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Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 17863208

Filing Date: 12-Jul-2022

Applicant/Patent under Reexamination: Hardin

Electronic Terminal Disclaimer filed on October 5, 2022

☒ 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:	46755433
Application Number:	17863208
International Application Number:	
Confirmation Number:	2712
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas
First Named Inventor/Applicant Name:	Ryan Hardin
Customer Number:	118653
Filer:	Ryan J Hardin
Filer Authorized By:	
Attorney Docket Number:	0075652.00009
Receipt Date:	05-OCT-2022
Filing Date:	12-JUL-2022
Time Stamp:	01:09:59
Application Type:	Utility under 35 USC 111(a)

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RAM confirmation Number	E202205209502814
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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	45926	no	3
			0f848fe11333845ba4e8a43b2b61383c61f992f9		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	38072	no	2
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Total Files Size (in bytes):			83998		
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/863,208	07/12/2022	Ryan Hardin	0075652.00009	2712
118653	7590	10/05/2022	EXAMINER	
Ryan Hardin			AJIBADE AKONAI, OLUMIDE	
P.O. BOX 271861				
Houston, TX 77277				
			ART UNIT	PAPER NUMBER
			3648	
			NOTIFICATION DATE	DELIVERY MODE
			10/05/2022	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):

patent.matters@pronetcorp.com

<i>Applicant-Initiated Interview Summary</i>	Application No. 17/863,208	Applicant(s) Hardin et al.		
	Examiner OLUMIDE T AJIBADE AKONAI	Art Unit 3648	AIA (First Inventor to File) Status No	Page 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
OLUMIDE T AJIBADE AKONAI	Primary Examiner	Video Conference
Ryan Hardin	Inventor	

Date of Interview: 29 September 2022

Issues Discussed:

Other

The applicant discussed the differences in the claims of the instant application and co-pending application 17/182,809 and US patent no. 10/984,447. The examiner informed the applicant that during examination of the application a comparison will be made between the claims of the instant application and the U.S. patent claims in order to determine if a terminal disclaimer will be required. The examiner acknowledged receipt of a preliminary amendment on 09/29/2022. The applicant also discussed support for the claim limitations. Specifically, the applicant indicated support for the sending and receiving limitations can be found in fig. 4 and the related description of fig. 4 in the specification (blocks 401-419). The applicant indicated a willingness to file a terminal disclaimer in order to avoid any obviousness-type double patenting rejection. The examiner agreed to notify the applicant if a terminal disclaimer will be required to overcome any obviousness-type double patenting issues.

☒ Attachment

/OLUMIDE AJIBADE AKONAI/ Primary Examiner, Art Unit 3648	
<p>Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04</p> <p>Please further see: MPEP 713.04 Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b) 37 CFR § 1.2 Business to be transacted in writing</p>	

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

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.

From: patent.matters@pronetcorp.com
To: Aibade-Akonai, Olumide
Subject: Examiner Interview
Date: Thursday, September 29, 2022 8:58:33 AM

CAUTION: This email has originated from a source outside of USPTO. **PLEASE CONSIDER THE SOURCE** before responding, clicking on links, or opening attachments.

Hi Examiner Akonai,

So that we can web conference during today's interview, can you please send a Microsoft Teams invitation for our meeting at 12:00pm EDT today?

Below is the agenda for the interview.

Discuss the following for both US Patent Applications 17/182,809 and 17/863,208:

- How preliminary amendment claim limitations overcome information disclosure(s)
- How claim limitations overcome potential double-patenting

Thank you so much!

Ryan

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Receipt Date:	29-SEP-2022
Filing Date:	12-JUL-2022
Time Stamp:	08:56:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Preliminary Amendment	PreliminaryAmendment.pdf	191035	no	13
			abf4e300e31f96b2141214fc0431f7f2322acff2		

Warnings:

Information:	
Total Files Size (in bytes):	191035
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>	

Certification Under 37 CFR 1.8

Date of Mailing or Transmission: 29 September 2022. I hereby certify that I have caused this correspondence and/or document(s) indicated herein on the date indicated above to be transmitted via the Office electronic filing system in accordance with 37 CFR 1.6(a)(4).

BY: /Ryan J. Hardin/
Signature

Name: Ryan J. Hardin
Typed Name

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ryan Hardin et al.

Examiner: Ajibade Akonai, Olumide

Application No.: 17/863,208

Group Art Unit: 3648

Filing Date: 12 July 2022

Docket No.: 0075652.00009

Title: Exclusive Delivery of Content Within Geographic Areas

PRELIMINARY AMENDMENT UNDER 37 CFR 1.115

Date: 29 September 2022

EFS-Web
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Examiner:

This Preliminary Amendment is being filed under 37 CFR 1.115 and is being filed prior to the mailing of a first Office action on the merits with regard to the above-identified patent application (“the Instant Application”). Prior to examination, please amend the Instant Application as follows:

Amendment in the Claims begin on page 2 of this correspondence;

Remarks begin on page 21 of this correspondence; and

Conclusions begin on page 22 of this correspondence.

AMENDMENTS IN THE CLAIMS

Please amend the claims as follows. This listing of the claims will replace all prior versions, and listings, of the claims in the Instant Application.

1. (Currently Amended) A system for creating and offloading location awareness ~~for a computer program on a mobile device~~, the system including a mobile device and comprising:
 - at least one memory;
 - at least one processor operably coupled to the at least one memory; and
 - code configured for execution by the at least one processor, wherein the code comprises at least one instruction for:
 - sending, ~~via the computer program~~, to a ~~centralized~~ content delivery service:
 - a request to have an identifier, being associated with a selected geographic area of interest, delivered to ~~[[the]]~~a computer program on the mobile device after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered ~~[[a]]~~the selected geographic area of interest;
 - and
 - geographic reservation data to have the selected geographic area of interest reserved for delivery of the identifier to the computer program, wherein the geographic reservation data comprises a geometric construct used to establish at least one perimeter as a boundary for the selected geographic area of interest; and
 - receiving, via the computer program, the identifier delivered by the ~~centralized~~ content delivery service after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered the selected geographic area of interest.

2. (Currently Amended) The system of claim 1, wherein the code further comprises at least one instruction for, in response to receiving, via the computer program, the identifier delivered by the ~~centralized~~ content delivery service, displaying, via a connected display device, content associated with the selected geographic area of interest.
3. (Currently Amended) The system of claim 1, wherein:
 - the code further comprises at least one instruction for sending, via the computer program, the identifier to the ~~centralized~~ content delivery service.
4. (Original) The system of claim 1, wherein:
 - the geometric construct comprises at least a latitude value, a longitude value, and a radius value; and
 - the geographic reservation data further comprises information indicating an area bounded by the at least one perimeter as the selected geographic area of interest.
5. (Currently Amended) The system of claim 4, wherein:
 - the selected geographic area of interest is a first selected geographic area of interest; and
 - the code further comprises at least one instruction for sending, ~~via the computer program,~~ to the ~~centralized~~ content delivery service, a second request to have an identifier, being associated with a second selected geographic area of interest, delivered to the computer program on the mobile device after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered a second selected geographic area of interest, wherein the second selected geographic area of interest is ~~bounded by the at least one perimeter and~~ is distinct from the first selected geographic area of interest.
6. (Currently Amended) The system of claim 1, wherein the identifier delivered by the ~~centralized~~ content delivery service is a boundary identifier.
7. (Currently Amended) The system of claim 6, wherein:

- receiving, via the computer program, the identifier delivered by the ~~centralized~~ content delivery service comprises receiving the identifier after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered the selected geographic area of interest and has remained therein for at least a predetermined length of time.
8. (Currently Amended) The system of claim 7, wherein the predetermined length of time is not provided to the ~~centralized~~ content delivery service by the computer program but is a predetermined length of time ~~as desired~~ set by the ~~centralized~~ content delivery service.
9. (Original) The system of claim 1, wherein the identifier is to be delivered exclusively to the computer program and not to be broadcast to other computer programs on the mobile device.
10. (Currently Amended) A system for creating and offloading location awareness ~~for a computer program on a mobile device~~, the system including a mobile device and comprising:
- at least one memory;
 - at least one processor operably coupled to the at least one memory; and
 - code configured for execution by the at least one processor, wherein the code comprises at least one instruction for:
 - receiving, via a ~~centralized~~ content delivery service, ~~from the computer program~~:
 - a request to have an identifier, being associated with a selected geographic area of interest, delivered to ~~the~~ a computer program on the mobile device after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered [a]the selected geographic area of interest; and
 - geographic reservation data to have the selected geographic area of interest reserved for delivery of the identifier to the computer

program, wherein the geographic reservation data comprises a geometric construct used to establish at least one perimeter as a boundary for the selected geographic area of interest;
reserving, in the at least one memory, the selected geographic area of interest for delivery of the identifier to the computer program;
obtaining location information representing at least one physical geographic location of the mobile device; and
delivering the identifier to the computer program after it has been determined, using the obtained location information, that the mobile device has at least entered the selected geographic area of interest.

11. (Currently Amended) The system of claim 10, wherein the code further comprises at least one instruction for:

sending, ~~via the computer program~~, to the ~~centralized~~ content delivery service, the request and the geographic reservation data; and
receiving, via the computer program, the identifier in response to the delivering.

12. (Currently Amended) The system of claim 10, wherein:

the code further comprises at least one instruction for:
receiving the identifier via the ~~centralized~~ content delivery service; and
in response to receiving the identifier via the ~~centralized~~ content delivery service, storing, in the at least one memory, the identifier; and
delivering the identifier to the computer program comprises delivering the identifier from the at least one memory.

13. (Original) The system of claim 10, wherein delivering the identifier to the computer program comprises delivering the identifier after it has been determined that the mobile device has at least remained within the selected geographic area of interest for at least a predetermined length of time.

14. (Original) The system of claim 12, wherein the code further comprises at least one instruction for:

- preserving delivery of the identifier from the at least one memory to the computer program until after it has been determined that the mobile device has remained within the selected geographic area of interest for at least a predetermined length of time.
15. (Currently Amended) The system of claim 12, wherein:
the code further comprises at least one instruction for sending, ~~via the computer program,~~ to the ~~centralized~~ content delivery service, the identifier; and
receiving the identifier via the ~~centralized~~ content delivery service comprises
receiving the identifier via the ~~centralized~~ content delivery service from the computer program.
16. (Original) The system of claim 10, wherein the code further comprises at least one instruction for determining, using the obtained location information, that the mobile device has at least entered the selected geographic area of interest.
17. (Original) The system of claim 10, wherein the code further comprises at least one instruction for determining, using the obtained location information, that the mobile device has at least entered the selected geographic area of interest and has remained therein for at least a predetermined length of time.
18. (Original) The system of claim 10, wherein the code further comprises at least one instruction for creating a notification that the mobile device has at least entered the selected geographic area of interest.
19. (Original) The system of claim 10, wherein:
reserving the selected geographic area of interest for delivery of the identifier to the computer program comprises reserving the selected geographic area of interest only after it has been determined that the selected geographic area of interest is available to be reserved; and

the code further comprises at least one instruction for sending a notification to the computer program indicating that the selected geographic area of interest has been reserved.

20. (Original) The system of claim 16, wherein the determining considers whether at least a predetermined portion of the selected geographic area of interest intersects the mobile device's location circle, wherein the location circle comprises the area contained within a predetermined radius of the geographic location of the mobile device.

21. (Original) The system of claim 10, wherein the code further comprises at least one instruction for:

storing, on the mobile device, location information received from one or more mobile devices, wherein the location information received from the one or more mobile devices is received by the one or more mobile devices from one or more third party sources and is to be used, in combination with cellular tower information received via an antenna of the mobile device, for positioning the geographic location of the mobile device; and

using the stored location information received from the one or more mobile devices, in combination with cellular tower information received via an antenna of the mobile device operable to communicate with a cellular network, to position the geographic location of the mobile device.

