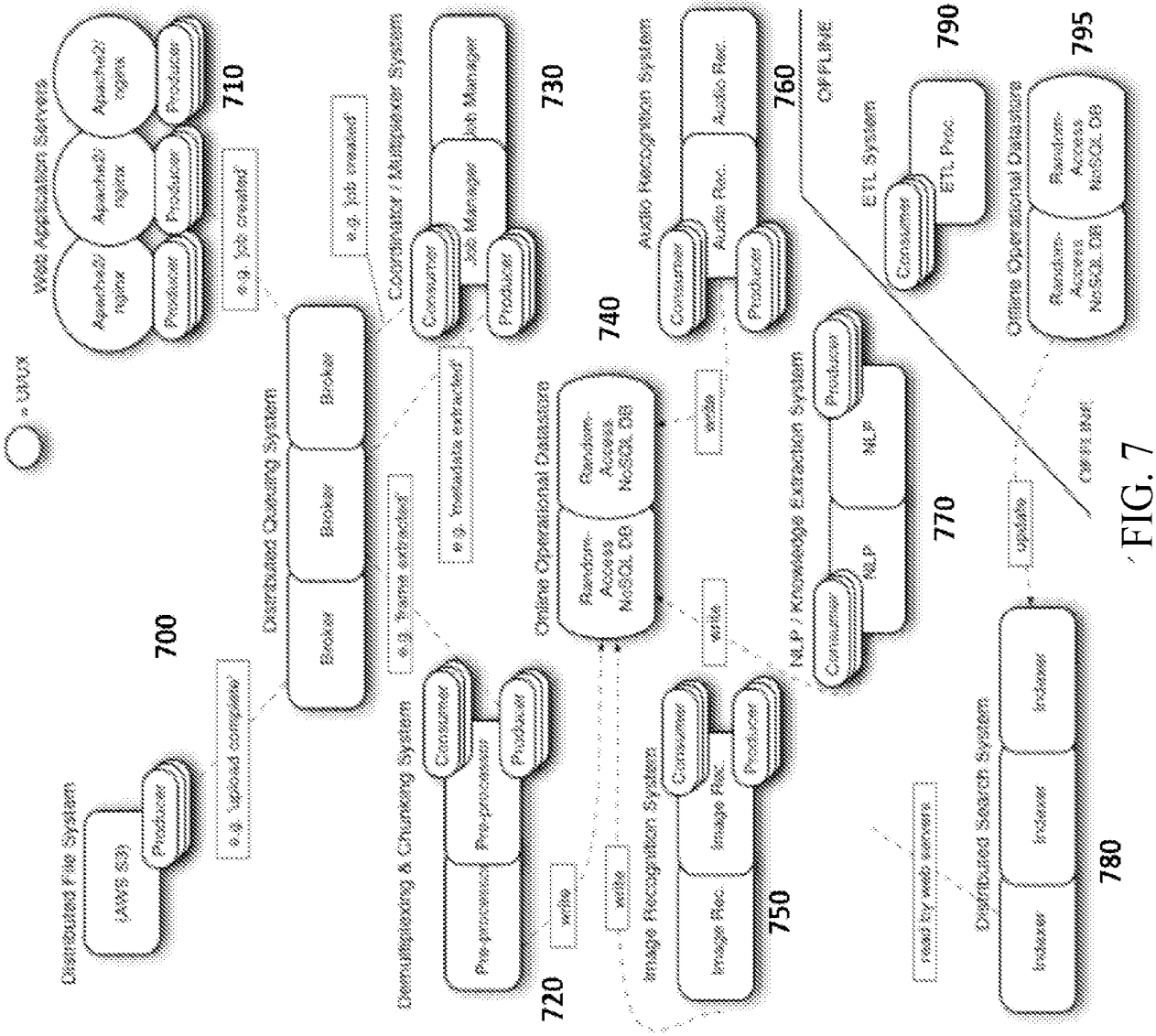


FIG. 7

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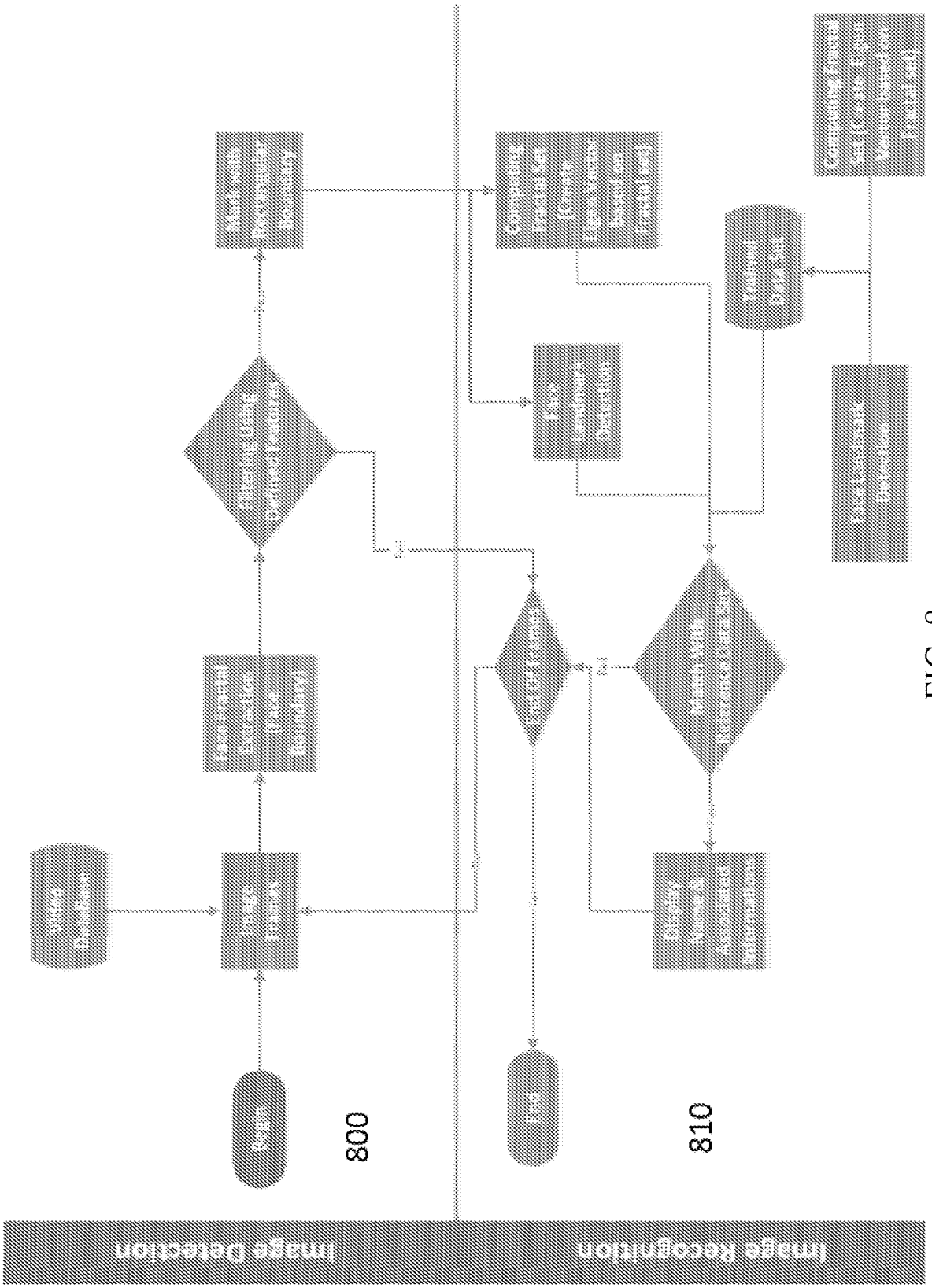

Image Detection
Image Recognition
800
810
Begin
Image Frame
Video Database
Detect Face Candidate Regions
Face Candidate Regions
Match Face Candidate Regions
Match Found?
Yes
Add Face Candidate Region to Detected Faces
Add Face Candidate Region to Undetected Faces
Compare Face Candidate Regions to Stored Face Models
Stored Face Models
Compute Face Candidate Region Descriptor
Face Candidate Region Descriptor
Add Face Candidate Region Descriptor to Stored Face Models
Stored Face Models

FIG. 8



FIG. 9

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14/910,698	02/06/2016		1740	19299.0008	19	2

CONFIRMATION NO. 3701

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WASHINGTON, DC 20036

FILING RECEIPT

OC000000085390229

Date Mailed: 08/29/2016

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Assignment For Published Patent Application

CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS, Ridgeland, MS

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/US2015/014940 02/07/2015
which claims benefit of 62/021,666 07/07/2014
and claims benefit of 61/866,175 08/15/2013

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
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Projected Publication Date: 12/08/2016
Non-Publication Request: No
Early Publication Request: No
Title

VIDEO TO DATA

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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Alexandria, Virginia 22313-1450
www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED INVENTOR	ATTY. DOCKET NO.
14/910,698	Naeem LAKHANI	19299.0008

27890
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

INTERNATIONAL APPLICATION NO.	
PCT/US2015/014940	
I.A. FILING DATE	PRIORITY DATE
02/07/2015	08/15/2013

CONFIRMATION NO. 3701
371 ACCEPTANCE LETTER

OC000000085390230

Date Mailed: 08/29/2016

NOTICE OF ACCEPTANCE OF APPLICATION UNDER 35 U.S.C 371 AND 37 CFR 1.495

The applicant is hereby advised that the United States Patent and Trademark Office, in its capacity as a Designated / Elected Office (37 CFR 1.495), has ACCEPTED the above identified international application for national patentability examination in the United States Patent and Trademark Office.

The United States Application Number assigned to the application is shown above. A Filing Receipt will be issued for the present application in due course. **THE DATE APPEARING ON THE FILING RECEIPT AS THE "FILING DATE or 371(c) DATE" IS THE DATE ON WHICH THE LAST OF THE 35 U.S.C. 371 (c)(1) and (c)(2) REQUIREMENTS HAS BEEN RECEIVED IN THE OFFICE. THIS DATE IS SHOWN BELOW.** The filing date of the above identified application is the international filing date of the international application (Article 11(3) and 35 U.S.C. 363)

02/06/2016
DATE OF RECEIPT OF 35 U.S.C.
371(c)(1) and (c)(2) REQUIREMENTS

The following items have been received:

- Copy of the International Application filed on 02/06/2016
- Copy of the International Search Report filed on 02/06/2016
- Preliminary Amendments filed on 02/06/2016
- U.S. Basic National Fees filed on 02/06/2016
- Assignee Statement for PGPUB filed on 02/06/2016
- Priority Documents filed on 02/06/2016
- Application Data Sheet (37 CFR 1.76) filed on 02/06/2016

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.495(c).

- Properly executed inventor's oath or declaration for the following inventor(s) has not been submitted: **Naeem LAKHANI**, **Bartlett Wade SMITH IV**, and **Allison A. TALLEY**

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00139

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

FREDERICK SMITH

Telephone: (571) 272-8679

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00140

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/910,698

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	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	480
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	19 minus 20 =	*			OR	x 80 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*				x 420 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 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).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1480

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 =		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	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	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 found in the appropriate box in column 1.

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET

Substitute for Form PTO-1360
(For use with Form PTO/SB/06)

Application Number	Filing Date
14910698	

Applicant(s) Naeem LAKHANI

* May be used for additional claims or amendments

CLAIMS	AS FILED		AFTER FIRST AMENDMENT		AFTER SECOND AMENDMENT	
	Indep	Depend	Indep	Depend	Indep	Depend
1	1					
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Total Indep	2		0		0	
Total Depend	17	↵	0	↵	0	↵
Total Claims	19		0		0	

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	14/910,698	Examiner:	
First Named Inventor	:	Naeem LAKHANI, et al.	Art Unit:	
Filed	:	February 6, 2016	Confirmation No.	3701
Docket No.	:	19299.0008		
Customer No.	:	27890		
Title	:	VIDEO TO DATA		

United States Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

INFORMATION DISCLOSURE STATEMENT

As a means of complying with the duty of disclosure under 37 CFR §1.56, and in accordance with 37 CFR §§1.97 and 1.98, applicant, through the undersigned attorney, submits this Information Disclosure Statement. Copies of non-US patent references are provided. Please confirm that these references have been considered in this application by returning a copy of the enclosed Form SB/08 with the Examiner's initials.

In accordance with 37 CFR §1.97(b)(3), this Information Disclosure Statement is being filed before the mailing of an First Office Action on the merits. Accordingly, no fee is required. Please apply any charges or credits to Deposit Account No. 19-4293.

Respectfully submitted,

Date: September 2, 2016

/Harold H. FOX REG#41498/
Harold H. Fox
Reg. No. 41,498

Customer Number: 27890

STEPTOE & JOHNSON LLP
1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Telephone: (202) 429-3000
Facsimile: (202) 429-3902

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. 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.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14910698
Filing Date	2016-02-06
First Named Inventor	Naeem LAKHANI
Art Unit	
Examiner Name	
Attorney Docket Number	19299.0008

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20110069936		2011-03-24	Johnson et al.	
	2	20090157407		2009-06-18	Yamabe et al.	
	3	20010020954		2001-09-13	Hull et al.	
	4	20130174045		2013-07-04	Sarukkai et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00144

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14910698
	Filing Date	2016-02-06
	First Named Inventor	Naeem LAKHANI
	Art Unit	
	Examiner Name	
	Attorney Docket Number	19299.0008

	1						

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	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, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Notification Concerning Transmittal of Copy of International Preliminary Report on Patentability (Chapter I of the Patent Cooperation Treaty) dated August 18, 2016, issued in International Application No. PCT/US2015/014940	
	2	International Search Report dated June 3, 2015, issued in International Application No. PCT/US2015/014940	
	3	Written Opinion of the International Searching Authority dated June 3, 2015, issued in International Application No. PCT/US2015/014940	
	4	Deng, Yining, and B.S. Manjunath, "Content-based search of video using color, texture, and motion." Image Processing, 1997, retrieved from: http:/vision.ece.ucsb.edu/publications/97ICIPCBS.pdf	

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00145

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14910698
	Filing Date	2016-02-06
	First Named Inventor	Naeem LAKHANI
	Art Unit	
	Examiner Name	
	Attorney Docket Number	19299.0008

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That 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. See 37 CFR 1.97(e)(1).

OR

☐ That 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 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Harold H. Fox REG#41498/	Date (YYYY-MM-DD)	2016-09-02
Name/Print	Harold H. Fox	Registration Number	41,498

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 1 hour 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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IPR2025-00876 - Page 00146

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00147

PATENT COOPERATION TREATY

ADVANCE E-MAIL

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION CONCERNING TRANSMITTAL OF COPY OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (CHAPTER I OF THE PATENT COOPERATION TREATY)
(PCT Rule 44bis.1(c))

To:

FOX, Harold, H.
Steptoe & Johnson LLP
1330 Connecticut Avenue, NW
Washington, DC 20036
ETATS-UNIS D'AMERIQUE

Date of mailing *(day/month/year)* 18 August 2016 (18.08.2016)	
Applicant's or agent's file reference 19299.0006PCT	**IMPORTANT NOTICE**

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2015/014940	07 February 2015 (07.02.2015)	07 February 2014 (07.02.2014)

Applicant
CELLULAR SOUTH, INC DBA C SPIRE WIRE WIRELESS

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No. +41 22 338 82 70

Authorized officer
Athina Nickitas-Etienne

e-mail: pt04.pct@wipo.int

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00148

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 19299.0006PCT	**FOR FURTHER ACTION**	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US15/14940	International filing date *(day/month/year)* 07 February 2015 (07.02.2015)	(Earliest) Priority Date *(day/month/year)* 07 February 2014 (07.02.2014)
Applicant CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**
   a. With regard to the **language**, the international search was carried out on the basis of:
      ☒ the international application in the language in which it was filed.
      ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
   b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).
   c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,
   ☒ the text is approved as submitted by the applicant.
   ☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,
   a. the figure of the **drawings** to be published with the abstract is Figure No. 6
      ☐ as suggested by the applicant.
      ☒ as selected by this Authority, because the applicant failed to suggest a figure.
      ☐ as selected by this Authority, because this figure better characterizes the invention.
   b. ☐ none of the figures is to be published with the abstract.

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00149

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US15/14940

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - H04N 5/93, 9/80 (2015.01)
CPC - G11B 27/036, G06F17/30, H04N 5/9305
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)
IPC(8)- G11 B27/036; H04N 5/93, 9/80 (2015.01)
CPC- G11B 27/036, G06F17/30, H04N 5/9305

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatSeer (US, EP, WO, JP, DE, GB, CN, FR, KR, ES, AU, IN, CA, INPADOC Data); Google Patent/Google Scholar; IP.com; IEEE.org; video, content, generate, video-to-content, text, engine, convert, image, data, audio, video to video, audio file, cross reference

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2011/10069936 A1 (JOHNSON, B. et al.) March 24, 2011, paragraphs [0040]-[0050], [0065]	1-13
Y	US 2009/0157407 A1 (YAMABE, T. et al.) June 18, 2009, paragraphs [0028], [0040]-[0051]	1-19
Y	US 2001/0020954 A1 (HULL, J. et al.) September 13, 2001, paragraphs [0042], [0050]-[0052],[0057], [0065]	1-13, 16-17
Y	US 2013/0174045 A1 (SARUKKAI, R et al.) July 4, 2013, paragraphs [0026]-[0029],[0034], [0045]-[0047], [0052]-[0054]	4, 10-11,13-15 and 18-19
Y	Deng, Yining, and B. S. Manjunath. "Content-based search of video using color, texture, and motion." Image Processing, 1997, retrieved from: http://vision.ece.ucsb.edu/publications/97ICIPCBS.pdf	7

☐ 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
"E" earlier application or patent but 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	Date of mailing of the international search report
19 April 2015 (19.04.2015)	03 JUN 2015
Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (January 2015)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: Harold H. Fox
Steptoe & Johnson LLP
1330 Connecticut Avenue, NW
Washington, DC 20036
United States of America

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	03 JUN 2015
Applicant's or agent's file reference 19299.0006PCT	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US15/14940	07 February 2015 (07.02.2015)	07 February 2014 (07.02.2014)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G11B 27/036; H04N 5/93, 9/80 (2015.01)
CPC - G11B 27/036, G06F17/30, H04N 5/9305

Applicant CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/	Date of completion of this opinion	Authorized officer
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	19 April 2015 (19.04.2015)	Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (January 2015)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US15/14940

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).

3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:

   a. ☐ forming part of the international application as filed:

      ☐ in the form of an Annex C/ST.25 text file.

      ☐ on paper or in the form of an image file.

   b. ☐ furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.

   c. ☐ furnished subsequent to the international filing date for the purposes of international search only:

      ☐ in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).