22. (Currently Amended) The system of claim 10, wherein:

the code further comprises at least one instruction for:

receiving, via the ~~centralized~~ content delivery service:

a second request to have a second identifier, being associated with a second selected geographic area of interest, delivered to a second computer program on the mobile device after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered a second selected geographic

area of interest, ~~wherein the second request is from the second computer program;~~ and
second geographic reservation data to have the second selected geographic area of interest reserved for delivery of the second identifier to the second computer program, wherein the second geographic reservation data comprises a second geometric construct used to establish at least one perimeter as a boundary for the second selected geographic area of interest ~~and wherein the second geographic reservation data is from the second computer program;~~
reserving, in the at least one memory, the second selected geographic area of interest for delivery of the second identifier to the second computer program; and
delivering the second identifier to the second computer program after it has been determined, using the obtained location information, that the mobile device has at least entered the second selected geographic area of interest.

23. (Currently Amended) The system of claim 10, wherein:

the code further comprises at least one instruction for:

receiving, via the ~~centralized~~ content delivery service, ~~from the computer program;~~

a second request to have a second identifier, being associated with a second selected geographic area of interest, delivered to the computer program after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered a second selected geographic area of interest; and
second geographic reservation data to have the second selected geographic area of interest reserved for delivery of the second identifier to the computer program, wherein the second geographic reservation data comprises a second geometric construct used to

- establish at least one perimeter as a boundary for the second selected geographic area of interest;
- reserving, in the at least one memory, the second selected geographic area of interest for delivery of the second identifier to the computer program; and
- delivering the second identifier to the computer program after it has been determined, using the obtained location information, that the mobile device has at least entered the second selected geographic area of interest.
24. (Currently Amended) The system of claim 10, wherein the code further comprises at least one instruction for performing a verification whether the computer program has authorization to initiate a location session with the ~~centralized~~ content delivery service, wherein:
- if the verification passes, the computer program is allowed to initiate a location session with the ~~centralized~~ content delivery service; and
 - if the verification fails, the computer program is not allowed to initiate a location session with the ~~centralized~~ content delivery service.
25. (Currently Amended) The system of claim 24, wherein performing the verification comprises performing, for the computer program, a check on a key being previously stored in a data store that the ~~centralized~~ content delivery services uses for validating location sessions initiated by one or more computer programs installed on the mobile device.
26. (Original) The system of claim 10, wherein the obtained location information is determined at least in part by using cellular tower information received via a cellular antenna of the mobile device and not by using information received via a GPS antenna of the mobile device.
27. (Original) The system of claim 16, wherein determining that the mobile device has at least entered the selected geographic area of interest comprises determining that the mobile device has at least entered the selected geographic area of interest by at least use

of a specialized processor for processing whether the mobile device has at least entered the selected geographic area of interest.

28. (Currently Amended) The system of claim 11, wherein:

the at least one instruction for sending, ~~via the computer program~~, the request and the geographic reservation data to the ~~centralized~~ content delivery service comprises at least one instruction configured for execution by ~~a first~~ the at least one processor of the mobile device; and

the code further comprises at least one instruction for determining, using the obtained location information, that the mobile device has at least entered the selected geographic area of interest, wherein the at least one instruction for determining is configured for execution by a specialized processor of the mobile device distinct from the ~~first~~ at least one processor.

29. (Currently Amended) A non-transitory computer readable medium for creating and offloading location awareness ~~for a computer program on a mobile device~~, said non-transitory computer readable medium causing at least one processor ~~of the mobile device~~ to perform the steps of:

sending, ~~via the computer program~~, to a ~~centralized~~ content delivery service:

a request to have an identifier, being associated with a selected geographic area of interest, delivered to ~~[[the]]~~ a computer program on a mobile device after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered a selected geographic area of interest; and

geographic reservation data to have the selected geographic area of interest reserved for delivery of the identifier to the computer program, wherein the geographic reservation data comprises a geometric construct used to establish at least one perimeter as a boundary for the selected geographic area of interest; and

receiving, via the computer program, the identifier delivered by the ~~centralized~~ content delivery service after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered the selected geographic area of interest.

30. (Currently Amended) A non-transitory computer readable medium for creating and offloading location awareness ~~for a computer program on a mobile device~~, said non-transitory computer readable medium causing at least one processor ~~of the mobile device~~ to perform the steps of:

receiving, via a ~~centralized~~ content delivery service, ~~from the computer program~~:

a request to have an identifier delivered, being associated with a selected geographic area of interest, to ~~[[the]]~~a computer program after it has been determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered a selected geographic area of interest; and geographic reservation data to have the selected geographic area of interest reserved for delivery of the identifier to the computer program, wherein the geographic reservation data comprises a geometric construct used to establish at least one perimeter as a boundary for the selected geographic area of interest;

reserving, in at least one memory of the mobile device, the selected geographic area of interest for delivery of the identifier to the computer program;

obtaining location information representing at least one physical geographic location of the mobile device; and

delivering the identifier to the computer program after it has been determined, using the obtained location information, that the mobile device has at least entered the selected geographic area of interest.

REMARKS

This Preliminary Amendment is being filed prior to the mailing of a first Office action on the merits with regard to the Instant Application. By the above amendments, the Applicants have amended claims 1-3, 5-8, 10-12, 15, 22-25, and 28-30. The Applicants submit that the amended claims a) provide proper protection of and clarity to the claims, b) do not involve the introduction of any new matter, and c) are fully supported by the Instant Application as filed. Accordingly, the Applicants respectfully request the Examiner to consider and timely allow claims 1-30.

CONCLUSION

If there are any matters that can be discussed by telephone to further the prosecution of the Application, the Applicants invite the Examiner to contact the undersigned at 903-702-5420 at the Examiner's convenience.

Respectfully Submitted,
By: /Ryan J. Hardin/
Ryan J. Hardin
Pro se and joint inventor

Ryan Hardin
P.O. Box 271861
Houston, Texas 77277

Telephone: 903.702.5420
Email: patent.matters@pronetcorp.com

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		17863208	
	Filing Date		2022-07-12	
	First Named Inventor	Hardin, Ryan		
	Art Unit	3648		
	Examiner Name	Ajibade Akonai, Olumide		
	Attorney Docket Number	0075652.00009		

U.S.PATENTS

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	8010134	B2	2011-08-30	Barnes et al.	
	2	7133685	B2	2006-11-07	Hose et al.	
	3	7164986	B2	2007-01-16	Humphries et al.	
	4	8536999	B2	2013-09-17	Holcman et al.	

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

U.S.PATENT APPLICATION PUBLICATIONS

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	20080094256	A1	2008-04-24	Koen	

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FOREIGN PATENT DOCUMENTS

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	17863208
Filing Date	2022-07-12
First Named Inventor	Hardin, Ryan
Art Unit	3648
Examiner Name	Ajibade Akonai, Olumide
Attorney Docket Number	0075652.00009

1								☐
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NON-PATENT LITERATURE DOCUMENTS

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.	T5
	1	Claim Construction Order – Hardin et al. v. Samsung Elecs. Co., Ltd. et al., 2:21-cv-00290-JRG, ECF No. 86 (E.D. Tex. August 25, 2022)	☐
	2	Exhibit 1016 - Complaint – Hardin et al. v. Samsung Elecs. Co., Ltd. et al., 2:21-cv-00290-JRG, ECF No. 1 (E.D. Tex. July 30, 2021)	☐
	3	Petition for Inter Partes Review of U.S. Patent No. 9,779,418 - Case IPR2022-01330, August 2, 2022	☐
	4	Declaration of David Williams ISO 418 Patent IPR Petition -1330, August 2, 2022	☐
	5	Petition for Inter Partes Review of U.S. Patent No. 9,779,418 - Case IPR2022-01331, August 2, 2022	☐
	6	Declaration of David Williams ISO 418 Patent IPR Petition -1331, August 2, 2022	☐
	7	Petition for Inter Partes Review of U.S. Patent No. 9,779,418 - Case IPR2022-01332, August 2, 2022	☐
	8	Declaration of David Williams ISO 418 Patent IPR Petition -1332, August 2, 2022	☐

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	17863208
Filing Date	2022-07-12
First Named Inventor	Hardin, Ryan
Art Unit	3648
Examiner Name	Ajibade Akonai, Olumide
Attorney Docket Number	0075652.00009

9	Petition for Inter Partes Review of U.S. Patent No. 10,049,387 - Case IPR2022-01327, August 2, 2022	☐
10	Declaration of David Williams ISO 387 Patent IPR Petition -1327, August 2, 2022	☐
11	Petition for Inter Partes Review of U.S. Patent No. 10,049,387 - Case IPR2022-01328, August 2, 2022	☐
12	Declaration of David Williams ISO 387 Patent IPR Petition -1328, August 2, 2022	☐
13	Petition for Inter Partes Review of U.S. Patent No. 10,049,387 - Case IPR2022-01329, August 2, 2022	☐
14	Declaration of David Williams ISO 387 Patent IPR Petition -1329, August 2, 2022	☐
15	Petition for Inter Partes Review of U.S. Patent No. 10,984,447 - Case IPR2022-01333, August 2, 2022	☐
16	Declaration of David Williams ISO 447 Patent IPR Petition -1333, August 2, 2022	☐
17	Petition for Inter Partes Review of U.S. Patent No. 10,984,447 - Case IPR2022-01334, August 2, 2022	☐
18	Declaration of David Williams ISO 447 Patent IPR Petition -1334, August 2, 2022	☐
19	Petition for Inter Partes Review of U.S. Patent No. 10,984,447 - Case IPR2022-01335, August 2, 2022	☐

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	17863208
Filing Date	2022-07-12
First Named Inventor	Hardin, Ryan
Art Unit	3648
Examiner Name	Ajibade Akonai, Olumide
Attorney Docket Number	0075652.00009

20	Declaration of David Williams ISO 447 Patent IPR Petition -1335, August 2, 2022	☐
21	Exhibit 1020 - Geofencing, Techopedia, https://www.techopedia.com/definition/14937/geofencing	☐
22	Exhibit 1021 - Jonathan P. Munson & Vineet K. Gupta, Location-Based Notification as a General-Purpose Service, Proceedings of the 2nd International Workshop on Mobile Commerce 40 (2002)	☐
23	Exhibit 1022 - What We Do, Locating What's Important To You, Cell-Loc, http://web.archive.org/web/20030411221815/http://celloc.com/what_locating.html	☐
24	Exhibit 1023 - Alan Cohen, Location, Location, Location, PC Mag., available at https://books.google.com/books?id=elvagv988JgC&pg=PA82#v=onepage&q&f=false	☐
25	Exhibit 1019 - Plaintiffs' Objections And Response To Defendants' Second Set Of Interrogatories To Plaintiff, Hardin et al. v. Samsung Elecs. Co., Ltd. et al., 2:21-cv-00290-JRG, served July 1, 2022	☐
26	Exhibit 1029 - Defendants' Claim Construction Brief – Hardin et al. v. Samsung Elecs. Co., Ltd. et al., 2:21-cv-00290-JRG, ECF 67 (E.D. Tex. July 25, 2022)	☐
27	Exhibit 1028 - Plaintiffs' Claim Construction Brief – Hardin et al. v. Samsung Elecs. Co., Ltd. et al., 2:21-cv-00290-JRG, ECF 58 (E.D. Tex. July 8, 2022)	☐

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

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
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*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.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	17863208
Filing Date	2022-07-12
First Named Inventor	Hardin, Ryan
Art Unit	3648
Examiner Name	Ajibade Akonai, Olumide
Attorney Docket Number	0075652.00009

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	/Ryan J. Hardin/	Date (YYYY-MM-DD)	2022-09-26
Name/Print	Ryan J. Hardin	Registration Number	

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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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 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.

Electronic Acknowledgement Receipt

EFS ID:	46717200
Application Number:	17863208
International Application Number:	
Confirmation Number:	2712
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas
First Named Inventor/Applicant Name:	Ryan Hardin
Customer Number:	118653
Filer:	Ryan J Hardin
Filer Authorized By:	
Attorney Docket Number:	0075652.00009
Receipt Date:	29-SEP-2022
Filing Date:	12-JUL-2022
Time Stamp:	01:18:11
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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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)	updated_IDS_17863208_print.pdf	1199287 d10de46378204bfc4e143a060d80b59b4e9b37a7	no	6

Warnings:

Information:					
This is not an USPTO supplied IDS fillable form					
2	Non Patent Literature	NPL-01-2022-08-25_Doc_86_Claim_Construction_Order.pdf	1073409	no	15
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3	Non Patent Literature	NPL-02-EX1016_-_Complaint_E_D_Tex_DN_1.pdf	2733134	no	102
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Information:					
4	Non Patent Literature	NPL-03-2022-08-02_04_Petition_for_418_IPR_1330.pdf	25196540	no	92
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5	Non Patent Literature	NPL-04-EX1003_-_2022-08-02_Declaration_of_David_Williams_ISO_418_IPR_1330.pdf	3815032	no	238
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6	Non Patent Literature	NPL-05-2022-08-02_04_Petition_for_418_IPR_1331.pdf	25031433	no	90
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7	Non Patent Literature	NPL-06-EX1003_-_2022-08-02_Declaration_of_David_Williams_ISO_418_IPR_1331.pdf	3819293	no	238
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8	Non Patent Literature	NPL-07-2022-08-02_04_Petition_for_418_IPR_1332.pdf	24503626	no	88
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Home Depot - Exhibit 1026 - Page 780					

9	Non Patent Literature	NPL-08-EX1003_- _2022-08-02_Declaration_of_D avid_Williams_ISO_418_IPR_13 32.pdf	3819293	no	238
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10	Non Patent Literature	NPL-09-2022-08-02_04_Petition_for_387_IPR_1327.pdf	23409814	no	86
			edc396b7214413828b9ec707686caaddf6ef a311		
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11	Non Patent Literature	NPL-10-EX1003_- _2022-08-02_Declaration_of_D avid_Williams_ISO_387_IPR_13 27.pdf	2935056	no	204
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14	Non Patent Literature	NPL-13-2022-08-02_04_Petition_for_387_IPR_1329.pdf	23316756	no	85
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22	Non Patent Literature	NPL-21-EX1020_-_Geofencing_from_Techopedia.pdf	1057147	no	5
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23	Non Patent Literature	NPL-22-EX1021_- _Munson_Gupta.pdf	881246	no	5
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24	Non Patent Literature	NPL-23-EX1022_- _Cell-Loc_Inc. pdf	853523	no	1
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Warnings:					
Information:					
Total Files Size (in bytes):			267253847		

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New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 17/863,208		Filing Date 07/12/2022		☐ To be Mailed	
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO									
APPLICATION AS FILED - PART I									
		(Column 1)		(Column 2)					
FOR		NUMBER FILED		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 \$50 =			
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =	*			x \$240 =			
☐ 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									
		(Column 1)		(Column 2)	(Column 3)				
AMENDMENT	09/29/2022	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	* 30	Minus	** 30	= 0		x \$50 =		0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 4	= 0		x \$240 =		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	
		(Column 1)		(Column 2)	(Column 3)				
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x \$0 =		
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x \$0 =		
	☐ 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.						SLIE			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/SHARON M WEST/			
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".									
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

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

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



UNITED STATES PATENT AND TRADEMARK OFFICE

USPTO Automated Interview Request (AIR)

Sep 19 2022

This paper requesting to schedule and/or conduct an interview is appropriate because:

I have previously submitted an authorization for internet communications in a patent application. See form SB/0439.

Name(s) :

Ryan J Hardin

S-signature:

/Ryan J Hardin/

Registration Number:

U.S. Application Number:

17863208

Confirmation Number:

2712

E-mail Address:

patent.matters@pronetcorp.com

Phone Number:

+1 9037025420

Proposed Time of Interview:

9-26-2022 11:00 AM ET

Alternative Proposed Time(s) of Interview:

9-26-2022 12:00 PM ET

Alternative Proposed Time(s) of Interview:

9-27-2022 1:00 PM ET

Preferred Interview Type:

Video Conference

I am the applicant or applicant's representative for this application.

Topic for Discussion:

Doc Code: ECOMM.AUTH/ECOMM.WTDW

Doc Description: Internet Communications Authorization/Internet Communications Authorization Withdrawal

PTO/SB/439 (11-15)

**AUTHORIZATION FOR INTERNET
COMMUNICATIONS IN A PATENT
APPLICATION OR REQUEST TO
WITHDRAW AUTHORIZATION FOR
INTERNET COMMUNICATIONS**

Application No.	17/863208
Filing Date	12 July 2022
First Named Inventor	Hardin, Ryan
Art Unit	3648
Examiner Name	Ajibade Akonai, Olumide
Practitioner Docket No.	0075652.0009

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I. To authorize permission for Internet Communications.

☒ Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned and practitioners in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via video conferencing, instant messaging, or electronic mail. I understand that a copy of these communications will be made of record in the application file. (MPEP 502.03)

II. To withdraw authorization for Internet Communications.

☐ The authorization given on _____, to the USPTO to communicate with the undersigned and any practitioner in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via Internet communications such as video conferencing, instant messaging, or electronic mail is hereby withdrawn. I understand that the withdrawal is effective when approved rather than when received.

I am the

☒ applicant.

☐ attorney or agent of record. Registration number _____.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Ryan J. Hardin/

Signature

19 September 2022

Date

Ryan J. Hardin

Typed or printed name

903.702.5420

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. Juristic entities must be represented by a patent practitioner (see 37 CFR 1.31, which is applicable to any paper filed on or after September 16, 2012, that is presented on behalf of a juristic entity, regardless of application filing date). Submit multiple forms if more than one signature is required, see below*.

☒ * Total of 2 forms are submitted.

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.

Doc Code: ECOMM.AUTH/ECOMM.WTDW

Doc Description: Internet Communications Authorization/Internet Communications Authorization Withdrawal

PTO/SB/439 (11-15)

**AUTHORIZATION FOR INTERNET
COMMUNICATIONS IN A PATENT
APPLICATION OR REQUEST TO
WITHDRAW AUTHORIZATION FOR
INTERNET COMMUNICATIONS**

Application No.	17/863208
Filing Date	12 July 2022
First Named Inventor	Hardin, Ryan
Art Unit	3648
Examiner Name	Ajibade Akonai, Olumide
Practitioner Docket No.	0075652.0009

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I. To authorize permission for Internet Communications.

☒ Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned and practitioners in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via video conferencing, instant messaging, or electronic mail. I understand that a copy of these communications will be made of record in the application file. (MPEP 502.03)

II. To withdraw authorization for Internet Communications.

☐ The authorization given on _____, to the USPTO to communicate with the undersigned and any practitioner in accordance with 37 CFR 1.33 and 37 CFR 1.34 concerning any subject matter of this application via Internet communications such as video conferencing, instant messaging, or electronic mail is hereby withdrawn. I understand that the withdrawal is effective when approved rather than when received.

I am the

☒ applicant.

☐ attorney or agent of record. Registration number _____.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

/Andrew S. Hill/

Signature

19 September 2022

Date

Andrew S. Hill

Typed or printed name

903.702.5420

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. Juristic entities must be represented by a patent practitioner (see 37 CFR 1.31, which is applicable to any paper filed on or after September 16, 2012, that is presented on behalf of a juristic entity, regardless of application filing date). Submit multiple forms if more than one signature is required, see below*.

☒ * Total of 2 forms are submitted.

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.

Electronic Acknowledgement Receipt

EFS ID:	46639843
Application Number:	17863208
International Application Number:	
Confirmation Number:	2712
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas
First Named Inventor/Applicant Name:	Ryan Hardin
Customer Number:	118653
Filer:	Ryan J Hardin
Filer Authorized By:	
Attorney Docket Number:	0075652.00009
Receipt Date:	19-SEP-2022
Filing Date:	12-JUL-2022
Time Stamp:	07:22:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Internet Communications Authorization	sb0439_ryan.pdf	188065	no	2
			0bf35c71b4fadd9670941a819073693d7deba143		

Warnings:

Information:					
2	Internet Communications Authorization	sb0439_andrew.pdf	189216	no	2
			0519bd8e9ab9abe24d71b95d1511c4aa6e31e5b4		
Warnings:					
Information:					
Total Files Size (in bytes):			377281		
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/863,208	07/12/2022	Ryan Hardin	0075652.00009	2712
118653	7590	08/17/2022	EXAMINER	
Ryan Hardin			CENTRAL, DOCKET	
P.O. BOX 271861				
Houston, TX 77277				
			ART UNIT	PAPER NUMBER
			OPAP	
			NOTIFICATION DATE	DELIVERY MODE
			08/17/2022	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):

patent.matters@pronetcorp.com

<i>Decision Granting Request for Prioritized Examination (Track I)</i>	Application No. 17/863,208	Applicant(s) Hardin et al.	
	Examiner CHERYL P GIBSON BAYLOR	Art Unit OPET	AIA (FITF) Status No

1. THE REQUEST FILED 12 July 2022 IS **GRANTED** .

The above-identified application has met the requirements for prioritized examination

A. ☒ for an original nonprovisional application (Track I).

B. ☐ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination.** The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:

A. filing a **petition for extension of time** to extend the time period for filing a reply;

B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims**, or a multiple dependent claim;

C. filing a **request for continued examination** ;

D. filing a notice of appeal;

E. filing a request for suspension of action;

F. mailing of a notice of allowance;

G. mailing of a final Office action;

H. completion of examination as defined in 37 CFR 41.102; or

I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to CHERYL GIBSON BAYLOR at (571)272-3213. In his/her absence, calls may be directed to Petition Help Desk at (571) 272-3282.

/CHERYL GIBSON BAYLOR/ Paralegal Specialist, OPET	
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 17/863,208			
APPLICATION AS FILED - PART I									
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)		
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	80		N/A			
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	350		N/A			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	400		N/A			
TOTAL CLAIMS (37 CFR 1.16(j))	30	minus 20 = *	10	x 50 =	500				
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4	minus 3 = *	1	x 240 =	240				
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				
			TOTAL		1570	TOTAL			
* If the difference in column 1 is less than zero, enter "0" in column 2.									
APPLICATION AS AMENDED - PART II									
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OTHER THAN SMALL ENTITY	
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	x	=
	Application Size Fee (37 CFR 1.16(s))								
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)	RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	x	=
	Application Size Fee (37 CFR 1.16(s))								
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		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.									



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www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
17/863,208	07/12/2022	3622	1570	0075652.00009	30	4

CONFIRMATION NO. 2712

FILING RECEIPT

118653
Ryan Hardin
P.O. BOX 271861
Houston, TX 77277



Date Mailed: 07/25/2022

Receipt is acknowledged of this non-provisional utility 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 FIRST INVENTOR, 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 corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction 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 provided that the request is grantable.