      ☐ on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

Google Exhibit 1006 - Google v. CSI
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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US15/14940

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-19	YES
	Claims	NONE	NO
Inventive step (IS)	Claims	NONE	YES
	Claims	1-19	NO
Industrial applicability (IA)	Claims	1-19	YES
	Claims	NONE	NO

2. Citations and explanations:

Claims 1-3, 5-6, 8-9 and 12 lack an inventive step under PCT Article 33(3) as being obvious over US 2011/0069936 A1 to Johnson et al. (hereinafter "Johnson") in view of US 2001/0020954 A1 to Hull et al. (hereinafter "Hull") and US 2009/0157407 A1 to Yamabe et al. (hereinafter "Yamabe").

As per claim 1, Johnson teaches a method to generate video data from a video comprising: generating audio files and image files from the video (content retrievers retrieve news stories (video files) and format them into media files playlists (image files) and audio playlists (audio files), paragraphs [0044], [0047]); distributing the audio files and the image files across a plurality of processors (a synchronization module supports and associates various playlists across various media players (distributing the audio files and image files across processors), paragraph [0065]). Johnson does not teach processing the audio files and the image files in parallel; converting audio files associated with the video to text; converting the image files associated with the video to video data; cross-referencing the text and the video data with the video. However, Hull teaches processing the audio files and the image files in parallel (multimedia presentation video and audio information is performed in parallel, paragraph [0042]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide processing the audio files and the image files in parallel, as taught by Hull, in order to process audio information received from external sources as discussed by Hull at paragraph [0042]. Further, Johnson does not teach converting audio files associated with the video to text; converting the image files associated with the video to video data; cross-referencing the text and the video data with the video. However, Yamabe teaches converting audio files associated with the video to text (an audio file may be generated and contain converted text (converting audio files to text), paragraph [0047]); converting the image files associated with the video to video data (a camera module includes hardware capable of creating a video file from a captured image or series of images, paragraph [0028]); cross-referencing the text and the video data with the video (an image synthesizer generates video data that is correlated along with tagged text to create a video file (cross-referencing the text and video), paragraphs [0050]-[0051]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide converting audio files associated with the video to text; converting the image files associated with the video to video data; cross-referencing the text and the video data with the video in order to interpret different type of tagged source files as discussed by Yamabe at paragraph [0051].

As per claim 2, the method according to claim 1 is disclosed above. Johnson does not teach comprising: generating a content-rich video based on the video, the text, and the video data. However Yamabe teaches generating a content-rich video based on the video, the text, and the video data (an image synthesizer generates video data that is correlated along with tagged text to create a video file (generates content-rich video based on the video), paragraphs [0050]-[0051]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide generating a content-rich video based on the video, the text, and the video data in order to interpret different type of tagged source files as discussed by Yamabe at paragraph [0051].

As per claim 3, the method according to claim 1 is disclosed above. Johnson does no teach applying natural language processing to the text to determine context associated with the video. However Yamabe teaches applying natural language processing to the text to determine context associated with the video (a semantic media conversion engine (applying natural language processing), contains a TTS converter which allows for generation of an audio and video file based on input text data (determine context associated with the video) paragraphs [0043]-[0044]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide applying natural language processing to the text to determine context associated with the video in order to define various aspects of the audio and video files as discussed by Yamabe at paragraph [0043].

As per claim 5, the method according to claim 1 is disclosed above. Johnson does not teach further comprising: processing the image files to extract additional text. However, Yamabe teaches processing the image files to extract additional text (the parser may extract text extracted from blog data such a special characters or word pairings (additional text), paragraph [0045]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide processing the image files to extract additional text as discussed by Yamabe at paragraph [0051].

-***-Continued Within the Next Supplemental Box-***-

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US15/14940

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

-***-Continued from Box V: Citations and Explanations-***-
As per claim 6, the method according to claim 5 is disclosed above. Johnson does not teach wherein the additional text is generated by segmenting the image files before processing the image files in parallel. However, Hull teaches wherein the additional text is generated by segmenting the image files before processing the image files in parallel (transcripts may be generated corresponding to audio information which enables extraction of segments of the audio information and related textual information (segmenting image files). The audio information (image files) is then processed in parallel (processing in parallel after segmenting), paragraphs [0057], [0065]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide wherein the additional text is generated by segmenting the image files before processing the image files in parallel in order to facilitate full text indexing and keyword searching capabilities on the audio information as discussed by Hull at paragraph [0065].

As per claim 8, the method according to claim 1 is disclosed above. Johnson does not teach wherein the text is generated by segmenting the audio before processing the audio files in parallel. However, Hull teaches wherein the text is generated by segmenting the audio before processing the audio files in parallel (transcripts may be generated corresponding to audio information which enables extraction of segments of the audio information and related textual information (segmenting audio first). The audio information is then processed in parallel (processing in parallel after segmenting), paragraphs [0057], [0065]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide wherein the text is generated by segmenting the audio before processing the audio files in parallel in order to facilitate full text indexing and keyword searching capabilities on the audio information as discussed by Hull at paragraph [0065].

As per claim 9, the method according to claim 7 is disclosed above. Johnson does not teach wherein the audio files and the image files are segmented at spectrum thresholds. However, Hull teaches wherein the audio files and the image files are segmented at spectrum thresholds (transcripts may be generated corresponding to audio information which enables extraction of segments of the audio information and related textual information (segmenting audio first). Further, an image based comparison method is used to compare the frames using a comparison threshold (segmented at spectrum thresholds), paragraphs [0052], [0057], [0065]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide wherein the audio files and the image files are segmented at spectrum thresholds in order to facilitate full text indexing and keyword searching capabilities on the audio information as discussed by Hull at paragraph [0065].

As per claim 12, the method according to claim 1 is disclosed above. Johnson teaches further comprising: generating metadata (the TTS converter locates and configures metadata tags (generate metadata), paragraph [0053]).

Claim 7 lacks an inventive step under PCT Article 33(3) as being obvious over Johnson in view of Hull, Yamabe and "Content-based Search of Video Using Color, Texture, and Motion" to Deng et al. (hereinafter "Deng").

As per claim 7, the method according to claim 1 is disclosed above. Johnson does not teach further comprising: processing the image files to extract an object and determine a motion associated with the object. However, Deng teaches processing the image files to extract an object and determine a motion associated with the object (every frame is used to extract color and texture features (processed) and motion prediction coded frames are used to extract motion information, page 1, column 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide processing the image files to extract an object and determine a motion associated with the object in order to obtain as much information as possible with least amount of decoding as discussed by Deng.

Claims 4, 10-11 and 13 lack an inventive step under PCT Article 33(3) as being obvious over Johnson in view of Hull, Yamabe and US 2013/0174045 A1 to Sarukkai et al. (hereinafter "Sarukkai").

As per claim 4, the method according to claim 2 is disclosed above. Johnson does not teach further comprising: applying natural language processing to the text to extract a topic. However Sarukkai teaches applying natural language processing to the text to extract a topic (predictive analytics (typically applying natural language processing), is used to generate topics being extracted (extract a topic) from video content items that contain text-based items superimposed therewith, paragraphs [0026] [0048], and [0052]-[0053]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide applying natural language processing to the text to extract a topic, in order to predict behaviors of a user for an enhanced video viewing experience as discussed by Sarukkai at paragraph [0048].

As per claim 10, the method according to claim 1 is disclosed above. Johnson does not teach further comprising: generating an advertisement based on the text and the video data. However, Sarukkai teaches further comprising: generating an advertisement based on the text and the video data (predictive analytics, is used to generate advertisements items that are superimposed on the video, paragraph [0026], [0028]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide generating an advertisement based on the text and the video data, in order to predict behaviors of a user for an enhanced video viewing experience as discussed by Sarukkai at paragraph [0048].

As per claim 11, the method according to claim 10 is disclosed above. Johnson does not teach further comprising: placing the advertisement in the video at a preferred time. However, Sarukkai teaches placing the advertisement in the video at a preferred time (predictive analytics, is used to generate advertisements items that are superimposed on the video. Further, based on user disposition, the advertisements may be associated with a presentation time (preferred time), paragraph [0026], [0028]-[0029], [0034]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide placing the advertisement in the video at a preferred time, in order to determine the likelihood of abandonment of a user as discussed by Sarukkai at paragraph [0028].

-***-Continued Within the Next Supplemental Box-***-

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
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Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:

-***-Continued from Previous Supplemental Box-***-
As per claim 13, the method according to claim 12 is disclosed above. Johnson does not teach wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references. However, Sarukkai teaches wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references (the content format selector considers video metadata associated with video content such as sequence of viewing (number of frames), length and quality rating, and start/end time, paragraphs [0045], [0047]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references, in order to determine the likelihood of abandonment of a user as discussed by Sarukkai at paragraph [0028].

Claims 14-15 and 18-19 lack an inventive step under PCT Article 33(3) as being obvious over Yamabe in view of Sarukkai.

As per claim 14, Yamabe teaches a system for extracting data from a video, comprising: a computer processor (a media conversion engine may allow for parsing of data which can be embodied as a processor, paragraph [0043]); and a non-transitory computer readable medium containing instructions directing the system to execute the steps of: and converting audio associated with the video to text (an audio file may be generated and contain converted text (converting audio files to text), paragraph [0047]) ; converting images associated with the video to video data (a camera module includes hardware capable from creating a video file from a captures image or series of images), paragraph [0028]). Yamabe does not teach extracting topics from the text and the video data; cross-referencing the text, the video data, and the topics with the video; generating a content-rich video. However, Sarukkai teaches extracting topics from the text and the video data (predictor models, including topics, may be extracted from video content items that contain text-based items superimposed therewith, paragraphs [0026] [0048], and [0052]-[0053]); cross-referencing the text, the video data, and the topics with the video (additional video content (text) may be selected and overlain in a video based on a historical behavior that represents a user's interest (cross-referencing text, video data and topics), paragraphs [0047],[0055]); generating a content-rich video (the additional video content may be presented to a user along with the video being viewed by a user (generating content rich-video), paragraph [0054]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide extracting topics from the text and the video data; cross-referencing the text, the video data, and the topics with the video; generating a content-rich video, in order to predict behaviors of a user for an enhanced video viewing experience as discussed by Sarukkai at paragraph [0048].

As per claim 15, the system according to claim 14 is disclosed above. Yamabe teaches wherein converting the audio comprises natural language processing (a semantic media conversion engine (applying natural language processing), contains a TTS converter which allows for generation of an audio and video file based on input text data (convert audio) paragraphs [0043]-[0044]).

As per claim 18, the system according to claim 14 is disclosed above. Yamabe does not teach wherein the computer directs the system to generate metadata. However, Sarukkai teaches wherein the computer directs the system to generate metadata (the content format selector considers video metadata associated with video content, paragraphs [0045], [0047]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide wherein the computer directs the system to generate metadata, in order to determine the likelihood of abandonment of a user as discussed by Sarukkai at paragraph [0028].

As per claim 19, the system according to claim 14 is disclosed above. Yamabe does not teach wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references. However, Sarukkai teaches wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references (the content format selector considers video metadata associated with video content such as sequence of viewing (number of frames), length and quality rating, and start/end time ,paragraphs [0045], [0047]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Yamabe invention to provide wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references, in order to determine the likelihood of abandonment of a user as discussed by Sarukkai at paragraph [0028].

Claim 16-17 lack an inventive step under PCT Article 33(3) as being obvious over Yamabe in view of Sarukkai and Hull.

As per claim 16, the system according to claim 14 is disclosed above. Yamabe does not teach wherein the computer directs the audio to be converted by at least one node of a cluster and the computer directs the images to be converted by at least one other node of the cluster in parallel. However, Hull teaches wherein the computer directs the audio to be converted by at least one node of a cluster and the computer directs the images to be converted by at least one other node of the cluster in parallel (transcripts may be generated corresponding to audio information which enables extraction of segments of the audio information and related textual information (converted by different nodes). The audio information (image files) is then processed in parallel (processing the nodes in parallel), paragraphs [0057], [0065]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Johnson invention to provide wherein the computer directs the audio to be converted by at least one node of a cluster and the computer directs the images to be converted by at least one other node of the cluster in parallel in order to facilitate full text indexing and keyword searching capabilities on the audio information as discussed by Hull at paragraph [0065].

As per claim 17, the server according to claim 14 is disclosed above. Yamabe does not teach wherein the audio and the images are segmented at spectrum thresholds. However, Hull teaches wherein the audio and the images are segmented at spectrum thresholds (transcripts may be generated corresponding to audio information which enables extraction of segments of the audio information and related textual information (segmenting audio first). Further, an image based comparison method is used to compare the frames using a comparison threshold paragraphs (segmented at spectrum thresholds), paragraphs [0052], [0057], [0065]). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Yamabe invention to provide wherein the audio and the images are segmented at spectrum thresholds in order to facilitate full text indexing and keyword searching capabilities on the audio information as discussed by Hull at paragraph [0065].

Claims 1-19 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.

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IPR2025-00876 - Page 00155

Electronic Acknowledgement Receipt

EFS ID:	26832301
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008
Receipt Date:	02-SEP-2016
Filing Date:	06-FEB-2016
Time Stamp:	21:23:08
Application Type:	U.S. National Stage under 35 USC 371

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	Information Disclosure Statement (IDS) Form (SB08)	0008IDS.pdf	146621 b865379ff17c04c2774e720f465daa9475d18cc2	no	1

Warnings:

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Information:					
This is not an USPTO supplied IDS fillable form					
2	Information Disclosure Statement (IDS) Form (SB08)	0008_SB08.pdf	1035664 b4cc4cf9afbf3aa1586a3aa85901f76ed5e67fd4	no	4
Warnings:					
Information:					
3	Non Patent Literature	NPL1.pdf	22944 1e082b58c51b19a6b5d9424e454a9a9b059071e9	no	1
Warnings:					
Information:					
4	Non Patent Literature	NPL2.pdf	100155 233cf31981a6ae33bca78dc643aa004c174d5fc8	no	2
Warnings:					
Information:					
5	Non Patent Literature	NPL3.pdf	382223 f644f5eb14f353614285e9d7e286516d6a180205	no	5
Warnings:					
Information:					
6	Non Patent Literature	NPL4.pdf	306028 87095b262de4d6699b077a4c7c6ec47419fea554	no	4
Warnings:					
Information:					
		Total Files Size (in bytes):	1993635		

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.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008

CONFIRMATION NO. 3701

27890
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

PUBLICATION NOTICE

OC000000087752128

Title:VIDEO TO DATA

Publication No.US-2016-0358632-A1
Publication Date:12/08/2016

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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UNITED STATES DEPARTMENT OF COMMERCE
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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008	3701

27890 7590 05/11/2017

STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER
SHAH, PARAS D

ART UNIT	PAPER NUMBER
2659	

NOTIFICATION DATE	DELIVERY MODE
05/11/2017	ELECTRONIC

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 the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hfox@steptoe.com
ipdocketing@steptoe.com
lfielding@steptoe.com

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Office Action Summary	Application No. 14/910,698	Applicant(s) LAKHANI ET AL.	
	Examiner Paras D. Shah	Art Unit 2659	AIA (First Inventor to File) Status Yes

-- 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* MONTHS 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 *02/06/2016*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

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) *1-19* 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) *1-19* is/are rejected.

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

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

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

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

11)☒ The drawing(s) filed on *02/06/2016* 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).

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).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

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) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00161

DETAILED ACTION

1. This communication is in response to the Application filed on 02/07/2014. Claims 1-15 are pending and have been examined.

2. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 09/02/2016 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*,

686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(1) - 706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-12, and 14-18 are provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims of copending Application No

14/175741. Although the claims at issue are not identical, they are not patentably distinct from each other because are similar in scope to each other and where the scope of the co-pending application is narrower in scope than that of the instant application. Therefore the claims of the co-pending application anticipate the claims of the instant application. Please see the claim mappings below for the independent claims as shown in the table below as well as the dependent claims noted below.

This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

The following is the relevant claim mapping between the instant application and the co-pending application. (P) represents the co-pending application and (I) represents the instant application. Claim 1 (I): Claim 1 (P); Claim 2 (I): Claim 2 (P); Claim 3 (I): Claim 3 (P); Claim 4 (I): Claim 4 (P); Claim 5 (I): Claim 5 (P); Claim 6 (I): Claim 6 (P); Claim 7 (I): Claim 7 (P); Claim 8 (I): Claim 8 (P); Claim 9 (I): Claim 9 (P); Claim 10 (I): Claim 10 (P); Claim 11 (I): Claim 11 (P); Claim 12 (I): Claim 1 (P); Claim 14 (I): Claim 12 (P); Claim 15 (I): Claim 13 (P); Claim 16 (I): Claim 14 (P); Claim 17 (I): Claim 15 (P); Claim 18 (I): Claim 12 (P).

Claims 13 and 19 are further rejected in view of the co-pending application's claim 1 and 12 and further in view of Houh (US 2007/0106685). The co-pending application does not disclose what the metadata comprises. Houh does teach the metadata comprises number of frames, a range of said frames and/or timestamp references (see [0049]-[0052], where metadata includes timing information defining boundaries of segments, timed word segments, timed audio speech segments, timed

video segments). Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by the co-pending application with the generation of metadata as taught by Houh for the purpose of allowing user control of a media content based on segments identified in the enhanced metadata (see Houh [0088]).

Co-Pending Application : 14/175741	Instant Application: 14/910698
Claim 1: **A method to generate video data from a video comprising:** **generating audio files and image files from the video;** **distributing the image files across a plurality of processors and processing the image files in parallel, wherein processing the image files comprises extracting one or more objects and identifying the one or more objects;** **processing the audio files;** **converting audio files associated with the video to text;** **converting the image files associated with the video to video data;** generating a topical meta-data that describes content of the video by deriving semantic information from the identification of the one or more objects and semantic information from the audio files; adding the topical meta-data to the video; and	Claim 1: **A method to generate video data from a video comprising:** **generating audio files and image files from the video;** d**istributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel;** **converting audio files associated with the video to text;** **converting the image files associated with the video to video data;**

cross-referencing the text and the video data based on the generated topical meta-data to determine topics; generating video text based on the cross-referencing, wherein the video text describes content of the video; generating a text, image, or animation based on the video text; and placing the text, image or animation in the video.	**cross-referencing the text and the video data with the video.**

Claim Rejections - 35 USC § 101

5. 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.

Claims 1, 3-10, 12, and 13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter because the claim(s) as a whole, considering all claim elements both individually and in combination, do not amount to significantly more than an abstract idea. The claims relate to a process and apparatus, respectively. The claims recite generating audio files and image files from the video; distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel; converting audio files associated with the video to text; converting the image files associated with the video to video data; cross-referencing the text and the video data with the video. The claim(s) is/are directed to the abstract idea (idea of itself) of classifying and matching pieces of information. More specifically, the claims relate to a series of steps of data gathering where audio and image files are determined and processed to extract the text/video data. Then, comparing the two pieces of data. The independent claims fail to show an improvement to computer functionality. The comparison which is the end result is a natural process when extracting two pieces of data for comparison and has been judged by the courts to relate to an abstract idea (see Electric Power, which dealt with collecting information, analyzing it, and displaying results of the analysis). The additional element(s) or combination of elements in the claim(s) (e.g. processors, CRM) other than the abstract idea per se amount(s) to no more than: (i) mere instructions to implement the idea on a computer, and/or (ii) recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry.

Viewed as a whole, these additional claim element(s) do not provide meaningful limitation(s) to transform the abstract idea into a patent eligible application of the abstract idea such that the claim(s) amounts to significantly more than the abstract idea itself. Therefore, the claim(s) are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.

With respect to the dependent claims, claim 3 relates to applying natural language processing to the text to determining context associated with the video. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for applying to the text (e.g. analysis of data) without additional limitations to amount to significantly more. With respect to claim 4, the claim relates to applying natural language to extract a topic. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for applying to the text (e.g. analysis of data) without additional limitations to amount to significantly more. With respect to claim 5, the claim relates to processing the image to extract additional text. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for extracting text (e.g. analysis of data) without additional limitations to amount to significantly more. With respect to claim 6, the claim relates to segmenting the image. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for dividing an image (e.g. analysis of data) without additional limitations to amount to significantly more that provides an improvement to a computer. With respect to claim 7, the claim relates to processing the image to extract an object and determine a motion. This

relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for image analysis without additional limitations to amount to significantly more without providing an improvement to a computing technology. With respect to claim 8 and 9, the claim relates to audio segmentation at thresholds prior to parallel processing. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for audio analysis which in this case is audio segmentation which is widely known without additional limitations to amount to significantly more without providing an improvement to a computing technology. With respect to claim 10 and 11, the claim relates to generating an ad/metadata. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for search and retrieval or determining of other data without additional limitations to amount to significantly more without providing an improvement to a computing technology as the claims just relate to determining an advertisement.

The claims parallel the court decision from *TLI communications LLC v. AV Automotive LLC*. (Fed Cir. May 17 2016). In this decision the court noted that the claims were drawn to the concept of classifying an image and storing the image based on its classification. It was also noted that the claims were directed towards and abstract idea of classifying and storing. Further the claims were noted to use generic computing environment. The claims were not directed to an improvement of computing function. Rather it was noted that the claims were directed to the use of conventional or generic technology in a well-known environment with any claim that the invention reflects an inventive solution to the problem. This relates to the present case where although the

subject matter is slightly differing. The fact patterns with respect to the abstract idea and the lack of improvement in computer function are present in the claims identified above.

Claim Rejections - 35 USC § 112

6. The following is a quotation of 35 U.S.C. 112(b):

> (b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 14 is rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention. Claim 14 recites “generating a content video“. It is unclear as to which instruction step is used to generate the content-rich video. For the purposes of compact prosecution the last limitation was interpreted to be based on the “cross-referencing”. The Examiner encourages the Applicant to make this clear.

8. Claims 15-19 are rejected for not curing the deficiency of the base claim.

Claim Rejections - 35 USC § 102

9. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of

rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

10. 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 –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

11. Claims 1-5, 10, 14, and 15 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Li (US 2006/0212897).

As to claim 1, Li teaches a method to generate video data from a video comprising:

generating audio files and image files from the video (see [0035], where audio and video stream created from the original audio-video stream);

distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel (see Figure 2, output of the stream splitting component 210 into audio and other streams, where audio stream separated from other streams and see 42 other recognition components and see [0045], such as OCR and speech recognition and see [0023], which discloses multiprocessor systems and distributed implementation);

converting audio files associated with the video to text (see [0035], [0036], and [0059], where speech recognition component 216 extracts keywords from the audio);

converting the image files associated with the video to video data (see [0045], where ocr performed on video information stream);

cross-referencing the text and the video data with the video (see [0058]-[0060], where keywords determined from both streams are used in order to retrieve a relevant ad).

As to claim 2, Li teaches further comprising: generating a content-rich video based on the video, the text, and the video data (see Figure 2, 238 and [0038], where advertising content embeds ads into original audio/video based on keywords derived from video stream and audio stream).

As to claim 3, Li teaches further comprising: applying natural language processing to the text to determine context associated with the video (see [0037], where NLP performed in the sense of topical change detection by analyzing keywords extracted).

As to claim 4, Li teaches further comprising: applying natural language processing to the text to extract a topic (see [0019], where keywords extracted represent topics of the text derived from speech recognition and data mining technologies in the text).

As to claim 5, Li teaches further comprising: processing the image

files to extract additional text (see [0045], where ocr performed on video information stream).

As to claim 10, Li teaches further comprising: further comprising: generating an advertisement based on the text and the video data (see Figure 2, advertisement retrieved based on video data and text from keyword extraction 224 and embedded in original audio/video stream (see [0038])).

As to claim 14, Li teaches a system for extracting data from a video, comprising:

a computer processor (see [0023], multi-processor); and

a non-transitory computer readable medium containing instructions directing the system to execute the steps of (see [0023], program modules stored in CRM):

converting audio associated with the video to text (see [0035], [0036], and [0059], where speech recognition component 216 extracts keywords from the audio);

converting images associated with the video to video data (see [0045], where ocr performed on video information stream);

extracting topics from the text and the video data (see [0019], where keywords represent topics and see [0036], where keywords extracted from various streams);

cross-referencing the text, the video data, and the topics with the video (see [0037], where keywords are compared to an ad keyword list); and

generating a content-rich video (see Figure 2, 238 and [0038], where advertising content embeds ads into original audio/video).

As to claim 15, Li teaches wherein converting the audio comprises natural language processing (see [0019], speech recognition and phonetic search).

Claim Rejections - 35 USC § 103

12. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

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

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claims 7 and 11 are rejected under 35 U.S.C. 103 as being unpatentable over Li in view of Srivara (US 2011/0292992).

As to claim 7, Li teaches all of the limitations as in claim 1, above.

However, Li does not specifically teach processing the image files to extract an object and determine a motion associated with the object.

Srivara does teach processing the image files to extract an object and determine a motion associated with the object (see [0029], where identification of stationary and moving object determined for ad placement).

Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by Li with the determining a motion associated with an object as taught by Srivara for the purpose of providing greater flexibility where supplemental information may be placed taking into consideration motion without human intelligence (see Srivara [0008]).

As to claim 11, Li teaches all of the limitations as in claim 10, above.

Furthermore, Li teaches further comprising: further comprising: generating an advertisement based on the text and the video data (see Figure 2, advertisement retrieved based on video data and text from keyword extraction 224 and embedded in original audio/video stream (see [0038])).

However, Li does not specifically teach placing the advertisement in the video at a preferred time.

Srivara does teach further comprising: placing the advertisement in the video at a preferred time (see [0007], where supplemental information is placed at a specific place and time).

Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by Li with the ad being placed at a preferred time as taught by Srivara for the purpose of providing greater flexibility where supplemental information may be placed taking into consideration motion without human intelligence (see Srivara [0008]).

15. Claim 6 and 8 are rejected under 35 U.S.C. 103 as being unpatentable over Li in view of Zhang (US 2003/0112265).

As to claim 6, Li teaches all of the limitations as in claim 5, above.

Furthermore, Li teaches wherein the additional text is generated (see [0045], where ocr performed on video information stream)…before processing the image files in parallel (see Figure 2, output of the stream splitting component 210 into audio and other streams).

However, Li does not specifically teach wherein the additional text is generated by segmenting the image files before processing the image files in parallel.

Zhang does teach wherein the additional text is generated by segmenting the image files before processing the image files in parallel (see [0007], [0123] where video data is segmented for browsing, editing and playback).

Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the

generation of video data as taught by Li with the image segmentation as taught by Zhang for the purpose of segmenting and indexing video into semantically meaningful video scenes (see Zhang [0013], [0123]).

As to claim 8, Li teaches all of the limitations as in claim 5, above.

Furthermore, Li teaches wherein the additional text is generated (see [0045], where ocr performed on video information stream)…before processing the audio files in parallel (see Figure 2, output of the stream splitting component 210 into audio and other streams).

However, Li does not specifically teach wherein the text is generated by segmenting the audio before processing the audio files in parallel

Zhang does teach wherein the text is generated by segmenting the audio before processing the audio files in parallel (see [0111], where segments of audio are screened if no speech detected, thus segmenting between speech and non-speech, where Li discloses generic speech detection).

Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by Li with the audio segmentation as taught by Zhang for the purpose of allowing the procedure to occur more faster, thus saving processing time (see Zhang [0111]).

16. Claims 9 is rejected under 35 U.S.C. 103 as being unpatentable over Li in view of Srivara, as applied in claim 7, above and further in view of Otani (US 2005/0108004) in view of Zhang (US 2003/0112261).

As to claim 9, Li in view of Srivara teaches all of the limitations as in claim 7, above.

However, Li in view of Srivara does not specifically teach wherein the audio files and the image files are segmented at spectrum thresholds.

Otani does teach does wherein the audio files are segmented at spectrum thresholds (see [0006], where conventionally spectral envelope variations are compared to a threshold to determine presence of speech, where Li already discloses a speech detector for extracting speech portions) (e.g. The Examiner interprets the segmentation to be equivalent to speech detection and separation of speech from non-speech).

Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by Li in view of Srivara with the audio segmentation as taught by Otani for the purpose of substituting the generic speech detector of Li in view of Srivara with the specific detection algorithm of Otani in order to have yielded predictable result of speech detection. *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

However, Li in view of Srivara in view of Otani does not specifically teach image files are segmented at spectrum thresholds.

Zhang does teach image files are segmented at spectrum thresholds (see [0047], background audio changes used to segment audio data and see [0035], where an audio frequency change threshold used to determined change in background audio in order to segment video).

Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by Li in view of Srivara in view of Otani with the image segmentation as taught by Zhang for the purpose of segmenting video in a semantically meaningful video scenes (see Zhang [0001]).

17. Claims 12-13 and 18-19 are rejected under 35 U.S.C. 103 as being unpatentable over Li, as applied in claim 1 and 14, above and further in view of Houh (US 2007/0106685).

As to claim 12 and 18, Li in view of Srivara teaches all of the limitations as in claim 7 and 14, above.

However, Li does not specifically teach generating of metadata.

Houh does teach generating of metadata (see [0041], generate enhanced metadata).

Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the

generation of video data as taught by Li with the generation of metadata as taught by Houh for the purpose of allowing user control of a media content based on segments identified in the enhanced metadata (see Houh [0088]).

As to claim 13 and 19, Li in view of Houh teaches all of the limitations as in claim 12 and 18, above.

Furthermore, Houh does teach the metadata comprises number of frames, a range of said frames and/or timestamp references (see [0049]-[0052], where metadata includes timing information defining boundaries of segments, timed word segments, timed audio speech segments, timed video segments).

18. Claims 16 is rejected under 35 U.S.C. 103 as being unpatentable over Li.

As to claim 16, Li teaches the computer directs at least one node of a cluster and the computer by at least one other node of the cluster in parallel (see [0023], distributed computing and multiprocessor systems).

However, Li does not specifically disclose the audio being converted by one node and images being converted by another node.

The Examiner contends that such distribution of processes would have been obvious in view of the teachings of Li. More specifically, Li discloses the conversion of audio in Figure 2, speech recognition component 214 and discloses image conversion in paragraph [0045]. Furthermore, Li discloses distributed processing in [0023]. Therefore, the ability to distribute the audio

conversion process and image conversion process would have been obvious to one of ordinary skilled in the art in order to lessen the burden of resources on a single computing system.

19. Claim 17 is rejected under 35 U.S.C. 103 as being unpatentable over Li in view of Otani (US 2005/0108004) in view of Zhang (US 2003/0112261).

As to claim 17, Li teaches all of the limitations as in claim 12, above.

However, Li does not specifically teach wherein the audio files and the image files are segmented at spectrum thresholds.

Otani does teach does wherein the audio files are segmented at spectrum thresholds (see [0006], where conventionally spectral envelope variations are compared to a threshold to determine presence of speech, where Li already discloses a speech detector for extracting speech portions) (e.g. The Examiner interprets the segmentation to be equivalent to speech detection and separation of speech from non-speech).

Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by Li with the audio segmentation as taught by Zhang for the purpose of substituting the generic speech detector of Li with the specific detection algorithm of Zhang in order to have yielded predictable result of speech detection. *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007).

However, Li in view of Otani does not specifically teach image files are segmented at spectrum thresholds.

Zhang does teach image files are segmented at spectrum thresholds (see [0047], background audio changes used to segment audio data and see [0035], where an audio frequency change threshold used to determined change in background audio in order to segment video).

Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by Li in view of Otani with the image segmentation as taught by Zhang for the purpose of segmenting video in a semantically meaningful video scenes (see Zhang [0001]).

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kadie (US 2006/0179453) is cited to disclose analysis for contextual ads. Lau (US 2007/0112630) is cited to disclose rendering advertisements with rich media. Stern (US 2008/0120646) is cited to disclose associating relevant advertising with video content. Huchital (US 2008/0276266) is cited to disclose content of characterizing identification of ads. Lax (US 2009/0006375) is cited to disclose selection of advertisement for placement with content. Surendran (US 2009/0199235) is cited to disclose video contextual ads using speech recognition. Arankalle (US 2009/0006191)

is cited to disclose targeted in-video advertising. Burkitt (US 2012/0254917) is cited to disclose real-time processing and delivery of segmented video. Kim (US 2014/0314391) is cited to disclose displaying image combined with playing audio. Wilder (US 2015/0019206) is cited to disclose metadata extraction of non-transcribed video and audio streams.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paras D. Shah whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:30a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre-Louis Desir can be reached on (571)272-7799. 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.

/Paras D Shah/
Primary Examiner, Art Unit 2659

05/05/2017

Notice of References Cited	Application/Control No. 14/910,698	Applicant(s)/Patent Under Reexamination LAKHANI ET AL.	
	Examiner Paras D. Shah	Art Unit 2659	Page 1 of 2

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*	L	US-2009/0006191 A1	01-2009	Arankalle; Poorva	G06Q30/02	705/14.71
*	M	US-2011/0292992 A1	12-2011	Sirivara; Sudheer	H04N21/23418	375/240.01

FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00185

Notice of References Cited	Application/Control No. 14/910,698	Applicant(s)/Patent Under Reexamination LAKHANI ET AL.	
	Examiner Paras D. Shah	Art Unit 2659	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-2012/0254917 A1	10-2012	Burkitt; Kevin J.	G06F17/30817	725/40
*	B	US-2014/0314391 A1	10-2014	KIM; Hyun-Jung	G11B27/11	386/248
*	C	US-2015/0019206 A1	01-2015	WILDER; JONATHAN	G06K9/00302	704/9
	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					

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*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14910698
Filing Date	2016-02-06
First Named Inventor	Naeem LAKHANI
Art Unit	
Examiner Name	
Attorney Docket Number	19299.0008

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20110069936		2011-03-24	Johnson et al.	
	2	20090157407		2009-06-18	Yamabe et al.	
	3	20010020954		2001-09-13	Hull et al.	
	4	20130174045		2013-07-04	Sarukkai et al.	

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IPR2025-00876 - Page 00187

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14910698
Filing Date	2016-02-06
First Named Inventor	Naeem LAKHANI
Art Unit	
Examiner Name	
Attorney Docket Number	19299.0008

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Examiner Initials*	Cite No	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, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Notification Concerning Transmittal of Copy of International Preliminary Report on Patentability (Chapter I of the Patent Cooperation Treaty) dated August 18, 2016, issued in International Application No. PCT/US2015/014940	
	2	International Search Report dated June 3, 2015, issued in International Application No. PCT/US2015/014940	
	3	Written Opinion of the International Searching Authority dated June 3, 2015, issued in International Application No. PCT/US2015/014940	
	4	Deng, Yining, and B.S. Manjunath, "Content-based search of video using color, texture, and motion." Image Processing, 1997, retrieved from: http:/vision.ece.ucsb.edu/publications/97ICIPCBS.pdf	

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EXAMINER SIGNATURE

Examiner Signature	/Paras D Shah/ (05/01/2017)	Date Considered	05/01/2017

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14910698
Filing Date	2016-02-06
First Named Inventor	Naeem LAKHANI
Art Unit	
Examiner Name	
Attorney Docket Number	19299.0008

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That 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. See 37 CFR 1.97(e)(1).

OR

☐ That 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 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Harold H. Fox REG#41498/	Date (YYYY-MM-DD)	2016-09-02
Name/Print	Harold H. Fox	Registration Number	41,498

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 1 hour 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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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

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CONFIRMATION NO. 3701

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
14/910,698	02/06/2016 RULE	704	2659	19299.0008

APPLICANTS

CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS, Ridgeland, MS

INVENTORS

Naeem LAKHANI, Croydon, UNITED KINGDOM;
Bartlett Wade SMITH IV, Madison, MS;
Allison A. TALLEY, Ridgeland, MS;

**** CONTINUING DATA ***************************

This application is a 371 of PCT/US2015/014940 02/07/2015
which claims benefit of 62/021,666 07/07/2014
and claims benefit of 61/866,175 08/15/2013

**** FOREIGN APPLICATIONS ***************************

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08/25/2016

Foreign Priority claimed	35 USC 119(a-d) conditions met	Verified and Acknowledged	Met after Allowance	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ Yes ☑ No	☐ Yes ☑ No	/PARAS D SHAH/ Examiner's Signature	☐ Initials	UNITED KINGDOM	9	19	2

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STEPTOE & JOHNSON LLP
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14910698	LAKHANI ET AL.
	Examiner	Art Unit
	PARAS D SHAH	2659

CPC- SEARCHED

Symbol	Date	Examiner
G0L15/18,26,265	5/1/2017	PS
G10L25/48,51,54,57	5/1/2017	PS
G06F17/30,30058,3074,30781	5/1/2017	PS
G06T7/0081	5/1/2017	PS
G06K/00456	5/1/2017	PS
G06K2209/01	5/1/2017	PS

CPC COMBINATION SETS - SEARCHED

Symbol	Date	Examiner

US CLASSIFICATION SEARCHED

Class	Subclass	Date	Examiner
704	231,270,270.1,275	5/1/2017	PS
382	100,173,176,177	5/1/2017	PS
345	418	5/1/2017	PS
348	61	5/1/2017	INve

SEARCH NOTES

Search Notes	Date	Examiner
Inventor Search (Palm)	5/1/2017	PS
Easrt search (US PGpub, US Patent, EPO, JPO, Derwent, and IBM)	5/1/2017	PS
G0L15/18,26,265 (text search)	5/1/2017	PS
G10L25/48,51,54,57 (text search)	5/1/2017	PS
G06F17/30,30058,3074,30781 (text search)	5/1/2017	PS
G06T7/0081 (text search)	5/1/2017	PS
G06K/00456 (text search)	5/1/2017	PS
G06K2209/01	5/1/2017	PS

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INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14910698	LAKHANI ET AL.
	Examiner	Art Unit
	PARAS D SHAH	2659

✓	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	05/01/2017								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
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	17	✓								
	18	✓								
	19	✓								