Inventor(s)

Ryan Hardin, Henderson, TX;
Andrew Hill, Houston, TX;

Applicant(s)

Ryan Hardin, Henderson, TX;
Andrew Hill, Houston, TX;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 17/182,809 02/23/2021
which is a CON of 16/019,285 06/26/2018 PAT 10984447
which is a CON of 15/694,786 09/02/2017 PAT 10049387
which is a CON of 15/009,961 01/29/2016 PAT 9779418
which is a CON of 14/608,285 01/29/2015 PAT 9286625
which is a CON of 13/856,392 04/03/2013 PAT 8977247
which is a CON of 12/434,094 05/01/2009 PAT 8433296

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: Yes

Permission to Access Search Results: Yes

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: 07/21/2022

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/863,208**

Projected Publication Date: 11/03/2022

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

Exclusive Delivery of Content Within Geographic Areas

Preliminary Class

705

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 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 Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor

community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

Electronic Acknowledgement Receipt

EFS ID:	46256676
Application Number:	17863208
International Application Number:	
Confirmation Number:	2712
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas
First Named Inventor/Applicant Name:	Ryan Hardin
Customer Number:	118653
Filer:	Ryan J Hardin
Filer Authorized By:	
Attorney Docket Number:	0075652.00009
Receipt Date:	23-JUL-2022
Filing Date:	12-JUL-2022
Time Stamp:	10:16:23
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Non Patent Literature	NPL-54_Exhibit_A-16_- _418_Patent_-_J2ME.pdf	7555577	no	201
			a9786e30dc7f21ff7aae794d047168edee8a87c4		

Warnings:

Information:					
2	Non Patent Literature	NPL-55_Exhibit_A-17_-_418_Patent_-_OTDP_over_625_Patent.pdf	418406	no	82
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Warnings:					
Information:					
3	Non Patent Literature	NPL-56_Exhibit_A-18_-_418_Patent_-_Subject_Matter_Eligibility_Contentions.pdf	882034	no	100
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Warnings:					
Information:					
4	Non Patent Literature	NPL-57_Exhibit_B-1_-_387_Patent_-_Chmaytelli.pdf	1536708	no	84
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Warnings:					
Information:					
5	Non Patent Literature	NPL-58_Exhibit_B-2_-_387_Patent_-_Guido.pdf	569523	no	73
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Warnings:					
Information:					
6	Non Patent Literature	NPL-59_Exhibit_B-3_-_387_Patent_-_Hughes.pdf	1239982	no	85
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Warnings:					
Information:					
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Warnings:					
Information:					
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Warnings:					
Information:					

9	Non Patent Literature	NPL-62_Exhibit_B-6_-_387_Patent_-_Phillips.pdf	3005009	no	125
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Warnings:					
Information:					
10	Non Patent Literature	NPL-63_Exhibit_B-7_-_387_Patent_-_Rosenberg.pdf	3060277	no	210
			f540c1b395acae6fec48109d63c74c9f959ce794		
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11	Non Patent Literature	NPL-64_Exhibit_B-8_-_387_Patent_-_Ryu.pdf	2644994	no	101
			aebd33ead9bca34db7ae9cbc853d25cad58aa9ca		
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12	Non Patent Literature	NPL-65_Exhibit_B-9_-_387_Patent_-_Salmre.pdf	1980454	no	77
			f6feda064c4fe8d6b818bf02d8df7024a404c9d9		
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13	Non Patent Literature	NPL-66_Exhibit_B-10_-_387_Patent_-_Yamazaki.pdf	1987172	no	88
			7113e96dfd6a78cdd35adca431b6197c5b04fb48		
Warnings:					
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14	Non Patent Literature	NPL-67_Exhibit_B-11_-_387_Patent_-_Marmasse.pdf	2126910	no	126
			d1cbe3b4c37652ba3848c90ec5baee1e09b373df		
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Information:					
15	Non Patent Literature	NPL-68_Exhibit_B-12_-_387_Patent_-_Parsons.pdf	1897759	no	108
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Information:					

16	Non Patent Literature	NPL-69_Exhibit_B-13_-_387_Patent_-_Ranganathan.pdf	1062915	no	85
			2705f449091fac818953b25a91bcad5beee4c025		
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17	Non Patent Literature	NPL-70_Exhibit_B-14_-_387_Patent_-_Sohn.pdf	1580646	no	91
			768eff86d4f13b3c1e04f39ac54760a22ba2fc83		
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18	Non Patent Literature	NPL-71_Exhibit_B-15_-_387_Patent_-_Android_2007-2008.pdf	1728802	no	163
			ec628364f029f0167a50072a9551d91e93625eb1		
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19	Non Patent Literature	NPL-72_Exhibit_B-16_-_387_Patent_-_JSR_179.pdf	7505955	no	172
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20	Non Patent Literature	NPL-73_Exhibit_B-17_-_387_Patent_-_OTDP_over_418_Patent.pdf	348977	no	47
			1b2b29b529d43c28b39c0177a2b70756a8fb5e5b		
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Information:					
21	Non Patent Literature	NPL-74_Exhibit_B-18_-_387_Patent_-_Subject_Matter_Eligibility_Contentions.pdf	514499	no	50
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22	Non Patent Literature	NPL-75_Exhibit_C-1_-_447_Patent_-_Chmaytelli.pdf	1037321	no	130
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Information:					

23	Non Patent Literature	NPL-76_Exhibit_C-2_-_447_Patent_-_Guido.pdf	779933	no	115
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24	Non Patent Literature	NPL-77_Exhibit_C-3_-_447_Patent_-_Hughes.pdf	1311312	no	139
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Information:					
25	Non Patent Literature	NPL-78_Exhibit_C-4_-_447_Patent_-_Nelissen.pdf	3142855	no	201
			ed30f66df7eb99c1303869cdc7473b3b9052dcfe		
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Information:					
26	Non Patent Literature	NPL-79_Exhibit_C-5_-_447_Patent_-_Petersen.pdf	2196202	no	171
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Information:					
27	Non Patent Literature	NPL-80_Exhibit_C-6_-_447_Patent_-_Phillips.pdf	3055514	no	163
			25bdeedf7ae3b6dcc7edf59678cab0499914646f6		
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Information:					
28	Non Patent Literature	NPL-81_Exhibit_C-7_-_447_Patent_-_Rosenberg.pdf	2904619	no	261
			c1ab951894542365e4be1a248ec85b50608d71cf		
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Information:					
29	Non Patent Literature	NPL-82_Exhibit_C-8_-_447_Patent_-_Ryu.pdf	2830057	no	142
			e5f8d627f38c82de3e3d8b2945fac23870d6aa72		
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Information:					

30	Non Patent Literature	NPL-83_Exhibit_C-9_- _447_Patent_- _Salmre.pdf	2182570	no	121
			3c8840325ab6fc126220dd3754e11fa9b79d0f1d		
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31	Non Patent Literature	NPL-84_Exhibit_C-10_- _447_Patent_- _Yamazaki.pdf	2280897	no	145
			921040e08ebe9f58dc2871291c16bed01472c304		
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Information:					
32	Non Patent Literature	NPL-85_Exhibit_C-11_- _447_Patent_- _Marmasse.pdf	2129950	no	165
			e38e496d471b33a9764723f2e8f391ed2486abd0		
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33	Non Patent Literature	NPL-86_Exhibit_C-12_- _447_Patent_- _Parsons.pdf	1962694	no	146
			46a0be614cd0d37148dce303294b8634f4544af8		
Warnings:					
Information:					
34	Non Patent Literature	NPL-87_Exhibit_C-13_- _447_Patent_- _Ranganathan. pdf	1444328	no	126
			f56fa4304ecb8c112845f388f1f832bdb27a2c8e		
Warnings:					
Information:					
35	Non Patent Literature	NPL-88_Exhibit_C-14_- _447_Patent_- _Sohn.pdf	1502691	no	132
			3d10c3001a9615f7cfee88e491f2c9500c501f92		
Warnings:					
Information:					
36	Non Patent Literature	NPL-89_Exhibit_C-15_- _447_Patent_- _Android_2007-2008.pdf	1945498	no	218
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Warnings:					
Information:					

37	Non Patent Literature	NPL-90_Exhibit_C-16_-_447_Patent_-_J2ME.pdf	5289720 cacb04ab694e0967f045e5c37401f030d82f2e01	no	193
Warnings:					
Information:					
38	Non Patent Literature	NPL-91_Exhibit_C-17_-_447_Patent_-_OTDP_over_387_Patent.pdf	424685 23885013301c3edf8cdf98962f162bafedf8d8f1	no	90
Warnings:					
Information:					
39	Non Patent Literature	NPL-92_Exhibit_C-18_-_447_Patent_-_Subject_Matter_Eligibility_Conventions.pdf	834746 c4e0e34b3ac5462804c82d6e1e36e6efe86b7e02	no	108
Warnings:					
Information:					
Total Files Size (in bytes):			85039062		
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		17863208
	Filing Date		2022-07-12
	First Named Inventor	Hardin, Ryan	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		0075652.00009

U.S.PATENTS						
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	10602307	B2	2020-03-24	Phillips et al.	
	2	10667080	B2	2020-05-26	Phillips et al.	
	3	10708712	B2	2020-07-07	Phillips et al.	
	4	10721587	B2	2020-07-21	Phillips et al.	
	5	10728699	B2	2020-07-28	Phillips et al.	
	6	10728698	B2	2020-07-28	Phillips et al.	
	7	10728697	B2	2020-07-28	Phillips et al.	
	8	11044575	B2	2021-06-22	Phillips et al.	

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Examiner Name		
Attorney Docket Number		0075652.00009

	9	11070936	B2	2021-07-20	Phillips et al.	
	10	7577522	B2	2009-08-18	Rosenberg	
	11	8868581	B2	2014-10-21	Ryu et al.	
	12	8750101	B2	2014-06-10	Oh et al.	
	13	8761714	B2	2014-06-24	Son et al.	
	14	8868581	B2	2014-10-21	Ryu et al.	
	15	10691677	B2	2020-06-23	Ryu et al.	
	16	8165079	B2	2012-04-24	Lee et al.	
	17	7627425	B2	2009-12-01	Salmre et al.	
	18	7519470	B2	2009-04-14	Brasche et al.	
	19	7627425	B2	2009-12-01	Salmre et al.	

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Attorney Docket Number		0075652.00009

	20	9128956	B2	2015-09-08	Salmre et al.	
	21	7054649	B2	2006-05-30	Yamazaki et al.	

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U.S.PATENT APPLICATION PUBLICATIONS

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	20120129553	A1	2012-05-24	Phillips et al.	
	2	20120126974	A1	2012-05-24	Phillips et al.	
	3	20150065177	A1	2015-03-05	Phillips et al.	
	4	20150148078	A1	2015-05-28	Phillips et al.	
	5	20150163632	A1	2015-06-11	Phillips et al.	
	6	20180124564	A1	2018-05-03	Phillips et al.	
	7	20190373406	A1	2019-12-05	Phillips et al.	

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Examiner Name		
Attorney Docket Number	0075652.00009	

8	20190373402	A1	2019-12-05	Phillips et al.	
9	20190380002	A1	2019-12-12	Phillips et al.	
10	20190380001	A1	2019-12-12	Phillips et al.	
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12	20200112825	A1	2020-04-09	Phillips et al.	
13	20200112824	A1	2020-04-09	Phillips et al.	
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15	20200112822	A1	2020-04-09	Phillips et al.	
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17	20200120442	A1	2020-04-16	Phillips et al.	
18	20070129888	A1	2007-06-07	Rosenberg	

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	19	20090157632	A1	2009-06-18	Ryu et al.	
	20	20090191860	A1	2009-07-30	Oh et al.	
	21	20090186595	A1	2009-07-23	Son et al.	
	22	20090157632	A1	2009-06-18	Ryu et al.	
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	25	20060116817	A1	2006-06-01	Salmre et al.	
	26	20070219708	A1	2007-09-20	Brasche et al.	
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	28	20100042320	A1	2010-02-18	Salmre et al.	
	29	20150382141	A1	2015-12-31	Salmre et al.	