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2251	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av video) same (audio) near3 (extract$3 retriev$5 generat$5 separat$5 determin$5 detect$5) and ((speech voice audio spoken utterance) near3 (recognition recogniz$5) speech$1to$1text voice$1to$1text) and (topic$3 categor$5 subject$2 domain$1) near5 (detect$3 determin$5 identif$5 extract$5 classif$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:41
L2	1945	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av video) same (audio) near3 (extract$3 retriev$5 generat$5 separat$5 determin$5 detect$5) and ((speech voice audio spoken utterance) near3 (recognition recogniz$5) speech$1to$1text voice$1to$1text) and (topic$3 categor$5 subject$2 domain$1) near5 (detect$3 determin$5 identif$5 extract$5 classif$5) and (video image$1 picture$1) near5 (recogniz$3 recognition process$4 ocr)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:41
L3	1167	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av video) same (audio) near3 (extract$3 retriev$5 generat$5 separat$5 determin$5 detect$5) and ((speech voice audio spoken utterance) near3 (recognition recogniz$5) speech$1to$1text voice$1to$1text) and (topic$3 categor$5 subject$2 domain$1) near5 (detect$3 determin$5 identif$5 extract$5 classif$5) and (video image$1 picture$1) near5 (recogniz$3 recognition process$4 ocr) and (ads ad advertisement$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:41
L4	987	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av video) same (audio) near3 (extract$3 retriev$5 generat$5 separat$5 determin$5 detect$5) and ((speech voice audio spoken utterance) near3 (recognition recogniz$5) speech$1to$1text voice$1to$1text) and (topic$3 categor$5 subject$2 domain$1) near5 (detect$3 determin$5 identif$5 extract$5 classif$5) and (video image$1 picture$1) near3 (recogniz$3 recognition process$4 ocr) and (ads ad advertisement$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:41

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L5	235	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av video) same (audio) near3 (extract$3 retriev$5 generat$5 separat$5 determin$5 detect$5) and ((speech voice audio spoken utterance) near3 (recognition recogniz$5) speech$1to$1text voice$1to$1text) and (topic$3 categor$5 subject$2 domain$1) near5 (detect$3 determin$5 identif$5 extract$5 classif$5) and (video image$1 picture$1) near3 (recogniz$3 recognition process$4 ocr) and (ads ad advertisement$3) near5 (insert$3 determin$3 plac$3 generat$4 identif$5 add adding) same (video$1 av)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:41
L6	1945	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av video) same (audio) near3 (extract$3 retriev$5 generat$5 separat$5 determin$5 detect$5) and ((speech voice audio spoken utterance) near3 (recognition recogniz$5) speech$1to$1text voice$1to$1text) and (topic$3 categor$5 subject$2 domain$1) near5 (detect$3 determin$5 identif$5 extract$5 classif$5) and (video image$1 picture$1) near5 (recogniz$3 recognition process$4 ocr)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:41
L7	2251	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av video) same (audio) near3 (extract$3 retriev$5 generat$5 separat$5 determin$5 detect$5) and ((speech voice audio spoken utterance) near3 (recognition recogniz$5) speech$1to$1text voice$1to$1text) and (topic$3 categor$5 subject$2 domain$1) near5 (detect$3 determin$5 identif$5 extract$5 classif$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:41
L8	1787	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av video imag$3) near7 (motion$3 movement) and (ads ad advertisement$3) near5 (insert$3 determin$3 plac$3 generat$4 identif$5 add adding) same (video$1 av)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:42
L9	1655	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av image picture$1) near3 (symbol$1 object$1 animal person item$1) near3 (recogniz$3 extract$3 detect$3 determin$5 identif$5) near7 (topic$3 categor$3 subject$1 domain$1) AND (VIDEO AV movie)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:42
L10	2624	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av image picture$1) near3 (symbol$1 object$1 animal person item$1) near3 (recogniz$3 extract$3 detect$3 determin$5 identif$5) near7 (topic$3 categor$3 subject$1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:42

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		domain$1)				
L11	679	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (audio speech voice spoken) near5 (detect$5 presenc$5) same (segmenting segmented pars$3 divid$3 break$3 window$3 split$5) near5 (frequenc$3 spectr$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:42
L12	971	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (audio speech voice spoken) near5 (detect$5 presenc$5) same (segment$5 pars$3 divid$3 break$3 window$3 split$5) near5 (frequenc$3 spectr$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:42
L13	481	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av image$1) same (audio speech voice spoken) near5 (segment$5 pars$3 divid$3 break$3 window$3 split$5) near5 (frequenc$3 spectr$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:42
L14	227	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av video imag$3) near7 (motion$3 movement) near3 (subject$1 object$3) and (ads ad advertisement$3) near5 (insert$3 determin$3 plac$3 generat$4 identif$5 add adding) same (video$1 av)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:42
L15	481	(("704" "382" "348" "345").clas. (G10L15/$ G10L2015/$ G10L25/$ G10L25/$).cpc. (G06K G06T H04N).cpcl.) and (video av image$1) same (audio speech voice spoken) near5 (segment$5 pars$3 divid$3 break$3 window$3 split$5) near5 (frequenc$3 spectr$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/05/01 07:43

EAST Search History (Interference)

<This search history is empty>

5/1/2017 7:55:49 AM
C:\Users\pshah\Documents\EAST\Workspaces\14910698.wsp

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00197

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Naeem Lakhani et al.
Serial No. 14/910,698
Filed: February 6, 2016
For: VIDEO TO DATA

Examiner: Paras D Shah
Group Art Unit: 2659
Docket No.: 19299.0008

Mail Stop Amendment
United States Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria VA 22314

REPLY TO ACTION DATED MAY 11, 2017

In response to the Office Action mailed May 11, 2017 ("Office Action"), Applicants submit the following remarks.

AMENDMENTS TO THE CLAIMS

This Listing of Claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A method to generate video data from a video comprising:

generating audio files and image files from the video;

distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel;

converting audio files associated with the video to text;

identifying an image of interest in the image files;

determining a contextual topic from the image files;

assigning a probability of accuracy to the identified object based on the contextual topic;

converting the image files associated with the video to video data, wherein the video data comprises the identification of the image of interest, the probability, and the contextual topic;

cross-referencing the text and the video data with the video.

2. (Original) The method according to claim 1, further comprising:

generating a content-rich video based on the video, the text, and the video data.

3. (Original) The method according to claim 1, further comprising:

applying natural language processing to the text to determine context associated with the

video.

4. (Original) The method according to claim 2, further comprising:

applying natural language processing to the text to extract a topic.

5. (Original) The method according to claim 1, further comprising:

processing the image files to extract additional text.

6. (Original) The method according to claim 5, wherein the additional text is generated by segmenting the image files before processing the image files in parallel.

7. (Original) The method according to claim 1, further comprising:

processing the image files to extract an object and determine a motion associated with the object.

8. (Original) The method according to claim 1, wherein the text is generated by segmenting the audio before processing the audio files in parallel.

9. (Original) The method according to claim 7, wherein the audio files and the image files are segmented at spectrum thresholds.

10. (Original) The method according to claim 1, further comprising:

generating an advertisement based on the text and the video data.

11. (Original) The method according to claim 10, further comprising:

placing the advertisement in the video at a preferred time.

12. (Original) The method according to claim 1, further comprising:

generating metadata.

13. (Original) The method according to claim 12, wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references.

14. (Currently Amended) A system for extracting data from a video, comprising:

a computer processor; and

a non-transitory computer readable medium containing instructions directing the system to execute the steps of:

converting audio associated with the video to text;

converting images associated with the video to video data, wherein the video data comprises identified regions of interest;

extracting topics from the text and the video data;

assigning probabilities of accuracy for each of the identified regions of interest, wherein the probabilities are based on the extracted topics; and

cross-referencing the text, the video data, and the topics with the video~~; and~~

~~generating~~ to generate a content-rich video.

15. (Original) The system according to claim 12, wherein converting the audio comprises natural language processing.

16. (Original) The system according to claim 12, the computer directs the audio to be converted by at least one node of a cluster and the computer directs the images to be converted by at least one other node of the cluster in parallel.

17. (Original) The server according to claim 12, wherein the audio and the images are segmented at spectrum thresholds.

18. (Original) The system according to claim 14, wherein the computer directs the system to generate metadata.

19. (Original) The system according to claim 14, wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references.

REMARKS

Claims 1–19 are pending. Claims 1 and 14 are currently amended. Support for the amendments can be found in the original disclosure. See, e.g., paragraphs 37-41. No new matter has been added.

Applicant respectfully traverses Examiner's rejections regarding all pending claims and, for the reasons stated below, respectfully requests withdrawal of the rejections.

I. Claim Rejections – Double Patenting – Claims 1–19

The Examiner has provisionally rejected claims 1–12 and 14–18 on the ground of nonstatutory anticipation-type double patenting as allegedly being unpatentable over claims 1–15 of co-pending Application No. 14/175741. Office Action at pp. 2-6. The Examiner has also rejected claims 13 and 19 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 12 of co-pending Application No. 14/175741 and further in view of U.S. Patent Publication No. 2007/0106685 ("Houh"). Applicant respectfully traverses these rejections. Further, Applicant respectfully submits that both the anticipatory and obviousness-type double patenting rejections are moot in light of the present amendments.

II. Claim Rejections – 35 U.S.C. § 101 – Claims 1, 3–10, and 12–13

The Examiner has rejected claims 1, 3–10, and 12–13 under 35 U.S.C. § 101 because the claims allegedly, both individually and in combination, do not amount to significantly more than an abstract idea. Applicant respectfully traverses this rejection. Further, Applicant respectfully submits that the rejections are moot in light of the present amendments.

III. Claim Rejections – 35 U.S.C. § 112 – Claims 14–19

The Examiner has rejected claims 14–19 under 35 U.S.C. § 112(b) for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor regards as the invention. See Office Action, page 10. Applicant respectfully traverses this rejection. Further, Applicant respectfully submits that the rejections are moot in light of the present amendments.

IV. Claim Rejections – 35 U.S.C. § 102 – Claims 1–5, 10, and 14–15

The Examiner has rejected claims 1–5, 10, and 14–15 under 35 U.S.C. § 102(a)(1) for allegedly being anticipated by U.S. Patent Publication No. 2006/0212897 (Li). Applicant respectfully traverses these rejections. For the sake of brevity, the rejections of the independent claims 1 and 14 are discussed in detail on the understanding that the dependent claims set forth additional patent-eligible subject matter.

Li is generally directed to using speech recognition technology, to extract keywords from the audio and video files in order to target advertising. Li is not directed to analyzing images or video, apart from speech recognition. The Examiner alleges that Li discloses "generating audio files and image files from the video," as found in independent claim 1. See Office Action, page 11.

Li does not disclose identifying an object in image files and thus cannot anticipate claims 1 or 14. The passages cited by the Examiner are each directed to speech and text recognition. None of the cited passages, and nowhere else in Li, discloses or suggests object identification. Further, Li does not disclose "assigning a probability of accuracy to the identified object based on the contextual topic," as set forth in claim 1 or as similarly set forth in claim 14. Accordingly, Li cannot anticipate independent claims 1 and 14 or dependent claims 2–5, 10, and 15. Thus, Applicant respectfully requests withdrawal of the rejections.

V. Claim Rejections – 35 U.S.C. § 103 – Claims 7 and 11

The Examiner has rejected claims 7 and 11 under 35 U.S.C. § 103 as allegedly being unpatentable over Li in view of U.S. Patent Publication No. 2011/0292992 (Sirivara). See Office Action, page 14. Applicant respectfully traverses this rejection.

Claims 7 and 11 depend from claim 1. As discussed above, Li does not disclose all of the elements of claim 1. Sirivara fails to cure the deficiencies of Li. Accordingly, Applicant respectfully submits that this rejection has been overcome.

VI. Claim Rejections – 35 U.S.C. § 103 – Claims 6 and 8

The Examiner has rejected claims 6 and 8 under 35 U.S.C. § 103 as allegedly being unpatentable over Li in view of U.S. Patent Publication No. 2003/0112265 (the '265 publication). See Office Action, page 16. Applicant respectfully traverses this rejection.

Claims 6 and 8 depend from claim 1. As discussed above, Li does not disclose all of the elements of claim 1. The '265 publication fails to cure the deficiencies of Li. Accordingly, Applicant respectfully submits that this rejection has been overcome.

VII. Claim Rejections – 35 U.S.C. § 103 – Claim 9

The Examiner has rejected claim 9 under 35 U.S.C. § 103 as allegedly being unpatentable over Li in view of Srivara as applied in claim 7, above and further in view of U.S. Patent Publication No. 2005/0108004 (Otani) in view of U.S. Patent Publication No. 2003/0112261 (the '261 publication). See Office Action, page 18. Applicant respectfully traverses this rejection.

Claim 9 depends from claim 1. As discussed above, Li does not disclose all of the elements of claim 1. Neither Otani nor the '261 publication cures the deficiencies of Li. Accordingly, Applicant respectfully submits that this rejection has been overcome.

VIII. Claim Rejections – 35 U.S.C. § 103 – Claims 12–13 and 18–19

The Examiner has rejected claims 12–13 and 18–19 under 35 U.S.C. § 103 as allegedly being unpatentable over Li as applied in claims 1 and 14, above and further in view of Houh. See Office Action, page 19. Applicant respectfully traverses these rejections.

Claims 12 and 13 depend from claim 1, and claims 18 and 19 depend from claim 14. As discussed above, Li does not disclose all of the elements of claim 1. Houh fails to cure the deficiencies of Li. Accordingly, Applicant respectfully submits that this rejection has been overcome.

IX. Claim Rejections – 35 U.S.C. § 103 – Claim 16

The Examiner has rejected claim 16 under 35 U.S.C. § 103 as allegedly being unpatentable over Li. Office Action, pages 20-21. The Examiner appears to have relied upon

Official Notice. Applicant respectfully traverses this rejection.

First, Li does not teach all of the elements of claim 1. Therefore, Li cannot be relied upon exclusively for a rejection of dependent claim 16. Second, Li does not teach the elements of claim 16, such as, "the computer direct[ing] the audio to be converted by at least one node of a cluster and the computer directs the images to be converted by at least one other node of the cluster in parallel." Lastly, Applicant respectfully traverses the attempted use of Official Notice as improper. Official Notice is only permissible for those few facts that are of a "notorious character" and that are "capable of instant and unquestionable demonstration." MPEP § 2144.03(A). It is also improper for a rejection to rely on Official Notice as the "principal evidence." As Section 2144.03(A) of the MPEP expressly warns, it is never appropriate to rely solely on Official Notice as the principal evidence upon which a rejection was based. Instead, Official Notice is only appropriate for facts and that serve to "fill in the gaps" in a rejection. MPEP § 2144.03(A). In this case, however, the rejection of claim 16 relies exclusively on Official Notice, not merely to "fill in" a gap. Applicant respectfully requests withdrawal of the rejection.

X. Claim Rejections – 35 U.S.C. § 103 – Claim 17

The Examiner has rejected claim 17 under 35 U.S.C. § 103 as allegedly being unpatentable over Li in view of Otani in view of the '261 publication. See Office Action, page 21. Applicant respectfully traverses this rejection.

Claim 17 depends from claim 14. As discussed above, Li does not disclose all of the elements of claim 1. Neither Otani nor the '261 publication cures the deficiencies of Li. Accordingly, Applicant respectfully submits that this rejection has been overcome.

CONCLUSION

Applicant believes that the claims now pending are in condition for allowance. Should any fees be required by the present Amendment, the Commissioner is hereby authorized to charge Deposit Account **19-4293**.

Respectfully submitted,

Date: September 11, 2017

/Harold H Fox Reg # 41498/
Harold H. Fox
Reg. No. 41,498

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Telephone: (202) 429-3000
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Electronic Patent Application Fee Transmittal

Application Number:	14910698
Filing Date:	06-Feb-2016
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Filer:	Harold H. Fox
Attorney Docket Number:	19299.0008

Filed as Large Entity

Filing Fees for U.S. National Stage under 35 USC 371

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($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
			Total in USD ($)	**200**

Electronic Acknowledgement Receipt

EFS ID:	30331056
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008
Receipt Date:	11-SEP-2017
Filing Date:	06-FEB-2016
Time Stamp:	22:30:41
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$200
RAM confirmation Number	091217INTEFSW00007417194293
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Extension of Time	eot.pdf	1185807 8ab95906f778223d68994eb4f78100c4808ee535	no	2
Warnings:					
Information:					
2		Responsetoaction.pdf	285649 a8d4da52b0bcc0c41488c4d5e3fc854bb11fbb45	yes	10

Multipart Description/PDF files in .zip description

Document Description	Start	End
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	5
Applicant Arguments/Remarks Made in an Amendment	6	10

Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30082 f11788b2b5649af23d8bd6a86bb6ed23fa746ee0	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1501538		

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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

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PTO/SB/22 (03-13)
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 19299.0008

Application Number: 14/910,698

Filed: February 6, 2016

For: VIDEO TO DATA

Art Unit: 2659

Examiner: Shah

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	Micro Entity Fee	
☑ One month (37 CFR 1.17(a)(1))	$200	$100	$50	$ 200
☐ Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☐ Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐ Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐ Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ 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 19-4293.

☐ Payment made via EFS-Web.

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. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration number 41498.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Harold H Fox Reg # 41498/ — Signature

September 11, 2017 — Date

Harold H Fox — Typed or printed name

202-429-3000 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. 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 1.136(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 5 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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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/910,698	Filing Date 02/06/2016	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	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 $310 ($155 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	

APPLICATION AS AMENDED – PART II

AMENDMENT	09/11/2017	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 19	Minus	** 20	= 0	X $80 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

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

SLIE
SHARON M. WEST

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.
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008	3701

27890 7590 11/01/2017

STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER
SHAH, PARAS D

ART UNIT	PAPER NUMBER
2659	

NOTIFICATION DATE	DELIVERY MODE
11/01/2017	ELECTRONIC

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 the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hfox@steptoe.com
ipdocketing@steptoe.com
lfielding@steptoe.com

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00216

Office Action Summary	Application No. 14/910,698	Applicant(s) LAKHANI ET AL.	
	Examiner Paras D. Shah	Art Unit 2659	AIA (First Inventor to File) Status Yes

-- 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* MONTHS 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 *09/11/2017*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

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) *1-19* 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) *1-19* is/are rejected.

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

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

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

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).

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).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

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) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

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DETAILED ACTION

1. This communication is in response to the Amendments and Arguments filed on 09/11/2017. Claims 1-19 are pending and have been examined.

2. The Examiner notes that the Examiner contacted the Applicant's representative numerous times after 10/18/2017 but no phone call was received with respect to fining of a Terminal Disclaimer. Hence, this office action has been made FINAL.

3. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Compact Prosecution

4. The Examiner suggests the following amendments in an effort to advance prosecution and as agreed to by the applicant. The Examiner also request Terminal Disclaimers to be filed in view of the co-pending application below.

1. (Currently Amended) A method to generate video data from a video comprising:

generating audio files and image files from the video;

distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel;

converting audio files associated with the video to text;

identifying an object in the image files;

determining a contextual topic from the image files;

assigning a probability of accuracy to the identified object based on the contextual topic;

converting the image files associated with the video to video data, wherein the video data comprises the object, the probability, and the contextual topic;

cross-referencing the text and the video data with the video to determine contextual topics;

generating a contextual text, an image, or an animation based on the determined contextual topics;

generating a content-rich video based on the generated text, image, or animation.