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	Filing Date		2022-07-12	
	First Named Inventor	Hardin, Ryan		
	Art Unit			
	Examiner Name			
	Attorney Docket Number		0075652.00009	

30	20040097244	A1	2004-05-20	Yamazaki et al.	
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FOREIGN PATENT DOCUMENTS

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	1							☐

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NON-PATENT LITERATURE DOCUMENTS

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***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.

**INFORMATION DISCLOSURE
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(Not for submission under 37 CFR 1.99)

Application Number	17863208
Filing Date	2022-07-12
First Named Inventor	Hardin, Ryan
Art Unit	
Examiner Name	
Attorney Docket Number	0075652.00009

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	/Ryan J. Hardin/	Date (YYYY-MM-DD)	2022-07-21
Name/Print	Ryan J. Hardin	Registration Number	

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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(19)대한민국특허청(KR)
(12) 공개특허공보(A)

(51) . Int. Cl.⁷
H04Q 7/24

(11) 공개번호 10- 2004- 0021267
(43) 공개일자 2004년03월10일

(21) 출원번호 10- 2002- 0052869
(22) 출원일자 2002년09월03일

(71) 출원인 보라테크 주식회사
서울특별시 강남구 삼성동 129- 18 우원빌딩 4층

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광주광역시 동구 소태동 656- 54층

(74) 대리인 특허법인아주

심사청구 : 없음

(54) 휴대폰을 이용한 목적물 접근 알림 시스템 및 그 제어방법

요약

본 발명은 휴대폰을 이용한 목적물 접근 알림 시스템 및 그 제어방법에 관한 것으로서, GPS 모듈을 내장한 적은 저장 공간을 갖는 휴대폰에 다양한 목적물들의 위치정보 콘텐츠를 제공하는 서버로부터 해당 목적물들의 위치정보만을 다운로드받아 저장한 후 GPS 모듈을 통해 현재의 위치정보를 파악하여 해당 목적물에 근접할 경우 사용자에게 이를 알려 해당 목적물의 위치를 용이하게 파악할 수 있는 이점이 있다.

도면도

도 4

색인어

휴대폰, GPS, 근접알림, 콘텐츠, 현재위치, 목적물위치

명세서

도면의 간단한 설명

도 1은 종래의 휴대폰을 이용한 네비게이션 시스템을 나타낸 구성도이다.

도 2는 종래의 휴대폰을 이용한 네비게이션 시스템의 작동방법을 설명하기 위한 흐름도이다.

도 3은 본 발명에 의한 휴대폰을 이용한 목적물 접근 알림 시스템을 간략하게 나타낸 블록구성도이다.

도 4는 본 발명에 의한 휴대폰을 이용한 목적물 접근 알림 시스템의 제어방법을 설명하기 위한 흐름도이다.

도 5는 본 발명에 의한 휴대폰을 이용한 목적물 접근 알림 시스템의 사용상태를 나타낸 예시도이다.

- 도면의 주요부분에 대한 부호의 설명 -

10 : GPS 수신기 20 : 네비게이션부
 30 : 휴대폰 장착부 40, 70 : 휴대폰
 50 : 무선통신망 60 : 서비스센터
 72 : GPS 수신모듈 74 : 표시부
 76 : 휴대폰 제어모듈 78 : 콘텐츠 저장부
 80 : 콘텐츠 제공서버

발명의 상세한 설명

발명의 목적

발명이 속하는 기술 및 그 분야의 종래기술

본 발명은 휴대폰을 이용한 목적물 접근 알림 시스템 및 그 제어방법에 관한 것으로서, 보다 상세하게는 GPS 모듈을 내장한 적은 저장공간을 갖는 휴대폰에 다양한 목적물들의 위치정보 콘텐츠를 제공하는 서버로부터 해당 목적물들의 위치정보만을 다운로드받아 저장한 후 GPS 모듈을 통해 현재의 위치정보를 파악하여 해당 목적물에 근접할 경우 사용자에게 이를 알려 해당 목적물의 위치를 용이하게 파악할 수 있도록 한 휴대폰을 이용한 목적물 접근 알림 시스템 및 그 제어방법에 관한 것이다.

GPS (Global Positioning System : 위성 항법 시스템)은 위치 및 시각정보를 찾는 여러 방법들 중 가장 각광을 받고 있는 기술로 지구 궤도 상에 떠있는 인공위성을 이용하여 언제, 어디서나, 날씨 등에 상관없이 정확한 위치와 시각을 알려 주는 시스템이다.

이러한 GPS 기술을 적용한 기술로써 자동차에 부착하여 가고자 하는 곳의 위치를 찾아가는 차량항법 시스템(car Navigation system)이 있다.

이와 같은 차량항법 시스템은 운전자에게 디스플레이 스크린과 음성을 통해 방향을 가르쳐주는 자동차용 GPS 기술로써 방대한 지리정보시스템(GIS: Geographic Information System)과 결합하여 대중 교통 체계, 배달 트럭 그리고 퀵 서비스 등 원활한 육상 운송, 운항을 위해서 이미 상용화되어 사용되고 있다.

한편, PDA(Personal Digital Assistant : 휴대정보단말기) 등의 모바일장치(Mobile Device) 에도 GPS가 장착되어 지도와 함께 자신의 위치를 보여주고 근처의 여러 교통, 쇼핑, 식당 등의 정보가 제공되는 단말기용 GPS 기술이 적용되고 있다.

또한, 차량에는 통신(Telecommunication)과 정보과학(Informatics)을 합친 합성어인 텔레매틱스(Telematics) 장치가 장착되는데 이는 무선 이동통신과 위성항법시스템(GPS) 기술, 지리정보시스템(GIS) - 콜센터 기술 등을 자동차에 결합시켜 운전자에게 실시간 교통 및 생활 정보와 응급상황 대체방법, 원격차량진단, 차량사고, 도난방지, 운전경로안내 하고, 차내 컨트롤, 오디오시스템, 디스플레이 등과 결합하여 모바일 오피스의 개념으로 발전하고 있다.

그러나, 위와 같은 서비스를 제공받기 위해서는 자동차에 무선 이동통신과 위성항법시스템(GPS) 기술, 지리정보시스템(GIS)을 지원하기 위한 고가의 텔레매틱스 장치를 설치해야만 제공받을 수 있는 문제점이 있다.

따라서, 현재 대부분의 운전자가 소지하고 있는 휴대폰을 이용하여 실시간 교통 및 생활 정보와 운전경로를 제공받기 위해서는 핸드프리에 GPS를 장착하여 차량의 위치를 파악한 후 휴대폰을 통해 인터넷에 접속함으로써 위와 같은 각종 정보를 제공받을 수 있다.

도 1은 종래의 휴대폰을 이용한 네비게이션 시스템을 나타낸 구성도이다.

무선통신망(50)을 통해 무선통신을 하기 위한 휴대폰(40)과, 무선통신망(50)에 연결되어 실시간으로 교통정보를 분석하고 최적경로를 계산하는 서비스센터(60)와, 위성으로부터 현재의 위치정보를 파악하기 위한 GPS 수신기(10)와,

방향센서(22)와 가속도센서(24)를 구비하고 GPS 수신기(10)로부터 파악된 위치정보를 저장할 뿐만 아니라 휴대폰(40)을 통해 서비스센터(60)에 접속하여 위치정보의 송신 및 각종 정보를 수신을 제어하며 휴대폰(40)을 통해 결과를 출력하도록 하는 네비게이션부(20)와, 휴대폰(40)을 장착하고 전원을 공급하기 위한 휴대폰장착부(30)로 이루어진다.

이때 GPS 수신기(10)와 네비게이션부(20)와 휴대폰장착부(30)는 차량에 장착되는 핸드프리 타입으로 형성되어 휴대폰(40)과 분리되어 형성된다.

이와 같이 이루어진 종래의 휴대폰을 이용한 네비게이션 시스템의 작동을 설명하면 도 2에 도시된 종래의 휴대폰을 이용한 네비게이션 시스템의 작동방법을 설명하기 위한 흐름도를 참조하여 설명한다.

먼저, 휴대폰(40)을 이용하여 무선통신망(50)을 통해 서비스센터(60)로부터 작동프로그램을 다운로드 받은다음 GPS 수신기(10)를 통해 현재 위치정보를 파악한 후 서비스센터(60)에 등록한다(S10).

그런다음 자신이 가고자 하는 목적지를 입력한다(S12). 그러면 서비스센터(60)에서 현재의 차량위치와 입력된 목적지에 따라 실시간으로 분석된 교통정보와 더불어 최적경로를 계산한다(S14).

그런다음 분석된 데이터를 휴대폰(40)을 통해 전송한다(S16).

그러면 네비게이션부(20)에서 휴대폰(40)을 통해 전송받은 데이터와 내부의 방향센서(22)와 가속도센서(24)를 통해 차량의 주행상태에 따라 휴대폰을 통해 길안내를 행하게 된다(S18).

위와 같은 방식은 차량 항법시스템이 텔레메틱스 장치와 같이 방대한 지리정보를 휴대폰에 내장할 수 없기 때문에 휴대폰을 통해 무선통신망을 통해 서비스센터에 계속해서 접속하여 핸드프리의 GPS 수신기로부터 파악된 위치정보 및 목적지 등을 서비스센터로 송신하면 서비스센터에서 실시간으로 분석된 교통정보나 계산된 최적경로의 데이터만을 전송받아 휴대폰에 표시되도록 작동된다.

따라서, 용량이 적은 메모리를 갖는 휴대폰을 이용해서도 실시간으로 교통정보를 제공받을 수 있을 뿐만 아니라 최적 경로계산 등을 수행할 수 있게 된다.

그러나, 위와 같이 서비스센터를 경유하여 서비스를 제공받을 경우 서비스를 제공받는 동안 계속해서 휴대폰을 통해 무선통신을 수행해야만 하기 때문에 통신요금의 부담이 가중될 뿐만 아니라 무선통신이 원활하지 않은 지역에서는 서비스를 제공받을 수 없는 문제점이 있다.

또한, 위와 같은 서비스를 제공받기 위해서는 별도로 GPS 수신기 및 네비게이션부와 휴대폰장착부가 설치된 핸드프리를 구입하여 설치해야만 하기 때문에 별도의 설치비용이 소요되는 문제점이 있다.

발명의 이루고자 하는 기술적 과제

본 발명은 상기와 같은 문제점을 해결하기 위해 창작된 것으로서, 본 발명의 목적은 GPS 모듈을 내장한 적은 저장공간을 갖는 휴대폰에 다양한 목적물들의 위치정보 콘텐츠를 제공하는 서버로부터 해당 목적물들의 위치정보만을 다운로드받아 저장한 후 GPS 모듈을 통해 현재의 위치정보를 파악하여 해당 목적물에 근접할 경우 사용자에게 이를 알려 해당 목적물의 위치를 용이하게 파악할 수 있도록 한 휴대폰을 이용한 목적물 접근 알림 시스템 및 그 제어방법을 제공함에 있다.

발명의 구성 및 작용

상기와 같은 목적을 실현하기 위한 본 발명에 의한 휴대폰을 이용한 목적물 접근 알림 시스템은 무선통신망을 통해 무선통신을 하기 위한 휴대폰과, 무선통신망에 연결되어 목적물에 대한 위치정보 콘텐츠를 제공하기 위한 콘텐츠 제공서버와, 상기 휴대폰에 내장되어 위성으로부터 현재의 위치정보를 파악하기 위한 GPS 수신모듈과, 상기 휴대폰내에 위치하여 콘텐츠 제공서버로부터 다운로드받은 콘텐츠를 저장하기 위한 콘텐츠 저장부로 이루어져, 휴대폰의 휴대폰 제어모듈에 의해 콘텐츠 제공서버와 연결시켜 콘텐츠 저장부에 콘텐츠를 다운로드받도록 할 뿐만 아니라 콘텐츠 저장부에 저장된 콘텐츠를 실행시켜 GPS 수신모듈로부터 파악된 위치정보와 다운로드받은 목적물에 대한 위치정보를 비교하여 목적물의 근접상태를 휴대폰에 표시하는 것을 특징으로 한다.

또한, 본 발명에 의한 휴대폰을 이용한 목적물 접근 알림 시스템의 제어방법은 휴대폰을 통해 콘텐츠 제공서버에 접속하는 단계와, 콘텐츠 제공서버에 접속된 후 휴대폰 기종정보 및 현재 콘텐츠 저장부의 가용메모리 상황이 전달되는 단계와, 전달받은 휴대폰 기종에 따른 콘텐츠 제공서버에서 서비스하는 목적물 항목의 선택이 이루어졌는가 판단하는 단계와, 목적물 항목이 선택되었을 경우 선택된 항목의 크기와 휴대폰의 콘텐츠 저장부의 가용메모리 크기를 비교하는 단계와, 선택된 항목의 크기가 콘텐츠 저장부의 가용메모리 크기보다 클 경우에는 선택불가를 통지하고 목적물 항목의 선택을 판단하는 단계로 리턴되고 작을 경우에는 선택항목의 위치정보와 처리루틴을 콘텐츠 저장부로 다운로드하는 단계와, 다운로드를 완료한 후 콘텐츠 제공서버와 접속을 해제하는 단계와, 접속이 해제된 상태에서 콘텐츠 저장부에 저장된 처리루틴이 실행되었는가 판단하는 단계와, 처리루틴이 실행될 경우 GPS 수신모듈로부터 현재 위치를 파악하는 단계와, 현재 위치를 파악한 후 콘텐츠 저장부에 저장된 목적물의 위치정보와 파악된 현재 위치가 일정거리 이내에 있는가 판단하는 단계와, 목적물과 일정거리 이내에 있을 경우 근접상태를 알리는 단계로 이루어진 것을 특징으로 한다.

위와 같이 이루어진 본 발명은 GPS 수신모듈이 내장된 휴대폰을 통해 콘텐츠 제공서버에 접속하여 휴대폰내의 콘텐츠 저장부의 가용 메모리 크기 범위내에서 목적물에 대한 위치정보와 근접상태를 알리기 위한 처리루틴을 다운로드 받아 저장한 상태에서 오프라인으로 GPS 수신모듈을 통해 자신의 위치를 파악하여 다운로드받은 목적물의 위치정보와 비교함으로써 목적물의 근접상태를 알리도록 작동된다.

이하, 본 발명의 바람직한 실시예를 첨부된 도면을 참조하여 설명한다. 또한 본 실시예는 본 발명의 권리범위를 한정하는 것은 아니고, 단지 예시로 제시된 것이며 종래 구성과 동일한 부분은 동일한 부호 및 명칭을 사용한다.

도 3은 본 발명에 의한 휴대폰을 이용한 목적물 접근 알림 시스템을 간략하게 나타낸 블록구성도이다.

여기에 도시된 바와 같이 무선통신망(50)을 통해 무선통신을 하기 위한 휴대폰(70)과, 무선통신망(50)에 연결되어 목적물에 대한 위치정보 콘텐츠를 제공하기 위한 콘텐츠 제공서버(80)와, 상기 휴대폰(70)에 내장되어 위성으로부터 현재의 위치정보를 파악하기 위한 GPS 수신모듈(72)과, 상기 휴대폰(70)내에 위치하여 콘텐츠 제공서버(80)로부터 다운로드받은 콘텐츠를 저장하기 위한 콘텐츠 저장부(78)로 이루어진다.

이와 같이 사용자는 휴대폰(70)만 구비함으로써 본 발명에 의한 목적물 접근 알림 시스템을 구성할 수 있다.

따라서, 휴대폰(70)의 휴대폰 제어모듈(76)에 의해 콘텐츠 제공서버(80)와 연결시켜 콘텐츠 저장부(78)에 콘텐츠를 다운로드받도록 할 뿐만 아니라 콘텐츠 저장부(78)에 저장된 콘텐츠를 실행시켜 GPS 수신모듈(72)로부터 파악된 위치정보와 다운로드받은 목적물에 대한 위치정보를 비교하여 목적물의 근접상태를 휴대폰(70)의 표시부(74)에 표시하도록 한다.

위와 같이 이루어진 본 발명에 의한 휴대폰을 이용한 목적물 접근 알림 시스템의 제어방법을 도 4에 도시된 흐름도를 참조하여 설명하면 다음과 같다.

GPS 수신모듈(72)이 내장된 휴대폰(70)을 통해 무선통신망(50)을 경유해서 콘텐츠 제공서버(80)에 접속한다(S20).

이렇게 콘텐츠 제공서버(80)에 접속한 후 휴대폰 기종정보 및 현재 콘텐츠 저장부(78)의 가용메모리 상황을 콘텐츠 제공서버(80)로 전달한다(S22).

이후 콘텐츠 제공서버(80)에서 휴대폰(70)의 기종에 따라 서비스하는 콘텐츠들의 항목을 표시하게 된다. 즉, 위치정보를 제공할 주유소, 가스충전소 등의 목적물 항목이 표시될 때 사용자가 제공받을 목적물의 항목을 선택했는가 판단한다(S24).

따라서, 목적물 항목이 선택되었을 경우에는 선택된 항목의 용량과 휴대폰(70)의 콘텐츠 저장부(78)의 가용메모리 용량을 서로 비교한다(S26).

그래서, 서비스받을 목적물 항목의 크기를 비교한 결과 선택된 항목의 크기가 콘텐츠 저장부(78)의 가용메모리 크기보다 클 경우에는 선택불가를 통지하고 다른 목적물 항목을 선택할 수 있도록 서비스하는 목적물 항목을 표시하고 사용자가 목적물 항목을 다시 선택하도록 한다(S28).

그러나, 서비스받을 목적물 항목의 크기가 휴대폰(70)의 콘텐츠 저장부(78)의 가용 메모리 크기보다 작을 경우에는 선택항목의 위치정보와 처리루틴을 콘텐츠 저장부(78)로 다운로드받게 된다(S30).

이때 휴대폰(70)의 콘텐츠 저장부(78)의 가용 메모리 크기에 여유가 있을 경우에는 여러개의 콘텐츠를 선택하여 다운로드받을 수 있다. 그러나, 콘텐츠 저장부(78)의 가용 메모리 크기에 여유가 없을 경우에는 기존에 다운로드받은 컨

텐츠를 지워서 가용 메모리 크기를 확보한 후 다운로드 받아야만 한다.

이와 같이 서비스받을 컨텐츠를 다운로드받은 후에는 컨텐츠 제공서버(80)와의 접속을 해제하게 된다(S32).

본 발명에서는 컨텐츠 제공서버(80)에 계속해서 접속된 상태에서 서비스되는 것이 아니라 오프라인에서 휴대폰(70)의 컨텐츠 저장부(78)에 다운로드받은 위치정보와 프로그램을 통해 서비스되는 것이기 때문에 컨텐츠를 다운로드받기 위한 목적으로만 컨텐츠 제공서버(80)에 접속되고 그 외에는 접속되지 않게 되어 통신요금을 절감할 수 있게 된다.

이와 같이 컨텐츠 제공서버(80)와 접속이 해제된 상태에서 컨텐츠 저장부(78)에 저장된 컨텐츠 중에서 사용자가 서비스받고자 하는 목적물의 접근을 파악하기 위한 해당 처리루틴을 실행시키게 된다.

그러면, 휴대폰 제어모듈(76)에서 처리루틴의 실행여부를 판단한 후(S34) 실행되면 프로그램에 따라 GPS 수신모듈(72)을 통해 현재위치를 파악한다(S36).

그런다음 GPS 수신모듈(72)에 의해 파악된 현재위치와 실행된 컨텐츠의 목적물에 해당하는 위치정보와 비교하여 일정거리 이내에 위치하는가 판단한다(S38).

이렇게 판단한 결과 현재위치가 목적물과 일정거리 이내에 있을 경우 근접상태를 알리게 된다(S40).

도 5는 본 발명에 의한 휴대폰을 이용한 목적물 접근 알림 시스템의 사용상태를 나타낸 예시도이다.

여기에 나타난 바와 같이 목적물이 주유소일 경우 휴대폰(70)의 표시부(74)에 동서남북(E,W,S,N)의 방위표시를 하고, 중심의 현재위치를 기준으로 일정거리를 나타내는 동심원을 그린 상태에서 동심원이 나타난 일정거리 이내에 주유소가 있을 경우 주유소의 위치를 점으로 표시한 상태이다.

따라서, 이 표시부(74)를 확인함으로써 주유소가 북동쪽으로 약 300M 떨어진 지점에 하나 있고, 남동동쪽으로 약 190M 떨어진 지점에 또 하나 있으며, 남남서쪽으로 260M 떨어진 지점에 다른 하나가 있는 것을 확인할 수 있다.

한편, 20M 이내의 동심원에 목적물이 위치할 경우에는 경보음을 울리도록 하여 목적물에 최대한으로 접근되어 있음을 알 수 있도록 할 수도 있다.

발명의 효과

상기한 바와 같이 본 발명은 GPS 모듈을 내장한 적은 저장공간을 갖는 휴대폰에 다양한 목적물들의 위치정보 컨텐츠를 제공하는 서버로부터 해당 목적물들의 위치정보만을 다운로드받아 저장한 후 GPS 모듈을 통해 현재의 위치정보를 파악하여 해당 목적물에 근접할 경우 사용자에게 이를 알려 해당 목적물의 위치를 용이하게 파악할 수 있는 이점이 있다.

또한, 목적물의 위치를 파악하기 위해 별도의 장치를 장착하지 않고 GPS 모듈이 내장된 휴대폰만으로서 서비스를 제공할 수 있는 이점이 있다.

또한, 목적물의 위치정보만을 다운로드받아 오프라인에서 서비스함으로써 서비스받는 동안 통신요금이 과금되지 않아 통신요금의 부담을 줄일 수 있는 이점이 있다.

(S7) 청구의 범위

청구항 1.

휴대폰을 이용한 목적물 접근 알림 시스템은 무선통신망을 통해 무선통신을 하기 위한 휴대폰과,

상기 무선통신망에 연결되어 목적물에 대한 위치정보 컨텐츠를 제공하기 위한 컨텐츠 제공서버와,

상기 휴대폰에 내장되어 위성으로부터 현재의 위치정보를 파악하기 위한 GPS 수신모듈과,

상기 휴대폰내에 위치하여 상기 컨텐츠 제공서버로부터 다운로드받은 컨텐츠를 저장하기 위한 컨텐츠 저장부로 이루어져,

상기 휴대폰의 휴대폰 제어모듈에 의해 상기 콘텐츠 제공서버와 연결시켜 상기 콘텐츠 저장부에 콘텐츠를 다운로드 받도록 할 뿐만 아니라 상기 콘텐츠 저장부에 저장된 콘텐츠를 실행시켜 상기 GPS 수신모듈로부터 파악된 위치정보와 다운로드받은 목적물에 대한 위치정보를 비교하여 그 결과를 상기 휴대폰에 표시하는 것

을 특징으로 하는 휴대폰을 이용한 목적물 접근 알림 시스템.