2. (Cancelled)

14. (Currently Amended) A system for extracting data from a video, comprising:

a computer processor; and

a non-transitory computer readable medium containing instructions directing the system to execute the steps of:

converting audio associated with the video to text;

converting images associated with the video to video data, wherein the video data comprises identified objects;

extracting topics from the text and the video data;

assigning probabilities of accuracy for each of the identified objects, wherein the probabilities are based on the extracted topics; [[and]]

cross-referencing the text, the video data, and the topics with the video to determine contextual topics;

generating a contextual text, an image, or an animation based on the determined contextual topics; and

generate a content-rich video based on the generated contextual text, image, or animation.

Response to Argument and Amendments

5. The Applicant's arguments with respect to the Obviousness Double Patenting rejections are moot in view of the amendments currently made. Please see the updated mappings below in view of a secondary reference as cited below.

The Applicant's arguments with respect to the 35 USC 101 rejections have been considered but they are not persuasive. The Applicant asserts that based on the current amendments the rejections are moot. The Examiner respectfully disagrees with this assertion. The Examiner notes that the claims, for example claim 1, specifically recites identifying an image of interest in the image file and determining a topic from the image file, computing a probability of accuracy to the identified topic based on the contextual topic and then creating video data which is cross referenced with the text from the audio. This still relates to an idea of itself. As noted previously, the claims as now amended as a whole relate to classifying an image and audio based on the retrieval of the audio and image files in order to compare the result and to store. As noted in the previous office action the claims parallel the court decision from *TLI communications LLC v. AV Automotive LLC*. (Fed Cir. May 17 2016). In this decision the court noted that the claims were drawn to the concept of classifying an image and storing the image based on its classification. It was also noted that the claims were directed towards and abstract idea of classifying and storing. Further the claims were noted to use generic computing environment. The claims were not directed to an improvement of computing

function. Rather it was noted that the claims were directed to the use of conventional or generic technology in a well-known environment with any claim that the invention reflects an inventive solution to the problem. This relates to the present case where although the subject matter is slightly differing. The fact patterns with respect to the abstract idea and the lack of improvement in computer function are present in the claims identified above. The Applicant has not provided what the improvement is and how this court case does not apply. Rather the claims where amended relate to further analysis on the classifying of the object. Therefore, these rejections will be maintained. The Examiner also notes that based on the current amendment made to claim 14, the claims are not 35 USC 101 abstract as the generation of content rich video is denoted as an intended use.

The Applicant's amendments with respect to prior art have been overcome and therefore no prior art rejections have been made. The Examiner refers to the previously allowed parent case in order to overcome the 35 USC 101 abstract rejection. Specifically, the last two limitations.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at

least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(1) - 706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets

all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1-12, and 14-18 are provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims of copending Application No 14/175741 in view of Mohan (US 7,536,413). Although the claims at issue are not identical, they are not patentably distinct from each other because are similar in scope to each other. The issued patent however does not specifically disclose “assigning a probability of accuracy to the identified object based on the contextual topic” and “wherein the video data comprises the identification of the image of interest, the probability, and the contextual topic”. Mohan does teach assigning a probability of accuracy to the identified object based on the contextual topic (see col. 15, lines 61-67, where score for each category computed) and “wherein the video data comprises the identification of the image of interest, the probability, and the contextual topic” (see col. 6, lines 40-44, data from the categorization engine are stored and see col 15, lines 35-40, where key concept and probability is stored. Therefore it would have been obvious to one skilled in the art to have added the probability and storing of the information as recited in Mohan in order to enable the teachings of the issued patent (application) to understand meaning and theme of unstructured data (See col. 5, lines 23-26). Please see the claim mappings below for the independent claims as shown in the table below as well as the dependent claims noted below.

This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

The following is the relevant claim mapping between the instant application and the co-pending application. (P) represents the co-pending application and (I) represents the instant application. Claim 1 (I): Claim 1 (P); Claim 2 (I): Claim 2 (P); Claim 3 (I): Claim 3 (P); Claim 4 (I): Claim 4 (P); Claim 5 (I): Claim 5 (P); Claim 6 (I): Claim 6 (P); Claim 7 (I): Claim 7 (P); Claim 8 (I): Claim 8 (P); Claim 9 (I): Claim 9 (P); Claim 10 (I): Claim 10 (P); Claim 11 (I): Claim 11 (P); Claim 12 (I): Claim 1 (P); Claim 14 (I): Claim 12 (P); Claim 15 (I): Claim 13 (P); Claim 16 (I): Claim 14 (P); Claim 17 (I): Claim 15 (P); Claim 18 (I): Claim 12 (P).

Claims 13 and 19 are further rejected in view of the co-pending application's claim 1 and 12 and further in view of Houh (US 2007/0106685). The co-pending application does not disclose what the metadata comprises. Houh does teach the metadata comprises number of frames, a range of said frames and/or timestamp references (see [0049]-[0052], where metadata includes timing information defining boundaries of segments, timed word segments, timed audio speech segments, timed video segments). Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by the co-pending application in view of Mohan with the generation of metadata as taught by Houh for the purpose of allowing user control of a media content based on segments identified in the enhanced metadata (see Houh [0088]).

Co-Pending Application : 14/175741	Instant Application: 14/910698
Claim 1: **A method to generate video data from a video comprising:** **generating audio files and image files from the video;** **distributing the image files across a plurality of processors and processing the image files in parallel, wherein processing the image files comprises extracting one or more objects and identifying the one or more objects;** **processing the audio files;** **converting audio files associated with the video to text;** **converting the image files associated with the video to video data;** **generating a topical meta-data that describes content of the video by deriving semantic information from the identification of the one or more objects** and semantic information from the audio files; adding the topical meta-data to the video; and **cross-referencing the text and the video data based on the generated topical meta-data to determine topics;** generating video text based on the cross-referencing, wherein the video text describes content of the video;	Claim 1: **A method to generate video data from a video comprising:** **generating audio files and image files from the video;** d**istributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel;** **converting audio files associated with the video to text;** i**dentifying an image of interest in the image files**; **determining a contextual topic from the image files**; assigning a probability of accuracy to the identified object based on the contextual topic; **converting the image files associated with the video to video data,** wherein the video data comprises the identification of the image of interest, the probability, and the contextual topic**;** **cross-referencing the text and the video data with the video.**

generating a text, image, or animation based on the video text; and placing the text, image or animation in the video.	

Claim Rejections - 35 USC § 101

4. 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.

Claims 1, 3-10, 12-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter because the claim(s) as a whole, considering all claim elements both individually and in combination, do not amount to significantly more than an abstract idea. The claims relate to a process and apparatus, respectively. The claims recite generating audio files and image files from the video; distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel; converting audio files associated with the video to text; converting the image files associated with the video to video data; cross-referencing the text and the video data with the video. The claim(s) is/are directed to the abstract idea (idea of itself) of classifying, determining an object of interest and then matching pieces of information. More specifically, the claims relate to a series of steps of data gathering where audio and image files are determined and processed to extract the text/video data. Then, comparing the two pieces of data. The independent claims fail to show an improvement to computer functionality. The comparison which is the end result is a natural process when extracting two pieces of data for comparison and has been judged by the courts to relate to an abstract idea (see Electric Power, which dealt with collecting information, analyzing it, and displaying results of the analysis). The additional element(s) or combination of elements in the claim(s) (e.g. processors, CRM) other than the abstract idea per se amount(s) to no more than: (i) mere instructions to implement the idea on a computer, and/or (ii) recitation of generic computer structure that serves to perform generic computer

functions that are well-understood, routine, and conventional activities previously known to the pertinent industry.

Viewed as a whole, these additional claim element(s) do not provide meaningful limitation(s) to transform the abstract idea into a patent eligible application of the abstract idea such that the claim(s) amounts to significantly more than the abstract idea itself. Therefore, the claim(s) are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter.

With respect to independent claim 14, the similar amendments from claim 1 exist and therefore are abstract for the same reasons mentioned above. Further, the claims have been amended to recite that an intended use of the cross-referencing and is no longer specifically claimed. Therefore the claims are now directed to an abstract idea without significantly more. With respect to the dependent claims, claim 3 relates to applying natural language processing to the text to determining context associated with the video. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for applying to the text (e.g. analysis of data) without additional limitations to amount to significantly more. With respect to claim 4 and 15, the claim relates to applying natural language to extract a topic. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for applying to the text (e.g. analysis of data) without additional limitations to amount to significantly more. With respect to claim 5, the claim relates to processing the image to extract additional text. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for extracting text (e.g. analysis of

data) without additional limitations to amount to significantly more. With respect to claim 6, the claim relates to segmenting the image. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for dividing an image (e.g. analysis of data) without additional limitations to amount to significantly more that provides an improvement to a computer. With respect to claim 7, the claim relates to processing the image to extract an object and determine a motion. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for image analysis without additional limitations to amount to significantly more without providing an improvement to a computing technology. With respect to claim 8 and 9 and 17, the claim relates to audio segmentation at thresholds prior to parallel processing. With respect to claim 16, see claim 1. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for audio analysis which in this case is audio segmentation which is widely known without additional limitations to amount to significantly more without providing an improvement to a computing technology. With respect to claim 10 and 12 and 18, the claim relates to generating an ad/metadata. This relates to a well-known technique (human organizing of activities/idea of itself) which is generically recited for search and retrieval or determining of other data without additional limitations to amount to significantly more without providing an improvement to a computing technology as the claims just relate to determining an advertisement. With respect to claim 13 and 19, the claim relates to further defining metadata. This relates to an abstract idea of defining a data structure without significantly more.

The claims parallel the court decision from *TLI communications LLC v. AV Automotive LLC*. (Fed Cir. May 17 2016). In this decision the court noted that the claims were drawn to the concept of classifying an image and storing the image based on its classification. It was also noted that the claims were directed towards and abstract idea of classifying and storing. Further the claims were noted to use generic computing environment. The claims were not directed to an improvement of computing function. Rather it was noted that the claims were directed to the use of conventional or generic technology in a well-known environment with any claim that the invention reflects an inventive solution to the problem. This relates to the present case where although the subject matter is slightly differing. The fact patterns with respect to the abstract idea and the lack of improvement in computer function are present in the claims identified above.

Allowable Subject Matter

5. Claims 1-19 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 101 and the Double Patenting by filing of a Terminal Disclaimer as set forth in this Office Action.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Emery (US 9,615,136) is cited to teach video classification. Balinsky (US 9,652,477) is cited to disclose determining a probability that an object belongs to a topic. Kasahara (US 2008/0232696) is cited to disclose scene classification.

7. 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 Paras D. Shah whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:30a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre-Louis Desir can be reached on (571)272-7799. 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.

/Paras D Shah/
Primary Examiner, Art Unit 2659

09/29/2017

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	14/910,698	LAKHANI ET AL.	
	Examiner	Art Unit	
	Paras D. Shah	2659	

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

(1) *Paras D. Shah*. (3)_____.

(2) *Scott Richey*. (4)_____.

Date of Interview: *18 October 2017*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☐ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☒103 ☒Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *Independent*.

Identification of prior art discussed: *NONE*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

THe interview generally discussed proposed claim amendment in an effort to overcome the current ODP and 35 USC 101 rejections. The Applicant appeared to accept the Examiner's proposed amendment. However, after numerous attempts to obtain a Terminal Disclaimer. The Examiner had to based on time constraints send an office action since no response to the Terminal disclaimer was received from the applicant.

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/Paras D Shah/ Primary Examiner, Art Unit 2659	

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Notice of References Cited	Application/Control No. 14/910,698	Applicant(s)/Patent Under Reexamination LAKHANI ET AL.	
	Examiner Paras D. Shah	Art Unit 2659	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-7,536,413 B1	05-2009	Mohan; Rengaswamy	G06F17/3071	1/1
*	B	US-9,615,136 B1	04-2017	Emery; Grant Michael	H04N21/47202	1/1
*	C	US-9,652,477 B2	05-2017	Balinsky; Helen	G06F17/3028	1/1
*	D	US-2008/0232696 A1	09-2008	KASAHARA; Hirokazu	G06K9/00664	382/224
	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	CPC 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.

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14910698	LAKHANI ET AL.
	Examiner	Art Unit
	PARAS D SHAH	2659

CPC- SEARCHED		
Symbol	Date	Examiner
G0L15/18,26,265	9/28/2017	PS
G10L25/48,51,54,57	9/28/2017	PS
G06F17/30,30058,3074,30781	9/28/2017	PS
G06T7/0081	9/28/2017	PS
G06K/00456	9/28/2017	PS
G06K2209/01	9/28/2017	PS

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
704	231,270,270.1,275	9/28/2017	PS
382	100,173,176,177	9/28/2017	PS
345	418	9/28/2017	PS
348	61	9/28/2017	PS

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor Search (Palm)	5/1/2017	PS
Easrt search (US PGpub, US Patent, EPO, JPO, Derwent, and IBM)	5/1/2017	PS
G0L15/18,26,265 (text search)	5/1/2017	PS
G10L25/48,51,54,57 (text search)	5/1/2017	PS
G06F17/30,30058,3074,30781 (text search)	5/1/2017	PS
G06T7/0081 (text search)	5/1/2017	PS
G06K/00456 (text search)	5/1/2017	PS
G06K2209/01	5/1/2017	PS

SEARCH NOTES		
Search Notes	**Date**	**Examiner**
Updated East Search	9/28/2017	PS

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S7	1	13/219680	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/07/06 08:17
S131	1435	(video av image picture$1 movie) near7 (recogniz$3 extract$3 detect$3 determin$5 identif$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) and (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) near5 (symbol$1 object$1 animal person item$1 fac$4) near7 (probabilit$3 accurac$3 confidence likelihood$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/21 07:57
S132	1190	S130 not S131	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/21 07:57
S140	71	(video av image picture$1 movie) near7 (recogniz$3 extract$3 detect$3 determin$5 identif$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) same (audio speech spoken utterance vocal verbal$5) and (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) near5 (symbol$1 object$1 animal person item$1 fac$4) near7 (probabilit$3 accurac$3 confidence likelihood$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/21 18:54
S141	2659	((speech voice spoken utterance) near3 (recognition recogniz$3) asr speech$1to$1text) same (language$1 dialect$1 english chinese british french korean spanish) and (confidence probability likelihood) near3 (compar$3 threshold high$5 great$4 lower$3 small$4) near5 (pick$3 determin$3 select$4 choos$3 output$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/22 08:56
S144	2901	((speech voice spoken utterance) near3 (recognition recogniz$3) asr speech$1to$1text) same (language$1 dialect$1 english chinese british french korean spanish) and (confidence	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2017/09/22 16:08

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		probability likelihood) near3 (compar$3 threshold high$5 great$4 lower$3 small$4 max maximum) near5 (pick$3 determin$3 select$4 choos$3 output$3)	DERWENT; IBM_TDB			
S145	1851	((speech voice spoken utterance) near3 (recognition recogniz$3) asr speech$1to$1text recognizer) near7 (language$1 dialect$1 english chinese british french korean spanish) and (confidence probability likelihood) near3 (compar$3 threshold high$5 great$4 lower$3 small$4 max maximum) near5 (pick$3 determin$3 select$4 choos$3 output$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/22 16:09
S154	573	((speech voice spoken utterance) near3 (recognition recogniz$3) asr speech$1to$1text recognizer) near5 (plural$3 multipl$3 first same second (local client embedded terminal) same (remote offboard server)) near7 (language$1 dialect$1 english chinese british french korean spanish) and (confidence probability likelihood) near3 (compar$3 threshold high$5 great$4 lower$3 small$4 max maximum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/28 14:40
S155	635	((speech voice spoken utterance) near3 (recognition recogniz$3) asr speech$1to$1text recognizer) near5 (plural$3 multipl$3 first same second (local client embedded terminal) same (remote offboard server)) same (confidence probability likelihood) near3 (compar$3 threshold high$5 great$4 lower$3 small$4 max maximum)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/09/28 14:41
S156	484	((speech voice spoken utterance) near3 (recognition recogniz$3 engine) asr speech$1to$1text recognizer) near5 (plural$3 multipl$3 first same second (local client embedded terminal) same (remote offboard server)) same (language$1 dialect$1) near5 (determin$3 select$3 choos$3 pick$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/05 12:27

EAST Search History (Interference)

<This search history is empty>

10/ 16/ 2017 6:47:32 PM
C:\ Users\ pshah\ Documents\ EAST\ Workspaces\ 14910698.wsp

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14910698	LAKHANI ET AL.
	Examiner	Art Unit
	PARAS D SHAH	2659

✓	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	05/01/2017	09/28/2017							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
	13	✓	✓							
	14	✓	✓							
	15	✓	✓							
	16	✓	✓							
	17	✓	✓							
	18	✓	✓							
	19	✓	✓							

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Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 27890

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above 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 (if the Applicant is a juristic entity, list the Applicant name in the box):

CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS

☐ Inventor or Joint Inventor (title not required below)

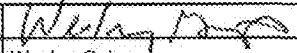
☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	
Name	Wesley Goings		
Title	Treasurer/Secretary		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 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.**

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

Electronic Acknowledgement Receipt

EFS ID:	31894032
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox/Linda Fielding
Filer Authorized By:	Harold H. Fox
Attorney Docket Number:	19299.0008
Receipt Date:	26-FEB-2018
Filing Date:	06-FEB-2016
Time Stamp:	21:42:03
Application Type:	U.S. National Stage under 35 USC 371

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	Transmittal Letter	CSpirePOATrans.pdf	174053 f01bf5758138b1cc0d58cc0cda13fb478d4883d7	no	1

Warnings:

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Information:					
2	Power of Attorney	CSpireGPOA.pdf	596920 ced7ca2164ad197d4f3544b552b7b0ce134aa020	no	1
Warnings:					
Information:					
			Total Files Size (in bytes):	770973	

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: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	14/910,698
Filing Date	February 6, 2016
First Named Inventor	Naeem LAKHANI
Title	VIDEO TO DATA
Art Unit	2659
Examiner Name	Paras D. SHAH
Attorney Docket Number	19299.0008

SIGNATURE of Applicant or Patent Practitioner

Signature	/Harold H. FOX REG#41498/	Date (Optional)	2018-02-26
Name	Harold H. Fox	Registration Number	41,498
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 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.**

If you need assistance in completing the form, call 1-800-PTO-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 NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008

CONFIRMATION NO. 3701

POA ACCEPTANCE LETTER

27890
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

OC000000097710449

Date Mailed: 03/01/2018

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/26/2018.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/qnguyen/

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PTO/SB/30 (11-17)
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Request for Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	14/910,698
Filing Date	February 6, 2016
First Named Inventor	Naeem LAKHANI
Art Unit	2659
Examiner Name	Paras D. SHAH
Attorney Docket Number	19299.0008

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. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. 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).

   a. ☐ 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.

      i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

      ii. ☐ Other _____

   b. ☑ Enclosed

      i. ☑ Amendment/Reply

      ii. ☐ Affidavit(s)/ Declaration(s)

      iii. ☐ Information Disclosure Statement (IDS)

      iv. ☐ Other _____

2. Miscellaneous

   a. ☐ 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)

   b. ☐ Other _____

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

   a. ☑ The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 19-4293.

      i. ☑ RCE fee required under 37 CFR 1.17(e)

      ii. ☑ Extension of time fee (37 CFR 1.136 and 1.17)

      iii. ☐ Other _____

   b. ☐ Check in the amount of $ _____ enclosed

   c. ☐ Payment by credit card (Form PTO-2038 enclosed)

   d. ☐ Payment by EFS-Web

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.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature	/Harold H. FOX REG#41498/	Date	March 1, 2018
Name (Print/Type)	Harold H. Fox	Registration No.	41,498

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being EFS-Web transmitted to the United States Patent and Trademark Office (USPTO), deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the USPTO on the date shown below.