청구항 2.

휴대폰을 통해 콘텐츠 제공서버에 접속하는 단계와,

상기 콘텐츠 제공서버에 접속된 후 상기 휴대폰 기종정보 및 현재 콘텐츠 저장부의 가용메모리 상황이 전달되는 단계와,

상기에서 전달받은 휴대폰 기종에 따른 상기 콘텐츠 제공서버에서 서비스하는 목적물 항목의 선택이 이루어졌는가 판단하는 단계와,

상기에서 목적물 항목이 선택되었을 경우 선택된 항목의 크기와 상기 휴대폰의 콘텐츠 저장부의 가용메모리 크기를 비교하는 단계와,

상기에서 선택된 항목의 크기가 상기 콘텐츠 저장부의 가용메모리 크기보다 클 경우에는 선택불가를 통지하고 목적물 항목의 선택을 판단하는 단계로 리턴되고 작을 경우에는 선택항목의 위치정보와 처리루틴을 상기 콘텐츠 저장부로 다운로드하는 단계와,

상기에서 다운로드를 완료한 후 상기 콘텐츠 제공서버와 접속을 해제하는 단계와,

상기에서 접속이 해제된 상태에서 상기 콘텐츠 저장부에 저장된 처리루틴이 실행되었는가 판단하는 단계와,

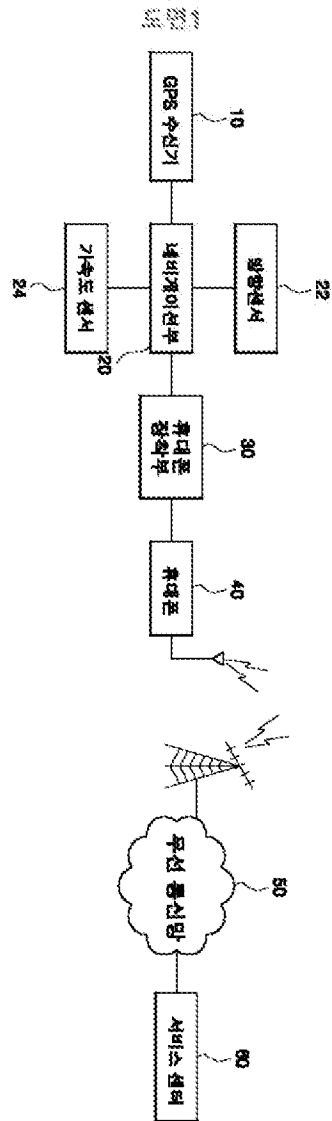
상기에서 처리루틴이 실행될 경우 상기 GPS 수신모듈로부터 현재 위치를 파악하는 단계와,

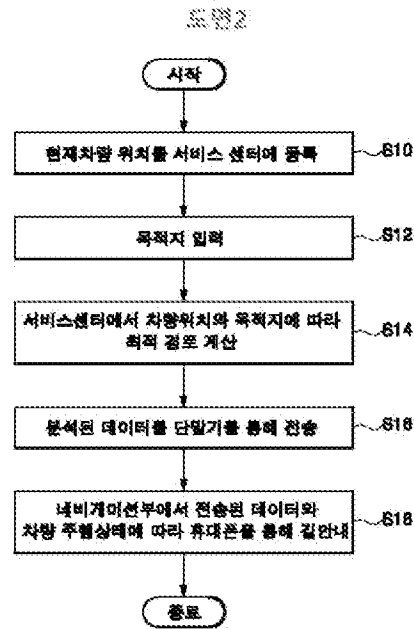
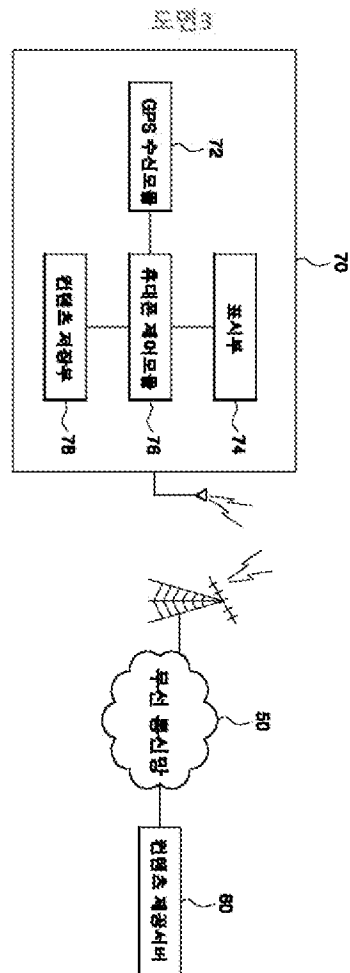
상기에서 현재 위치를 파악한 후 상기 콘텐츠 저장부에 저장된 목적물의 위치정보와 파악된 현재 위치가 일정거리 이내에 있는가 판단하는 단계와,

상기에서 목적물과 일정거리 이내에 있을 경우 근접상태를 알리는 단계

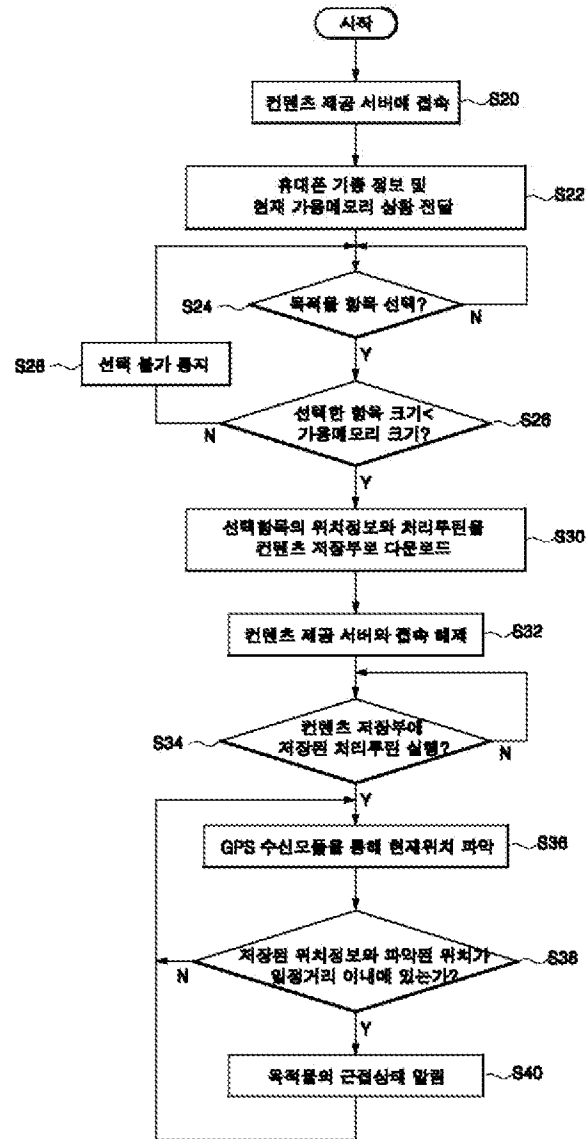
로 이루어진 것을 특징으로 하는 휴대폰을 이용한 목적물 접근 알림 시스템의 제어방법.

도면

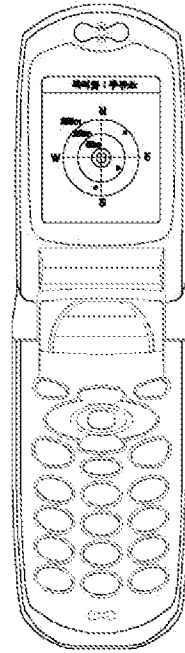




도면 4



도면5



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(54) Destination approach notification system using mobile phone and method for controlling same

Abstract

The present invention relates to a destination approach notification system using a mobile phone, and a method for controlling the same. [The present invention], by downloading and saving, on a mobile phone having a small storage space and having an integrated GPS module, from a server providing location data contents for various destinations, only location data of the destinations, then using the GPS module to determine current location data, and notifying a user when approaching a destination, provides a benefit of allowing the location of a destination to be readily identified.

Representative Drawing

FIG. 4

Index Terms

Mobile phone, GPS, proximity notification, contents, current location, destination location

Specification

Brief description of the Drawings

FIG. 1 is a block diagram illustrating a navigation system using a mobile phone of prior art.

FIG. 2 is a flow chart for explaining the method of operation of a navigation system using a mobile phone of prior art.

FIG. 3 is a block diagram roughly representing the destination approach notification system using a mobile phone according to the present invention.

FIG. 4 is a flow chart for explaining a method for controlling the destination approach notification system using a mobile phone according to the present invention.

FIG. 5 is an example drawing illustrating a usage state of the destination approach notification system using a mobile phone according to the present invention.

- Explanation of symbols for key parts of the drawings -

10 : GPS receiver	20 : Navigation unit
30 : Mobile phone mount unit	40, 70 : Mobile phone
50 : Wireless communications network	60 : Service center
72 : GPS receiving module	74 : Display unit
76 : Mobile phone control module	78 : Content storage unit

80 : Content-providing server

Detailed Description of the Invention

Purpose of the Invention

Technical Field of the Invention and Prior Art

The present invention relates to a destination approach notification system using a mobile phone, and a method for controlling the same. More specifically, the present invention relates to a destination approach notification system using a mobile phone which, by downloading and saving, on a mobile phone having a small storage space and having an integrated GPS module, from a server providing location data contents for various destinations, only location data of the destinations, then using the GPS module to determine current location data, and notifying a user when approaching a destination, allows a user to readily identify the location of a destination, and a method for controlling the same.

The GPS (Global Positioning System) is the most popular of many methods of finding location and time data. The system provides accurate position and time at any time, at any location and regardless of weather, etc. using satellites in orbit around the Earth.

A technology applying such GPS technology is a car navigation system which is mounted on a motor vehicle and followed to a desired destination.

A car navigation system is a GPS technology for motor vehicles wherein directions are given to a driver through a display screen and voice. Combined with vast geographic information systems (GIS), car navigation systems are already in commercial use for smooth operation of land transport, including mass transportation systems, delivery trucks, door-to-door deliver, and the like.

Meanwhile, mobile devices such as PDAs (Personal Digital Assistants) are also equipped with GPS. Such GPS technology for terminals display a map together with a device's own position, as well as information on various nearby transportation means, shopping facilities, restaurants and the like.

Also, on motor vehicles, telematics -- a synthesized term combining telecommunications and informatics -- devices are installed. These devices combine technologies such as wireless mobile communications, satellite navigation system (GPS) technologies, geographic information systems (GIS) and call center technologies with the motor vehicle, providing a driver with real-time traffic data, useful living information, information on how to respond to emergency situations, remote vehicle diagnostics, vehicle accident response, theft prevention, and route information. Combined with in-vehicle controls, audio systems, and displays, etc., telematics systems are evolving into a mobile office concept.

However, there is a problem that, to receive such services, a motor vehicle must be equipped with expensive telematics devices that support wireless mobile communications, satellite navigation (GPS) technology, and geographic information systems (GIS).

Accordingly, for real-time traffic information, living information and route information to be received through mobile phones which most present-day drivers possess, GPS may be installed on a hands-free system to determine a location of a motor vehicle, then [the mobile phone] may be connected to the Internet to receive the various information above.

FIG. 1 is a block diagram illustrating a navigation system using a mobile phone of prior art.