Signature			
Name (Print/Type)		Date	

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. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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Instruction Sheet for RCEs

(not to be submitted to the USPTO)

NOTES:

An RCE is not a new application, and filing an RCE will not result in an application being accorded a new filing date.

Filing Qualifications:

The application must be a utility or plant application filed on or after June 8, 1995. The application cannot be a provisional application, a utility or plant application filed before June 8, 1995, a design application, or a patent under reexamination. See 37 CFR 1.114(e).

Filing Requirements:

Prosecution in the application must be closed. Prosecution is closed if the application is under appeal, or the last Office action is a final action, a notice of allowance, or an action that otherwise closes prosecution in the application (e.g., an Office action under *Ex parte Quayle*). See 37 CFR 1.114(b).

A submission and a fee are required at the time the RCE is filed. If reply to an Office action under 35 U.S.C. 132 is outstanding (e.g., the application is under final rejection), the submission must meet the reply requirements of 37 CFR 1.111. If there is no outstanding Office action, the submission can be an information disclosure statement, an amendment, new arguments, or new evidence. See 37 CFR 1.114(c). The submission may be a previously filed amendment (e.g., an amendment after final rejection).

WARNINGS:

Request for Suspension of Action:

All RCE filing requirements must be met before suspension of action is granted. A request for a suspension of action under 37 CFR 1.103(c) does not satisfy the submission requirement and does not permit the filing of the required submission to be suspended.

Improper RCE will NOT toll Any Time Period:

Before Appeal - If the RCE is improper (e.g., prosecution in the application is not closed or the submission or fee has not been filed) and the application is not under appeal, the time period set forth in the last Office action will continue to run and the application will be abandoned after the statutory time period has expired if a reply to the Office action is not timely filed. No additional time will be given to correct the improper RCE.

Under Appeal - If the RCE is improper (e.g., the submission or the fee has not been filed) and the application is under appeal, the improper RCE is effective to withdraw the appeal. Withdrawal of the appeal results in the allowance or abandonment of the application depending on the status of the claims. If there are no allowed claims, the application is abandoned. If there is at least one allowed claim, the application will be passed to issue on the allowed claim(s). See MPEP 1215.01.

See MPEP 706.07(h) for further information on the RCE practice.

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Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Naeem Lakhani et al.
Serial No. 14/910,698
Filed: February 6, 2016
For: VIDEO TO DATA

Examiner: Paras D Shah
Group Art Unit: 2659
Docket No.: 19299.0008

Mail Stop Amendment
United States Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria VA 22314

REPLY TO ACTION DATED NOVEMBER 1, 2017

In response to the Office Action mailed November 1, 2017 ("Office Action"), Applicants submit the following remarks.

AMENDMENTS TO THE CLAIMS

This Listing of Claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently Amended) A method to generate video data from a video comprising:

generating audio files and image files from the video;

distributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel;

converting audio files associated with the video to text;

identifying an object in the image files;

determining a contextual topic from the image files;

assigning a probability of accuracy to the identified object based on the contextual topic;

converting the image files associated with the video to video data, wherein the video data comprises the object, the probability, and the contextual topic;

cross-referencing the text and the video data with the video to determine contextual topics;

generating a contextual text, an image, or an animation based on the determined contextual topics;

generating a content-rich video based on the generated text, image, or animation.

2. (Cancelled)

3. (Original) The method according to claim 1, further comprising:

applying natural language processing to the text to determine context associated with the video.

4. (Original) The method according to claim 2, further comprising:

applying natural language processing to the text to extract a topic.

5. (Original) The method according to claim 1, further comprising:

processing the image files to extract additional text.

6. (Original) The method according to claim 5, wherein the additional text is generated by segmenting the image files before processing the image files in parallel.

7. (Original) The method according to claim 1, further comprising:

processing the image files to extract an object and determine a motion associated with the object.

8. (Original) The method according to claim 1, wherein the text is generated by segmenting the audio before processing the audio files in parallel.

9. (Original) The method according to claim 7, wherein the audio files and the image files are

segmented at spectrum thresholds.

10. (Original) The method according to claim 1, further comprising:

generating an advertisement based on the text and the video data.

11. (Original) The method according to claim 10, further comprising:

placing the advertisement in the video at a preferred time.

12. (Original) The method according to claim 1, further comprising:

generating metadata.

13. (Original) The method according to claim 12, wherein the metadata comprises a number of frames, a range of said frames and/or timestamp references.

14. (Currently Amended) A system for extracting data from a video, comprising:

a computer processor; and

a non-transitory computer readable medium containing instructions directing the system to execute the steps of:

converting audio associated with the video to text;

converting images associated with the video to video data, wherein the video data comprises identified objects;

extracting topics from the text and the video data;

assigning probabilities of accuracy for each of the identified objects, wherein the probabilities are based on the extracted topics; [[and]]

cross-referencing the text, the video data, and the topics with the video to determine contextual topics;

generating a contextual text, an image, or an animation based on the determined contextual topics; and

generate a content-rich video based on the generated contextual text, image, or animation.

15. (Original) The system according to claim 12, wherein converting the audio comprises natural language processing.

16. (Original) The system according to claim 12, the computer directs the audio to be converted by at least one node of a cluster and the computer directs the images to be converted by at least one other node of the cluster in parallel.

17. (Original) The server according to claim 12, wherein the audio and the images are segmented at spectrum thresholds.

18. (Original) The system according to claim 14, wherein the computer directs the system to generate metadata.

19. (Original) The system according to claim 14, wherein the metadata comprises a number of

frames, a range of said frames and/or timestamp references.

REMARKS

Claims 1–19 are pending. Claims 1 and 14 are currently amended. Support for the amendments can be found in the original disclosure. See, e.g., paragraphs 37-41. No new matter has been added.

The Examiner has proposed amendments to the claims that he indicates are allowable. See Office Action at pp. 2-4 and 14. Applicant respectfully traverses Examiner's rejections regarding all pending claims and, for the reasons stated below. Nevertheless, Applicant herewith amends the claims and submits a terminal disclaimer, as proposed, and reserves all rights to pursue the rejected claims, and all other subject matter of the original disclosure, through continuation applications.

I. Claim Rejections – Double Patenting – Claims 1–19

The Examiner has provisionally rejected claims 1–12 and 14–18 on the ground of nonstatutory anticipation-type double patenting as allegedly being unpatentable over claims 1–15 of co-pending Application No. 14/175741. Office Action at pp. 2-6. The Examiner has also rejected claims 13 and 19 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 12 of co-pending Application No. 14/175741 and further in view of U.S. Patent Publication No. 2007/0106685 ("Houh"). Applicant respectfully traverses these rejections. Further, Applicant respectfully submits that both the anticipatory and obviousness-type double patenting rejections are moot in light of the present amendments. If the claims are otherwise determined to be Nevertheless, per the Examiner's request, Applicant submits herewith a terminal disclaimer.

II. Claim Rejections – 35 U.S.C. § 101 – Claims 1, 3–10, and 12–13

The Examiner has rejected claims 1, 3–10, and 12–13 under 35 U.S.C. § 101 because the claims allegedly, both individually and in combination, do not amount to significantly more than an abstract idea. Applicant respectfully traverses this rejection. Further, Applicant respectfully submits that the rejections are moot in light of the present amendments.

CONCLUSION

Applicant believes that the claims now pending are in condition for allowance.

Should any fees be required by the present Amendment, the Commissioner is hereby authorized to charge Deposit Account **19-4293**.

For at least the reasons set forth above, Applicant believes that the claims are in condition for allowance. Should any fees be required by the present Reply, the Commissioner is hereby authorized to charge Deposit Account 19-4293.

Respectfully submitted,

Date: March 1, 2018

/Harold H. FOX REG#41498/
Harold H. Fox
Reg. No. 41,498

Customer No.: 88859
STEPTOE & JOHNSON LLP
1330 Connecticut Avenue, NW
Washington, DC 20036-1795
Telephone: 202 429-3000
Facsimile: 202 429-3902

Electronic Patent Application Fee Transmittal

Application Number:	14910698
Filing Date:	06-Feb-2016
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Filer:	Harold H. Fox
Attorney Docket Number:	19299.0008

Filed as Large Entity

Filing Fees for U.S. National Stage under 35 USC 371

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($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
RCE- 1st Request	1801	1	1300	1300
		Total in USD ($)		**1500**

Electronic Acknowledgement Receipt

EFS ID:	31938852
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008
Receipt Date:	01-MAR-2018
Filing Date:	06-FEB-2016
Time Stamp:	21:20:23
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1500
RAM confirmation Number	030218INTEFSW00006326194293
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Extension of Time	0008EOT.pdf	2845920 72c5010a6416d432820a1143b33dd8388d099c03	no	2
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	0008RCE.pdf	4266767 ef739b7e4af19ac100c910bb1921d43eab3f3008	no	3
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
3		0008Response.pdf	265940 77a2f612dee2bec387175a938d97db842b401622	yes	8

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	8

Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	32003 cc5f7e44da669c3c98760680282c2d101306e177	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	7410630	

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/AIA/22 (03-13)
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 19299.0008

Application Number: 14/910,698

Filed: February 6, 2016

For: VIDEO TO DATA

Art Unit: 2659

Examiner: Paras D. SHAH

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	Micro Entity Fee	
☑	One month (37 CFR 1.17(a)(1))	$200	$100	$50	$ 200
☐	Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☐	Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐	Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐	Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ 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 19-4293.

☐ Payment made via EFS-Web.

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.

☑ attorney or agent of record. Registration number 41,498.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Harold H. FOX REG#41498/ — Signature

March 1, 2018 — Date

Harold H. Fox — Typed or printed name

202-429-3000 — Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. 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 1.136(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: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/910,698	Filing Date 02/06/2016	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	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 $310 ($155 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	

APPLICATION AS AMENDED – PART II

AMENDMENT	03/01/2018	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 18	Minus	** 20	= 0	X $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

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

LIE
MONICA FRANCIS

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.
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008	3701

27890 7590 04/11/2018

STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DISTRICT OF COLUMBIA 20036
UNITED STATES OF AMERICA

EXAMINER	
SHAH, PARAS D	

ART UNIT	PAPER NUMBER
2659	

NOTIFICATION DATE	DELIVERY MODE
04/11/2018	ELECTRONIC

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 the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hfox@steptoe.com
ipdocketing@steptoe.com
lfielding@steptoe.com

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00264

Office Action Summary	Application No. 14/910,698	Applicant(s) LAKHANI et al.	
	Examiner PARAS D SHAH	Art Unit 2659	AIA Status Yes

-- 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 MONTHS 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 03/01/2018.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

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 and 3-19 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 and 3-19 is/are rejected.

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

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

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

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

11)☑ The drawing(s) filed on 02/06/2016 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).

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).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

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) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to the Amendments and Arguments filed on 03/01/2018. Claims 1, 3-19 are pending and have been examined.

2. The Examiner notes that the Examiner contacted the Applicant's representative numerous times after 03/06/2018 but no phone call was received with respect to fining of a Terminal Disclaimer.

3. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Continued Examination Under 37 CFR 1.114

4. 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 03/01/2018 has been entered.

Response to Argument and Amendments

5. The Applicant's note in their arguments that a Terminal Disclaimer was filed with the response. However, the Examiner does not see any Terminal Disclaimer filed. Therefore, the Double Patenting rejection has been maintained.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(1) - 706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 1, 3-12, and 14-18 are provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims of copending Application No 14/175741 in view of Mohan (US 7,536,413). Although the claims at issue are not identical, they are not patentably distinct from each other because are similar in scope to each other. The issued patent however does not specifically disclose "assigning a probability of accuracy to the identified object based on the contextual topic" and "wherein the video data comprises the identification of the image of interest, the probability, and the contextual topic". Mohan does teach assigning a probability of accuracy to the identified object based on the contextual topic (see col. 15, lines 61-67, where score for each category computed) and "wherein the video data comprises the identification of the image of interest, the probability, and the contextual topic" (see col. 6, lines 40-44, data from the categorization engine are stored and see col 15, lines 35-40, where key concept and probability is stored. Therefore it would have been obvious to one skilled in the art to have added the probability and storing of the information as recited in Mohan in order to enable the teachings of the issued patent (application) to

understand meaning and theme of unstructured data (See col. 5, lines 23-26). Please see the claim mappings below for the independent claims as shown in the table below as well as the dependent claims noted below.

This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

The following is the relevant claim mapping between the instant application and the co-pending application. (P) represents the co-pending application and (I) represents the instant application. Claim 1 (I): Claim 1 (P); Claim 3 (I): Claim 3 (P); Claim 4 (I): Claim 4 (P); Claim 5 (I): Claim 5 (P); Claim 6 (I): Claim 6 (P); Claim 7 (I): Claim 7 (P); Claim 8 (I): Claim 8 (P); Claim 9 (I): Claim 9 (P); Claim 10 (I): Claim 10 (P); Claim 11 (I): Claim 11 (P); Claim 12 (I): Claim 1 (P); Claim 14 (I): Claim 12 (P); Claim 15 (I): Claim 13 (P); Claim 16 (I): Claim 14 (P); Claim 17 (I): Claim 15 (P); Claim 18 (I): Claim 12 (P).

Claims 13 and 19 are further rejected in view of the co-pending application's claim 1 and 12 and further in view of Houh (US 2007/0106685). The co-pending application does not disclose what the metadata comprises. Houh does teach the metadata comprises number of frames, a range of said frames and/or timestamp references (see [0049]-[0052], where metadata includes timing information defining boundaries of segments, timed word segments, timed audio speech segments, timed video segments). Therefore, it would have been obvious to one of ordinary skilled in the art before the effective filing date of the claimed inventions to have modified the generation of video data as taught by the co-pending application in view of Mohan with the generation of metadata as taught by Houh for the purpose of allowing user control of

a media content based on segments identified in the enhanced metadata (see Houh [0088]).

Co-Pending Application : 14/175741	Instant Application: 14/910698
Claim 1: **A method to generate video data from a video comprising:** **generating audio files and image files from the video;** **distributing the image files across a plurality of processors and processing the image files in parallel, wherein processing the image files comprises extracting one or more objects and identifying the one or more objects;** **processing the audio files;** **converting audio files associated with the video to text;** **converting the image files associated with the video to video data;** **generating a topical meta-data that describes content of the video by deriving semantic information from the identification of the one or more objects** and semantic information from the audio files; adding the topical meta-data to the video; and	Claim 1: **A method to generate video data from a video comprising:** **generating audio files and image files from the video;** d**istributing the audio files and the image files across a plurality of processors and processing the audio files and the image files in parallel;** **converting audio files associated with the video to text;** i**dentifying an image of interest in the image files**; **determining a contextual topic from the image files**; assigning a probability of accuracy to the identified object based on the contextual topic; **converting the image files associated with the video to video data,** wherein the video data comprises the identification of the image of interest, the probability, and the contextual topic;

cross-referencing the text and the video data based on the generated topical meta-data to determine topics; **generating video text based on the cross-referencing, wherein the video text describes content of the video; generating a text, image, or animation based on the video text; and placing the text, image or animation in the video.**	**cross-referencing the text and the video data with the video** **generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.**

Allowable Subject Matter

7. Claims 1 and 3-19 would be allowable by filing of a Terminal Disclaimer for the Double Patenting Rejection as set forth in this Office Action.

8. The following is a statement of reasons for the indication of allowable subject matter:

9. The closest reference Kim teaches a method to generate video data from a video comprising: generating audio files and image files from the video (see [0060], where image and audio from a video is collected as shown in Figure 4); distributing the image files across a plurality of processors and processing the image files (see Figure 1, image analysis 115 and audio analysis performed from audio and image related data), where processing the image comprises extracting one or more objects and identifying the one or more objects (see [0046], where image analysis takes place to identify image objects such as a human or a thing); processing the audio files (see Figure 1, audio analysis 125); converting audio files associated with the video to text (see [0153], can support voice recognition); converting the image files associated with the video to video data (see Figure 2, image analysis and translation to image objects and [0046], where character recognition or face recognition is adopted and see [0074], where example disclosed); generating a topic that describes content of the video by deriving semantic information from the identification of the one or more objects (see [0146], where gender and age determined as additional information of the speaker based on face, body shape, color, and accessory and see [0072], where classification of the human is stored in an image file header and see [0146], where age and gender can be recognized based on the speaker detected); adding topical meta-data to the video (see [0072], where classification of the human stored in a header and see [0166], where image designation information and audio object characteristic information can be in a video file whose image is constructed as image and whose audio is constructed as tracks); cross-referencing the text and the video data with the video (see Figure 1, mapping of image and audio objects and see [0086], where relationship formed between the image and

audio in order to provide selectable items to elicit output). However, Kim does not specifically disclose conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Li does teach converting audio files associated with the video to text (see [0035], [0036], and [0059], where speech recognition component 216 extracts keywords from the audio). However, Li does not disclose conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Ma does teach distributing the image files across a plurality of processors and processing the image files in parallel (see [0030] and Figure 3, video files and image files are forwarded and distributed to plurality of image analysis servers 330). However, Ma does not disclose conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Hence, none of the cited references either alone or in combination thereof teaches the limitations or makes obvious the combination of limitations of "conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation

based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARAS D SHAH whose telephone number is (571)270-1650. The examiner can normally be reached on Monday-Thursday 7:30AM-3PM, 5PM-7PM, Friday 8AM-noon.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre-Louis Desir can be reached on 571-272-7799. 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.

/Paras D Shah/
Primary Examiner, Art Unit 2659
04/06/2018

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	Art Unit
	PARAS D SHAH	2659

CPC - Searched*		
Symbol	Date	Examiner
G0L15/18,26,265	03/14/2018	PS
G10L25/48,51,54,57	03/14/2018	PS
G06F17/30,30058,3074,30781	03/14/2018	PS
G06T7/0081	03/14/2018	PS
G06K/00456	03/14/2018	PS
G06K2209/01	03/14/2018	PS

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
704	231,270,270.1,275	9/28/2017	PS
382	100,173,176,177	9/28/2017	PS
345	418	9/28/2017	PS
348	61	9/28/2017	PS

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	Art Unit
	PARAS D SHAH	2659

Search Notes		
Search Notes	**Date**	**Examiner**
Inventor Search (Palm)	5/1/2017	PS
Easrt search (US PGpub, US Patent, EPO, JPO, Derwent, and IBM)	5/1/2017	PS
G0L15/18,26,265 (text search)	5/1/2017	PS
G10L25/48,51,54,57 (text search)	5/1/2017	PS
G06F17/30,30058,3074,30781 (text search)	5/1/2017	PS
G06T7/0081 (text search)	5/1/2017	PS
G06K/00456 (text search)	5/1/2017	PS
G06K2209/01	5/1/2017	PS
Updated East Search	9/28/2017	PS
Updated East Search	03/14/2018	PS

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
G10L15+	G0L15/18,26,265	10/17/2017	PS
G0L25	G10L25/48,51,54,57	10/17/2017	PS
G06F17	G06F17/30,30058,3074,30781	10/17/2017	PS
G06T7	G06T7/0081	10/17/2017	PS
G06K	G06K/00456	10/17/2017	PS
G06K2209	G06K2209/01	10/17/2017	PS

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Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	Art Unit
	PARAS D SHAH	2659

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

CLAIMS

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

CLAIM		DATE								
Final	Original	05/01/2017	09/28/2017	10/17/2017	03/14/2018					
1	1	✓	✓	=	✓					
	2	✓	✓	-	-					
2	3	✓	✓	=	✓					
3	4	✓	✓	=	✓					
4	5	✓	✓	=	✓					
5	6	✓	✓	=	✓					
6	7	✓	✓	=	✓					
7	8	✓	✓	=	✓					
8	9	✓	✓	=	✓					
9	10	✓	✓	=	✓					
10	11	✓	✓	=	✓					
11	12	✓	✓	=	✓					
12	13	✓	✓	=	✓					
13	14	✓	✓	=	✓					
14	15	✓	✓	=	✓					
15	16	✓	✓	=	✓					
16	17	✓	✓	=	✓					
17	18	✓	✓	=	✓					
18	19	✓	✓	=	✓					

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S160	3018	(video av image picture$1 movie) near7 (recogniz$3 extract$3 detect$3 determin$5 identif$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) and (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) near5 (symbol$1 object$1 animal person item$1 fac$4) near7 (probabilit$3 accurac$3 confiden$3 correct$3 error incorrect wrong likelihood$1)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/14 14:05
S163	286	(video av image picture$1 movie) near7 (recogniz$3 extract$3 detect$3 determin$5 identif$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) and (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) near5 (symbol$1 object$1 animal person item$1 fac$4) near7 (probabilit$3 accurac$3 confiden$3 correct$3 error incorrect wrong likelihood$1) and (speech audio spoken voic$3 verbal$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/14 21:45
S166	575	(video av image picture$1 movie) near7 (recogniz$3 extract$3 detect$3 determin$5 identif$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) and (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 news food$1 medical) near5 (symbol$1 object$1 animal person item$1 fac$4) near7 (probabilit$3 accurac$3 confiden$3 correct$3 error incorrect wrong likelihood$1 similar$3 distance) and (speech audio spoken voic$3 verbal$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 news food$1 medical)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/03/21 11:37

EAST Search History (Interference)

< This search history is empty>

4/ 6/ 2018 10:01:46 AM
C:\ Users\ pshah\ Documents\ EAST\ Workspaces\ 14910698.wsp

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Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 27890

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above 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 (if the Applicant is a juristic entity, list the Applicant name in the box):

CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS

☐ Inventor or Joint Inventor (title not required below)

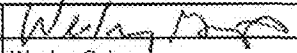
☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	
Name	Wesley Goings		
Title	Treasurer/Secretary		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 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.**

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

Electronic Acknowledgement Receipt

EFS ID:	32346646
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox/Linda Fielding
Filer Authorized By:	Harold H. Fox
Attorney Docket Number:	19299.0008
Receipt Date:	16-APR-2018
Filing Date:	06-FEB-2016
Time Stamp:	13:36:07
Application Type:	U.S. National Stage under 35 USC 371

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	Transmittal Letter	0008POATrans.pdf	131846 ff8b7da3f2b23882db2297b03eebcbe74f71f15c	no	1

Warnings:

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Information:					
2	Power of Attorney	0008GPOA.pdf	596921 15a82318070c2e0c5c4cbaab7fa57ef9023f589f	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	728767		

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: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	14/910,698
Filing Date	February 6, 2016
First Named Inventor	Naeem LAKHANI
Title	VIDEO TO DATA
Art Unit	2659
Examiner Name	Paras D. SHAH
Attorney Docket Number	19299.0008

SIGNATURE of Applicant or Patent Practitioner

Signature	/Harold H. FOX, REG# 41498/	Date (Optional)	2018-04-16
Name	Harold H. Fox	Registration Number	41,498
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 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.**

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

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008

CONFIRMATION NO. 3701

27890
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

POA ACCEPTANCE LETTER

OC000000098880259

Date Mailed: 04/19/2018

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/16/2018.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ldvan/

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IPR2025-00876 - Page 00284

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	14/910,698
Filing Date	February 6, 2016
First Named Inventor	Naeem LAKHANI
Confirmation Number	3701
Attorney Docket Number	19299.0008

Total Number of Pages in This Submission: 6

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)
- ☐ Application Data Sheet
- ☐ Power of Attorney
- ☑ Inventor's Oath or Declaration
  - Number of Sheets 5
- ☐ Surcharge for filing Inventor's Oath or Declaration late:
  - ☐ $70.00 - small entity
  - ☐ $140.00 - large entity
- ☐ 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

The Director is hereby authorized to charge any fees which are missing or deficient, or credit any overpayments to Deposit Account 19-4293.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	STEPTOE AND JOHNSON LLP		
Signature	/Harold H. Fox, Reg.# 41498/		
Printed name	Harold H. Fox		
Date	June 5, 2018	Reg. No.	41,498

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	

04/2013 kmp

PTO/AIA/01 (06-12)
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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	VIDEO TO DATA

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/910,698

filed on February 6, 2016

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

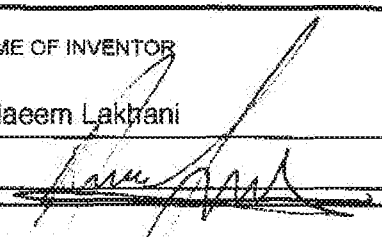
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Naeem Lakhani Date (Optional): October 23, 2017

Signature: 

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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/AIA/01 (06-12)
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filed on February 6, 2016.

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LEGAL NAME OF INVENTOR

Inventor: Bartlett Wade Smith, IV Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Title of Invention	VIDEO TO DATA

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☐ The attached application, or

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LEGAL NAME OF INVENTOR

Inventor: Allison A. Talley Date (Optional): _____

Signature: Allison A. Talley

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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Electronic Acknowledgement Receipt

EFS ID:	32813527
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox/Linda Fielding
Filer Authorized By:	Harold H. Fox
Attorney Docket Number:	19299.0008
Receipt Date:	05-JUN-2018
Filing Date:	06-FEB-2016
Time Stamp:	18:23:39
Application Type:	U.S. National Stage under 35 USC 371

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	Transmittal Letter	0008TransDecOatha.pdf	37082 b1b4d8d57ba4dbc677f3f4d55735395b1e39e57c	no	1

Warnings:

Information:					
2	Oath or Declaration filed	0008LakhaniDeca.pdf	304110 11571764652188 6a87ddf1d90a3dd9cd8671dff4	no	1
Warnings:					
Information:					
3	Oath or Declaration filed	0008WadeDec.pdf	1049852 5ea0ca66bed4d82779fa29ef886dfa40c5ed63ca	no	2
Warnings:					
Information:					
4	Oath or Declaration filed	0008TalleyDec.pdf	8298602 d3b32bc6dc782009d1d0c26ebae5e8c6837a95c1	no	2
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
			Total Files Size (in bytes):	9689646	

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 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/910,698	Filing Date 02/06/2016	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	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 $310 ($155 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	

APPLICATION AS AMENDED – PART II

AMENDMENT	07/09/2018	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 18	Minus	** 20	= 0	X $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

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

HSLIE
DORIS BURNS

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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Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	14910698
Filing Date	06-Feb-2016
First Named Inventor	Naeem LAKHANI
Attorney Docket Number	19299.0008
Title of Invention	VIDEO TO DATA

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

9940972

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

◉ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00294

○ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
Applicant claims the following fee status: ○ Small Entity ○ Micro Entity ◉ Regular Undiscounted 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 with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number 41498 ○ A sole inventor ○ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ○ A joint inventor; all of whom are signing this request	
Signature	/Harold H Fox/
Name	Harold H Fox

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal

Application Number:	14910698
Filing Date:	06-Feb-2016
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Filer:	Harold H. Fox
Attorney Docket Number:	19299.0008

Filed as Large Entity

Filing Fees for U.S. National Stage under 35 USC 371

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	160	160
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**160**

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 14910698

Filing Date: 06-Feb-2016

Applicant/Patent under Reexamination: LAKHANI

Electronic Terminal Disclaimer filed on July 9, 2018

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	33129299
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008
Receipt Date:	09-JUL-2018
Filing Date:	06-FEB-2016
Time Stamp:	23:31:53
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$160
RAM confirmation Number	071018INTEFSW00008131194293
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33467 85d079908d86f797ca2153ff683461072575fe16	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30109 d5392309cbcef593173bcf75d3c2a8834ebf2ac7	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	63576		

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Naeem Lakhani et al.
Serial No. 14/910,698
Filed: February 6, 2016
For: VIDEO TO DATA

Examiner: Paras D Shah
Group Art Unit: 2659
Docket No.: 19299.0008

Mail Stop Amendment
United States Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria VA 22314

REPLY TO ACTION DATED APRIL 11, 2018

In response to the Office Action mailed April 11, 2018 ("Office Action"), Applicants submit the following remarks.

REMARKS

Claims 1 and 3–19 are pending. Applicants thank the Examiner for raising the omitted terminal disclaimer. Office Action at 2. The Examiner also indicated that Claims 1 and 3–19 would be allowable by filing of a terminal disclaimer. Office Action at 8.

The requested terminal disclaimer is submitted herewith. Applicants respectfully request letters patent and reserve all rights to pursue claims, and all other subject matter of the original disclosure, through continuation applications.

CONCLUSION

Applicants believe that the claims now pending are in condition for allowance. Should any fees be required by the present Amendment, the Commissioner is hereby authorized to charge Deposit Account **19-4293**.

Respectfully submitted,

Date: July 9, 2018 /Harold H Fox Reg. # 41498/

Customer Number: 27890
Steptoe & Johnson LLP
1330 Connecticut Avenue, N.W.
Washington, DC 20036-1795
Telephone: (202) 429-3000
Facsimile: (202) 429-3902

Electronic Acknowledgement Receipt

EFS ID:	33129311
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008
Receipt Date:	09-JUL-2018
Filing Date:	06-FEB-2016
Time Stamp:	23:33:42
Application Type:	U.S. National Stage under 35 USC 371

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		19299response.pdf	148135 c1ccf964005bca8cd1861d59d2fd4034b6ace811	yes	2

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Applicant Arguments/Remarks Made in an Amendment	2	2
Warnings:			
Information:			
	Total Files Size (in bytes):	148135	

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.

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

27890 7590 10/11/2018
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER
SHAH, PARAS D

ART UNIT	PAPER NUMBER
2659	

DATE MAILED: 10/11/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008	3701

TITLE OF INVENTION: VIDEO TO DATA

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	01/11/2019

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00305

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

27890 7590 10/11/2018
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008	3701

TITLE OF INVENTION: VIDEO TO DATA

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	01/11/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
SHAH, PARAS D	2659	704-004000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00306

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.
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008	3701

27890 7590 10/11/2018

STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER	
SHAH, PARAS D	

ART UNIT	PAPER NUMBER
2659	

DATE MAILED: 10/11/2018

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. 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.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 14/910,698	Applicant(s) LAKHANI et al.	
	Examiner PARAS D SHAH	Art Unit 2659	AIA Status Yes

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 07/09/2018.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ 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.

3. ☑ The allowed claim(s) is/are 1 and 3-19 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information , please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

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

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   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)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file areply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/Paras D Shah/
Primary Examiner, Art Unit 2659

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00309

DETAILED ACTION

1. This communication is in response to the Terminal Disclaimer filed on 07/09/2018. Claims 1 and 3-19 are pending and have been examined.

Notice of Pre-AIA or AIA Status

2. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Terminal Disclaimer

3. The terminal disclaimer filed on 07/09/2018 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of **US 9,940,972** has been reviewed and is accepted. The terminal disclaimer has been recorded.

Reasons for Allowance

4. Claims 1 and 3-19 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

6. The closest reference Kim teaches a method to generate video data from a video comprising: generating audio files and image files from the video (see [0060], where image and audio from a video is collected as shown in Figure 4); distributing the image files across a plurality of processors and processing the image files (see Figure 1, image analysis 115 and audio analysis performed from audio and image related data),

where processing the image comprises extracting one or more objects and identifying the one or more objects (see [0046], where image analysis takes place to identify image objects such as a human or a thing); processing the audio files (see Figure 1, audio analysis 125); converting audio files associated with the video to text (see [0153], can support voice recognition); converting the image files associated with the video to video data (see Figure 2, image analysis and translation to image objects and [0046], where character recognition or face recognition is adopted and see [0074], where example disclosed); generating a topic that describes content of the video by deriving semantic information from the identification of the one or more objects (see [0146], where gender and age determined as additional information of the speaker based on face, body shape, color, and accessory and see [0072], where classification of the human is stored in an image file header and see [0146], where age and gender can be recognized based on the speaker detected); adding topical meta-data to the video (see [0072], where classification of the human stored in a header and see [0166], where image designation information and audio object characteristic information can be in a video file whose image is constructed as image and whose audio is constructed as tracks); cross-referencing the text and the video data with the video (see Figure 1, mapping of image and audio objects and see [0086], where relationship formed between the image and audio in order to provide selectable items to elicit output). However, Kim does not specifically disclose conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Li does teach converting audio files associated with the video to text (see [0035], [0036], and [0059], where speech recognition component 216 extracts keywords from the audio). However, Li does not disclose conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Ma does teach distributing the image files across a plurality of processors and processing the image files in parallel (see [0030] and Figure 3, video files and image files are forwarded and distributed to plurality of image analysis servers 330). However, Ma does not disclose conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Hence, none of the cited references either alone or in combination thereof teaches the limitations or makes obvious the combination of limitations of “conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARAS D SHAH whose telephone number is (571)270-1650. The examiner can normally be reached on Monday-Thursday 7:30AM-3PM, 5PM-7PM, Friday 8AM-noon.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre-Louis Desir can be reached on 571-272-7799. 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.

/Paras D Shah/
Primary Examiner, Art Unit 2659
10/02/2018

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	Art Unit
	PARAS D SHAH	2659

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

CLAIMS

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

CLAIM		DATE								
Final	Original	05/01/2017	09/28/2017	10/17/2017	03/14/2018					
1	1	✓	✓	=	✓					
	2	✓	✓	-	-					
2	3	✓	✓	=	✓					
3	4	✓	✓	=	✓					
4	5	✓	✓	=	✓					
5	6	✓	✓	=	✓					
6	7	✓	✓	=	✓					
7	8	✓	✓	=	✓					
8	9	✓	✓	=	✓					
9	10	✓	✓	=	✓					
10	11	✓	✓	=	✓					
11	12	✓	✓	=	✓					
12	13	✓	✓	=	✓					
13	14	✓	✓	=	✓					
14	15	✓	✓	=	✓					
15	16	✓	✓	=	✓					
16	17	✓	✓	=	✓					
17	18	✓	✓	=	✓					
18	19	✓	✓	=	✓					

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IPR2025-00876 - Page 00315

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	Art Unit
	PARAS D SHAH	2659

CPC - Searched*		
Symbol	Date	Examiner
G0L15/18,26,265	03/14/2018	PS
G10L25/48,51,54,57	03/14/2018	PS
G06F17/30,30058,3074,30781	03/14/2018	PS
G06T7/0081	03/14/2018	PS
G06K/00456	03/14/2018	PS
G06K2209/01	03/14/2018	PS

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
704	231,270,270.1,275	9/28/2017	PS
382	100,173,176,177	9/28/2017	PS
345	418	9/28/2017	PS
348	61	9/28/2017	PS

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

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IPR2025-00876 - Page 00316

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	Art Unit
	PARAS D SHAH	2659

Search Notes		
Search Notes	**Date**	**Examiner**
Inventor Search (Palm)	5/1/2017	PS
Easrt search (US PGpub, US Patent, EPO, JPO, Derwent, and IBM)	5/1/2017	PS
G0L15/18,26,265 (text search)	5/1/2017	PS
G10L25/48,51,54,57 (text search)	5/1/2017	PS
G06F17/30,30058,3074,30781 (text search)	5/1/2017	PS
G06T7/0081 (text search)	5/1/2017	PS
G06K/00456 (text search)	5/1/2017	PS
G06K2209/01	5/1/2017	PS
Updated East Search	9/28/2017	PS
Updated East Search	03/14/2018	PS

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
G10L15+	G0L15/18,26,265	10/17/2017	PS
G0L25	G10L25/48,51,54,57	10/17/2017	PS
G06F17	G06F17/30,30058,3074,30781	10/17/2017	PS
G06T7	G06T7/0081	10/17/2017	PS
G06K	G06K/00456	10/17/2017	PS
G06K2209	G06K2209/01	10/17/2017	PS

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	**Art Unit**
	PARAS D SHAH	2659

CPC						
Symbol					**Type**	**Version**
H04N	/	9	/	8715	F	2013-01-01
H04N	/	9	/	802	I	2013-01-01
H04N	/	9	/	80	I	2013-01-01
G10L	/	15	/	26	A	2013-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	18	
/Paras D Shah/ Primary Examiner, Art Unit 2659	02 October 2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office — Part of Paper No.: 20180711

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IPR2025-00876 - Page 00318

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	**Art Unit**
	PARAS D SHAH	2659

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G10L	/	15	/	00
G10L	/	25	/	00
G06F	/	17	/	30
G06T	/	7	/	00

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**
704	275

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					
704	231	270				
382	100	173	176	177		

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 18	
/Paras D Shah/ Primary Examiner, Art Unit 2659 (Primary Examiner)	02 October 2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

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IPR2025-00876 - Page 00319

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	**Art Unit**
	PARAS D SHAH	2659

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

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	9	10	18	19										
	2	10	11												
2	3	11	12												
3	4	12	13												
4	5	13	14												
5	6	14	15												
6	7	15	16												
7	8	16	17												
8	9	17	18												

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 18	
/Paras D Shah/ Primary Examiner, Art Unit 2659 (Primary Examiner) 02 October 2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

U.S. Patent and Trademark Office Part of Paper No.: 20180711

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00320

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S172	597	(video av image picture$1 movie) near7 (recogniz$3 extract$3 detect$3 determin$5 identif$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) and (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 news food$1 medical) near5 (symbol$1 object$1 animal person item$1 fac$4) near7 (probabilit$3 accurac$3 confiden$3 correct$3 error incorrect wrong likelihood$1 similar$3 distance) and (speech audio spoken voic$3 verbal$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 news food$1 medical)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/07/11 13:39

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S173	13	((video av image picture$1 movie) near7 (recogniz$3 extract$3 detect$3 determin$5 identif$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 new$1 medical) and (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 news food$1 medical) near5 (symbol$1 object$1 animal person item$1 fac$4) near7 (probabilit$3 accurac$3 confiden$3 correct$3 error incorrect wrong likelihood$1 similar$3 distance) and (speech audio spoken voic$3 verbal$5) near5 (topic$3 categor$3 subject$1 domain$1 semantic$3 restaurant sport$1 news food$1 medical)).clm.	US-PGPUB; USPAT	OR	OFF	2018/07/11 13:51

9/ 18/ 2018 6:00:02 PM
C:\ Users\ pshah\ Documents\ EAST\ Workspaces\ 14910698.wsp

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.
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008	3701

27890 7590 11/07/2018
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER	
SHAH, PARAS D	

ART UNIT	PAPER NUMBER
2659	

NOTIFICATION DATE	DELIVERY MODE
11/07/2018	ELECTRONIC

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 the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hfox@steptoe.com
ipdocketing@steptoe.com
lfielding@steptoe.com

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IPR2025-00876 - Page 00322

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Application No. : 14910698
Applicant : Lakhani
Filing Date : 02/06/2016
Date Mailed : 11/07/2018

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Notice of Allowance Mailed

This application has been accorded an Allowance Date and is being prepared for issuance. The application, however, is incomplete for the reasons below.

Applicant is given two (2) months from the mail date of this Notice within which to respond. This time period for reply is extendable under 37 CFR 1.136(a) for only TWO additional MONTHS.

The application is not in compliance with 37 CFR 1.78, as indicated in the attachment. The consequences of failure to respond within the above-identified time period are set forth in the attachment.

Even if the Office has recognized a benefit claim and has entered it into the Office's database and included it on applicant's filing receipt, the benefit claim is not a proper benefit claim unless the reference in compliance with 37 CFR 1.78 is included, depending upon the application's filing date and as indicated in the attachment, in an application data sheet or in the first sentence(s) of the specification and all other requirements are met.

See attachment.

A copy of this notice MUST be returned with the reply. Please address response to "Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450".

/Shirley Winslow/
Publication Branch
Office of Data Management
(571) 272-4200

Application No. 14910698

APPLICATION FILED ON OR AFTER SEPTEMBER 16, 2012,
NOT IN COMPLIANCE WITH 37 CFR 1.78

[X] The 37 CFR 1.78(d)(2) reference on the application data sheet does not indicate the relationship (continuation, division, continuation-in-part) to the prior U.S. nonprovisional application or international application designating the U.S. See document coded ADS dated 02/06/2016, listing application number(s) 14175741.

[ ] The 37 CFR 1.78(d)(2) reference on the application data sheet does not indicate the relationship (continuation, division, continuation-in-part) to the prior international application designating the U.S. but instead indicates that an application is the national stage of the prior international application. However, the application was filed as a 35 U.S.C. 111 application and was not processed as a 35 U.S.C. 371 application, thus removing the validating link under 35 U.S.C. 119(a)-(d) to a prior foreign application or under 35 U.S.C. 119(e) to a prior U.S. provisional application. See document coded dated , listing application number(s) .

[ ] The 37 CFR 1.78(d)(2) reference on the application data sheet does not provide the U.S. nonprovisional application number (series code and serial number) or, with respect to an international PCT application designating the U.S., it provides the international application number or international filing date but not both. See document coded dated , in which the following is missing: .

[ ] The 37 CFR 1.78(d)(2) reference on the application data sheet shows an incorrect, incomplete, or illegible U.S. nonprovisional application number, international PCT application number, or international PCT filing date. See document coded dated , in which the following error was made: .

[ ] The 37 CFR 1.78(d)(2) reference to the prior U.S. nonprovisional application or international application designating the U.S. is not present on an application data sheet, thus removing the validating link under 35 U.S.C. 119(a)-(d) to a prior foreign application or under 35 U.S.C. 119(e) to a prior U.S. provisional application. See document coded dated , in which the following is missing: .

[ ] The 37 CFR 1.78(d)(2) reference to the prior U.S. nonprovisional application or international application designating the U.S. is not present on an application data sheet.

[ ] The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application is not present on an application data sheet.

[ ] The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application on an application data sheet does not provide the provisional application number (series code and serial number). See document coded dated , in which the following is missing: .

[ ] The 37 CFR 1.78(a)(3) reference to the prior U.S. provisional application on an application data sheet shows an incorrect, incomplete, or illegible U.S. provisional application number. See document coded dated , in which the following error was made: .

[ ] Other: .

HOW TO RESPOND

A proper response to this notice would include any one of: (1) a corrected Application Data Sheet (ADS) pursuant to 37 CFR 1.76(c) which provides benefit information that complies with 37 CFR 1.78(d)(2) or 37 CFR 1.78(a)(3) or (2) a petition filed pursuant to the provisions of 37 CFR 1.78(e) or 37 CFR 1.78(c) if the benefit information from the document identified above by code and date does not accurately reflect the benefits under 35 U.S.C. 119(e), 120, 121, 365(c) or 386(c) as claimed by applicant (a grantable petition would include a corrected ADS pursuant to 37 CFR 1.76(c)). In general, a petition would be required unless the proper benefit claim information was included on a properly signed ADS submitted with the application on filing, or a properly signed corrected ADS in compliance with 37 CFR 1.76(c) (e.g., with underlining to show insertions) that was filed within the time period in 37 CFR 1.78 for making the benefit claim(s), or the Office recognized the benefit claim(s) on the initial filing receipt. Such response may be filed after payment of the issue fee if limited to informalities noted herein. See Waiver of 37 CFR 1.312 for Document Required by Office of Patent Publication, 1280 Off. Gaz. Patent Office 918 (March 23, 2004).

WARNING: If Applicant fails to timely submit a proper response, the benefit information will be deleted and the patent will be printed without the benefit information present.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008	3701

27890 7590 11/09/2018

STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

EXAMINER
SHAH, PARAS D

ART UNIT	PAPER NUMBER
2659	

NOTIFICATION DATE	DELIVERY MODE
11/09/2018	ELECTRONIC

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 the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

hfox@steptoe.com
ipdocketing@steptoe.com
lfielding@steptoe.com

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00325

Corrected ***Notice of Allowability***	**Application No.** 14/910,698	**Applicant(s)** LAKHANI et al.	
	Examiner PARAS D SHAH	**Art Unit** 2659	**AIA Status** Yes

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to NOA dated 11/05/2018.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ 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.

3. ☑ The allowed claim(s) is/are 1 and 3-19 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information , please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

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

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   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)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file areply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☑ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/Paras D Shah/
Primary Examiner, Art Unit 2659

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DETAILED ACTION

1. This communication is in response to the NOA mailed on 11/05/2018. Claims 1 and 3-19 are pending and have been examined.

Notice of Pre-AIA or AIA Status

2. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Terminal Disclaimer

3. The terminal disclaimer filed on 07/09/2018 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of **US 9,940,972** has been reviewed and is accepted. The terminal disclaimer has been recorded.

EXAMINER'S AMENDMENT

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

5. The application has been amended as follows:

4 (Currently Amended The method according to claim ~~2~~ 1, further comprising:

applying natural language processing to the text to extract a topic.

Reasons for Allowance

5. Claims 1 and 3-19 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter:

7. The closest reference Kim teaches a method to generate video data from a video comprising: generating audio files and image files from the video (see [0060], where image and audio from a video is collected as shown in Figure 4); distributing the image files across a plurality of processors and processing the image files (see Figure 1, image analysis 115 and audio analysis performed from audio and image related data), where processing the image comprises extracting one or more objects and identifying the one or more objects (see [0046], where image analysis takes place to identify image objects such as a human or a thing); processing the audio files (see Figure 1, audio analysis 125); converting audio files associated with the video to text (see [0153], can support voice recognition); converting the image files associated with the video to video data (see Figure 2, image analysis and translation to image objects and [0046], where character recognition or face recognition is adopted and see [0074], where example disclosed); generating a topic that describes content of the video by deriving semantic information from the identification of the one or more objects (see [0146], where gender and age determined as additional information of the speaker based on face, body shape, color, and accessory and see [0072], where classification of the human is stored in an image file header and see [0146], where age and gender can be recognized based on the speaker detected); adding topical meta-data to the video (see [0072], where classification of the human stored in a header and see [0166], where image

designation information and audio object characteristic information can be in a video file whose image is constructed as image and whose audio is constructed as tracks); cross-referencing the text and the video data with the video (see Figure 1, mapping of image and audio objects and see [0086], where relationship formed between the image and audio in order to provide selectable items to elicit output). However, Kim does not specifically disclose conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Li does teach converting audio files associated with the video to text (see [0035], [0036], and [0059], where speech recognition component 216 extracts keywords from the audio). However, Li does not disclose conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Ma does teach distributing the image files across a plurality of processors and processing the image files in parallel (see [0030] and Figure 3, video files and image files are forwarded and distributed to plurality of image analysis servers 330). However, Ma does not disclose conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Hence, none of the cited references either alone or in combination thereof teaches the limitations or makes obvious the combination of limitations of "conversion of audio files to text and cross-referencing the text and the video data with the video to determine contextual topics; generating a contextual text, an image, or an animation based on the determined contextual topics; generating a content-rich video based on the generated text image, or animation.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARAS D SHAH whose telephone number is (571)270-1650. The examiner can normally be reached on Monday-Thursday 7:30AM-3PM, 5PM-7PM, Friday 8AM-noon.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre-Louis Desir can be reached on 571-272-7799. 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.

/Paras D Shah/
Primary Examiner, Art Unit 2659

11/06/2018

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	**Art Unit**
	PARAS D SHAH	2659

CPC						
Symbol					**Type**	**Version**
H04N	/	9	/	8715	F	2013-01-01
H04N	/	9	/	802	I	2013-01-01
H04N	/	9	/	80	I	2013-01-01
G10L	/	15	/	26	A	2013-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 18	
/Paras D Shah/ Primary Examiner, Art Unit 2659 (Primary Examiner) (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

U.S. Patent and Trademark Office Part of Paper No.: 20181106

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00332

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	**Art Unit**
	PARAS D SHAH	2659

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G10L	/	15	/	00
G10L	/	25	/	00
G06F	/	17	/	30
G06T	/	7	/	00

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**
704	275

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					
704	231	270				
382	100	173	176	177		

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 18	
/Paras D Shah/ Primary Examiner, Art Unit 2659 (Primary Examiner) (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/910,698	LAKHANI et al.
	Examiner	**Art Unit**
	PARAS D SHAH	2659

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

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	9	10	18	19										
	2	10	11												
2	3	11	12												
3	4	12	13												
4	5	13	14												
5	6	14	15												
6	7	15	16												
7	8	16	17												
8	9	17	18												

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 18	
/Paras D Shah/ Primary Examiner, Art Unit 2659 (Primary Examiner)	(Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

U.S. Patent and Trademark Office

Part of Paper No.: 20181106

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IPR2025-00876 - Page 00334

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Naeem LAKHANI, et al.	Art Unit :	2659
Serial No. :	14/910,698	Examiner :	Paras D. SHAH
Filing Date:	February 6, 2016	Confirmation No.:	3701
Title :	VIDEO TO DATA		

U.S. Patent and Trademark Office
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

In response to the Notice to File Corrected Application Papers mailed November 7, 2018, Applicants hereby submit a Supplemental ADS. No new matter has been added.

Applicants believe no fees are due. The Director is authorized to charge any additional fee or credit any overpayment to Deposit Account 19-4293, referencing attorney docket number 19299.0008.

Respectfully submitted,

Date: January 7, 2019

/Harold H. Fox, Reg.# 41498/
Harold H. Fox
Reg. No. 41,498

Customer No. 27890
STEPTOE & JOHNSON LLP
1330 Connecticut Ave. NW
Washington, DC 20036
Telephone: (202) 429-3000
Facsimile: (202) 429-3902

PTO/AIA/14 (07-14)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Naeem		LAKHANI	

Residence Information (Select One) US Residency ● Non US Residency Active US Military Service

City	Croydon	Country of Residence	GB

Mailing Address of Inventor:

Address 1	45 Chepstow Rise, Park Hill
Address 2	

City	Croydon	State/Province	
Postal Code	CRO 5LX	Country	GB

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Bartlett	Wade	SMITH	IV

Residence Information (Select One) ● US Residency ○ Non US Residency Active US Military Service

City	Madison	State/Province	MS	Country of Residence	US

Mailing Address of Inventor:

Address 1	109 Antlers Lane
Address 2	

City	Madison	State/Province	MS
Postal Code	39110	Country	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Allison	A.	TALLEY	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

Residence Information (Select One)	◉ US Residency	○ Non US Residency	Active US Military Service

City	Ridgeland	State/Province	MS	Country of Residence	US

Mailing Address of Inventor:

Address 1	211 Winsmere Way		
Address 2			
City	Ridgeland	State/Province	MS
Postal Code	39157	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	27890		
Email Address	IPdocketing@steptoe.com	Add Email	Remove Email
Email Address	hfox@steptoe.com	Add Email	Remove Email

Application Information:

Title of the Invention	VIDEO TO DATA		
Attorney Docket Number	19299.0008	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	9	Suggested Figure for Publication (if any)	1

Filing By Reference :

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	27890		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	a 371 of international	PCT/US2015/014940	2015-02-07
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
PCT/US2015/014940	Claims benefit of provisional	62021666	2014-07-07
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
PCT/US2015/014940	Claims benefit of provisional	14175741	2014-02-07
Prior Application Status	Expired Continuation of		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
14175741	Claims benefit of provisional	61866175	2013-08-15

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

Google Exhibit 1006 - Google v. CSI
IPR2025-00876 - Page 00338

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[j] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date o f filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 — Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
● Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☒

Organization Name	CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS		
Mailing Address Information For Applicant:			
Address 1	1018 Highland Colony Parkway, Suite 700		
Address 2			
City	Ridgeland	**State/Province**	MS
Country	US	Postal Code	39157-2060
Phone Number		Fax Number	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

Email Address	

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	1018 Highland Colony Parkway, Suite 700		
Address 2			
City	Ridgeland	**State/Province**	MS
Country	US	Postal Code	39157-2060
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Signature	/Harold H. Fox, Reg.# 41498/			Date (YYYY-MM-DD)	2019-01-07
First Name	Harold	Last Name	Fox	Registration Number	41498

Additional Signature may be generated within this form by selecting the Add button. Add

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	19299.0008
	Application Number	
Title of Invention	VIDEO TO DATA	

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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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Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Electronic Acknowledgement Receipt

EFS ID:	34786367
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008
Receipt Date:	07-JAN-2019
Filing Date:	06-FEB-2016
Time Stamp:	22:38:03
Application Type:	U.S. National Stage under 35 USC 371

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	Amendment after Notice of Allowance (Rule 312)	0008ResponsetoNtctoFileCorrectedAppInPapers.pdf	202762 3a4b7fa7d65db080e5f771d7233a2ba975e3e244	no	1

Warnings:

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IPR2025-00876 - Page 00344

Information:					
2	Application Data Sheet	0008ADS.pdf	2108315 16ae9ae2fa84387458d72310926b5faa44160c7d	no	8
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
			Total Files Size (in bytes):	2311077	

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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

27890 7590 10/11/2018
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/910,698	02/06/2016	Naeem LAKHANI	19299.0008	3701

TITLE OF INVENTION: VIDEO TO DATA

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	01/11/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
SHAH, PARAS D	2659	704-004000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 .....
2 Steptoe & Johnson LLP
3 .....

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS

(B) RESIDENCE: (CITY and STATE OR COUNTRY): RIDGELAND, MISSISSIPPI

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☒ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies .....

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 19-4293 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Harold H. Fox, Reg.# 41498/ Date January 8, 2019

Typed or printed name Harold H. Fox Registration No. 41,498

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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IPR2025-00876 - Page 00346

Electronic Patent Application Fee Transmittal

Application Number:	14910698
Filing Date:	06-Feb-2016
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Filer:	Harold H. Fox
Attorney Docket Number:	19299.0008

Filed as Large Entity

Filing Fees for U.S. National Stage under 35 USC 371

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:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1000**

Electronic Acknowledgement Receipt

EFS ID:	34798573
Application Number:	14910698
International Application Number:	
Confirmation Number:	3701
Title of Invention:	VIDEO TO DATA
First Named Inventor/Applicant Name:	Naeem LAKHANI
Customer Number:	27890
Filer:	Harold H. Fox
Filer Authorized By:	
Attorney Docket Number:	19299.0008
Receipt Date:	08-JAN-2019
Filing Date:	06-FEB-2016
Time Stamp:	22:17:27
Application Type:	U.S. National Stage under 35 USC 371

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1000
RAM confirmation Number	010919INTEFSW00006090194293
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	0008IssueFee.pdf	402349 510fe7bc7e77d123f060eab1ffbbc51d4b43fb84	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	29865 95afa9c816fa5f9cbb2cda438f3346e434da40cd	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	432214		

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.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/910,698	02/06/2016	2659	1740	19299.0008	19	2

CONFIRMATION NO. 3701

CORRECTED FILING RECEIPT

27890
STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

OC000000104942197

Date Mailed: 01/09/2019

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. 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 submit a written request for a Filing Receipt Correction. 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**

Inventor(s)

Naeem LAKHANI, Croydon, UNITED KINGDOM;
Bartlett Wade SMITH IV, Madison, MS;
Allison A. TALLEY, Ridgeland, MS;

Applicant(s)

CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS, Ridgeland, MS

Assignment For Published Patent Application

CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS, Ridgeland, MS

Power of Attorney: The patent practitioners associated with Customer Number 27890

Domestic Priority data as claimed by applicant

This application is a 371 of PCT/US2015/014940 02/07/2015
which claims benefit of 62/021,666 07/07/2014
and is a CON of 14/175,741 02/07/2014 PAT 9940972
which claims benefit of 61/866,175 08/15/2013

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: No

Permission to Access Search Results: No

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Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 08/25/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/910,698**

Projected Publication Date: Not Applicable

Non-Publication Request: No

Early Publication Request: No

Title

VIDEO TO DATA

Preliminary Class

704

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

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countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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 Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, 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).

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/910,698	02/26/2019	10218954	19299.0008	3701

27890 7590 02/06/2019

STEPTOE & JOHNSON LLP
1330 CONNECTICUT AVENUE, N.W.
WASHINGTON, DC 20036

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Naeem LAKHANI, Croydon, UNITED KINGDOM;
CELLULAR SOUTH, INC. DBA C SPIRE WIRELESS, Ridgeland, MS
Bartlett Wade SMITH IV, Madison, MS;
Allison A. TALLEY, Ridgeland, MS;

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