[The navigation system] comprises a mobile phone (40) for communicating wirelessly through a wireless communications network (50), a service center (60) which is connected to the wireless communications network (50) and which analyzes traffic data in real time and calculates optimized routes, a GPS receiver (10) for determining current location data from satellites, a navigation unit (20) which is equipped with a direction sensor (22) and an acceleration sensor (24), saves location data determined through the GPS receiver (10), connects the mobile phone (40) to the service center (60) to control location data transmission and receiving of various information, and causes results to be output through the mobile phone (40), and a mobile phone mount unit (30) for mounting the mobile phone (40) and supplying electrical power.

Here, the GPS receiver (10), the navigation unit (20) and the mobile phone mount unit (30) are provided separately from the mobile phone (40) as a hands-free system mounted in a motor vehicle.

In the following, the operation of a navigation system using a mobile phone of prior art is described with reference to the flow chart for explaining the method of operation of a navigation system using a mobile phone of prior art illustrated in FIG. 2.

First, using a mobile phone (40), an operating program is downloaded from a service center (60) through a wireless communications network (50), then current location data is identified through a GPS receiver (10), and registered with a service center (60) (S10).

Then, a desired destination is input (S12). Then, at a service center (60), real-time traffic information and an optimized route is calculated for the current location of the motor vehicle and the destination entered (S14).

Next, the analyzed data is received (S16) through the mobile phone (40).

After that, the navigation unit (20), using the data received through the mobile phone (40), and an internal direction sensor (22) and acceleration sensor (24), driving instructions are given through the mobile phone (S18) according to the driving state of the motor vehicle.

In the above method, the car navigation system cannot store vast geographic data such as that of a telematics device in a mobile phone, a service center is continuously connected to through a mobile phone via a wireless communications network, transmitting location data determined from a GPS receiver in the hands-free system and destination, etc., and the service center transmits data for real-time analyzed traffic data or calculated optimized route only, which is displayed on a mobile phone.

Accordingly, even when using a mobile phone having a small memory, it is possible to receive traffic information in real time, and also carry out optimized route calculation, etc.

However, in a case where a service is received via a service center as described in the above, it is necessary to carry out wireless communications through the mobile phone continuously while receiving the service, increasing telephone bill burdens, and there is the problem that such service cannot be received in areas without good wireless communications.

Further, as receiving such a service requires that a separate hands-free system having a GPS receiver, navigation unit and mobile phone mount unit must be purchased and installed, there is the problem of separate installation costs.

Problem to be Solved by the Invention

The purpose of the present invention, devised to solve the above-stated problems, is to provide a destination approach notification system using a mobile phone which, by downloading and saving, on a mobile phone having a small storage space and having an integrated GPS module, from a server providing location data contents for various destinations, only location data of the destinations, then using the GPS module to determine current location data, and notifying a user when approaching a destination, provides a benefit of allowing the location of a destination to be readily identified.

Structure and operation of the invention

To achieve the above-stated purpose, the destination approach notification system using a mobile phone according to the present invention comprises a mobile phone for communicating wirelessly through a wireless communications network, a content-providing server for connecting to the wireless communications network and providing location data contents on a destination, a GPS receiving module which is integrated into the mobile phone and which is for determining, from a satellite, current location data, and a content storage unit which is located in the mobile phone and which is for storing contents downloaded from the content-providing server, and is characterized in that [the system] is connected to a content-providing server by a mobile phone control module of a mobile phone to download contents in a content storage unit, and to execute a contents stored in the content storage unit to compare a location data received from a GPS receiving module against a downloaded destination location data to display a destination approach on the mobile phone.

Further, the method for controlling a destination approach notification system using a mobile phone according to the present invention is characterized by comprising the following: a step of accessing a content-providing server through a mobile phone, a step wherein, after accessing a content-providing server, mobile phone model information and currently available memory in a content storage unit are transmitted; a step wherein it is determined whether or not a destination item serviced by the content-providing server according to the transmitted mobile phone model has been selected; a step wherein, if a destination item has been selected, a size of the selected item is compared against the size of available memory in the content storage unit of the mobile phone; a step wherein, if the size of the selected item is larger than the size of available memory in the content storage unit of the mobile phone, an "unselectable" notification is provided and [the process] returns to the step of determining whether or not a destination item has been selected, and if the size of the selected item is smaller than the size of available memory in the content storage unit of the mobile phone, location data for the selected item and a processing routine therefor are downloaded into the content storage unit; a step of disconnecting from the contents server after completing the download, a step of, if a processing routine is carried out, determining a current location from a GPS receiving module; a step of, after identifying current location, determining whether or not a location data of a destination saved in the content storage unit and the identified current location are within a certain distance; and a step of, if within a certain distance from the destination, notifying that the destination is in proximity.

The present invention, comprised as described above, operates by connecting to a Content-providing server using a mobile phone with integrated GPS receiving module, downloading and saving a processing routine for providing notice of destination location data and proximity within the size of available memory in the content storage unit of a mobile phone, identifying own location offline

through the GPS receiving module, and comparing the same against a location data of a downloaded destination, and notifying of a proximity of a destination.

In the following, preferred embodiments of the present invention will be described with reference to the attached drawings. Further, these embodiments do not limit the scope of the present invention, but are simply provided as examples. Parts which are identical to the elements of prior art use the same symbols and names.

FIG. 3 is a block diagram roughly representing the destination approach notification system using a mobile phone according to the present invention.

As illustrated here, [the system] comprises a mobile phone (70) for communicating wirelessly through a wireless communications network (50), a content-providing server (80) which is connected to the wireless communications network (50) and which is for providing location data contents for a destination, a GPS module (72) which is integrated into the mobile phone (70) and which is for determining current location data from a satellite, and a content storage unit (78) which is located within the mobile phone (70) and which is for saving contents downloaded from the Content-providing server (80).

Thereby, a user, by having a mobile phone (70) only, is able to have the destination approach notification system according to the present invention.

Accordingly, a mobile phone control module (76) of the mobile phone (70) causes [the mobile phone] to connect to the content-providing server (80) and download contents into the content storage unit (78), as well as execute contents stored in the content storage unit (78) to compare location data received from the GPS receiving module (72) against location data for a downloaded destination to display an approaching destination on the display (74) of the mobile phone (70).

In the following, the method comprised as above for controlling the destination approach notification system using a mobile phone according to the present invention is described with reference to the flow chart illustrated in FIG. 4.

Through a mobile phone (70) with an integrated GPS receiving module (72), and via a wireless communications network (50), a Content-providing server (80) is connected to (S20).

After connecting to the content-providing server (80), a mobile phone model information and currently available memory in a content storage unit (78) are transmitted to the content-providing server (80) (S22).

Then, at the content-providing server (80), contents items which are serviced according to mobile phone (70) model are displayed. That is, when destination items such as gas stations or pumps for which location data will be provided are displayed, it is determined whether or not the user has selected a destination item to be provided (S24).

Accordingly, if a destination item has been selected, a size of the selected item is compared against the size of available memory in the content storage unit (78) of the mobile phone (70) (S26).

Then, after comparing the size of the target item to be serviced, if the size of the selected item is larger than the size of available memory in the content storage unit (78), an "unselectable" notification is provided, and the serviced destination items are displayed again so that another destination item may be selected, and the user is made to select a destination item again (S28).

However, if the size of the selected item is smaller than the size of available memory in the content storage unit of the mobile phone (70), location data for the selected item and a processing routine therefor are downloaded into the content storage unit (78) (S30).

Here, if available memory size in the content storage unit (78) of the mobile phone (70) is sufficient, multiple contents may be selected and downloaded. However, if available memory size in the content storage unit (78) is insufficient, downloaded contents must be erased to secure available memory size before downloading.

After downloading the contents to be serviced, the connection to the content-providing server (80) is disconnected (S32).

In the present invention, instead of servicing while maintaining a connection to the content-providing server (80), the service is provided offline by using a location data and program downloaded into the content storage unit (78) of the mobile phone (70). As the content-providing server (80) is accessed only for the purpose of downloading contents, and not for any other purpose, it is possible to save on a phone bill.

With the connection to the content-providing server (80) disconnected, a processing routine to determine approaching a destination among the contents saved in the content storage unit (78) for which the user wishes to receive service is carried out.

Then, the mobile phone control module (76) determines whether or not to carry out the processing routine (S34), and if [the processing routine] is carried out, then according to the program, current location is determined through the GPS receiving module (72) (S36).

Then, by comparing the current location determined by the GPS receiving module (72) and the location data corresponding to the destination of the contents carried out, it is determined whether or not [the destination] is within a certain distance (538).

If, as a result of such determination, the current location is within a certain distance from the destination, a notification is provided that the destination is near (540).

FIG. 5 is an example drawing illustrating a usage state of the destination approach notification system using a mobile phone according to the present invention.

As shown here, in a case where the destination is a gas station, east, west, north and south (E.W.S.N.) directions are displayed on a display unit (74) of the mobile phone (70), with concentric circles indicating certain distances from a current location at the center, if the gas station is within a certain distance indicated by a concentric circle, then the location of the gas station is displayed as a point.

Accordingly, in this display (74), it can be seen that there is one gas station approximately 300M to the northeast, another one approximately 190M away to the east-southeast, and yet another one at 260M to the south-southwest.

Meanwhile, in a case where a destination is located within the concentric circle for 20M, an alarm may be sounded to notify that a destination is very close.

Effects of the invention

As described in the foregoing, the present invention, by downloading and saving, on a mobile phone having a small storage space and having an integrated GPS module, from a server providing location data contents for various destinations, only location data of the destinations, then using the GPS module to determine current location data, and notifying a user when approaching an destination, provides a benefit of allowing the location of an destination to be readily identified.

A further benefit is the ability to receive a service using only a mobile phone with integrated GPS module, without having to install separate devices to determine a location of a destination.

A further benefit is that by downloading only location data of a destination and servicing offline, no communication fees are charged during the service, reducing a phone bill burden.

What is claimed is...

Claim 1.

A destination approach notification system using a mobile phone, the system comprising the following:

a mobile phone for communicating wirelessly through a wireless communications network;

a content-providing server for connecting to the wireless communications network and providing location data contents on a destination;

a GPS receiving module which is integrated into the mobile phone and which is for determining, from a satellite, current location data;

and a content storage unit which is located in the mobile phone and which is for storing contents downloaded from the Content-providing server;

characterized in that [the system] is connected to a content-providing server by a mobile phone control module of a mobile phone to download contents in a content storage unit, and to execute a contents stored in the content storage unit to compare a location data received from a GPS receiving module against a downloaded destination location data to display a destination approach on the mobile phone.

Claim 2.

A method for controlling a destination approach notification system using a mobile phone, the method comprising the following:

a step of accessing a Content-providing server through a mobile phone;

a step wherein, after accessing a Content-providing server, mobile phone model information and currently available memory in a content storage unit are transmitted;

a step wherein it is determined whether or not a destination item serviced by the Content-providing server according to the transmitted mobile phone model has been selected;

a step wherein, if a destination item has been selected, a size of the selected item is compared against the size of available memory in the content storage unit of the mobile phone;

a step wherein, if the size of the selected item is larger than the size of available memory in the content storage unit of the mobile phone, an "unselectable" notification is provided and [the process] returns to the step of determining whether or not a destination

item has been selected, and if the size of the selected item is smaller than the size of available memory in the content storage unit of the mobile phone, location data for the selected item and a processing routine therefor are downloaded into the content storage unit;

a step of disconnecting from the contents server after completing the download;

a step of, if a processing routine is carried out, determining a current location from a GPS receiving module;

a step of, after identifying current location, determining whether or not a location data of a destination saved in the content storage unit and the identified current location are within a certain distance; and

a step of, if within a certain distance from the destination, notifying that the destination is in proximity.

Drawings

FIG. 1

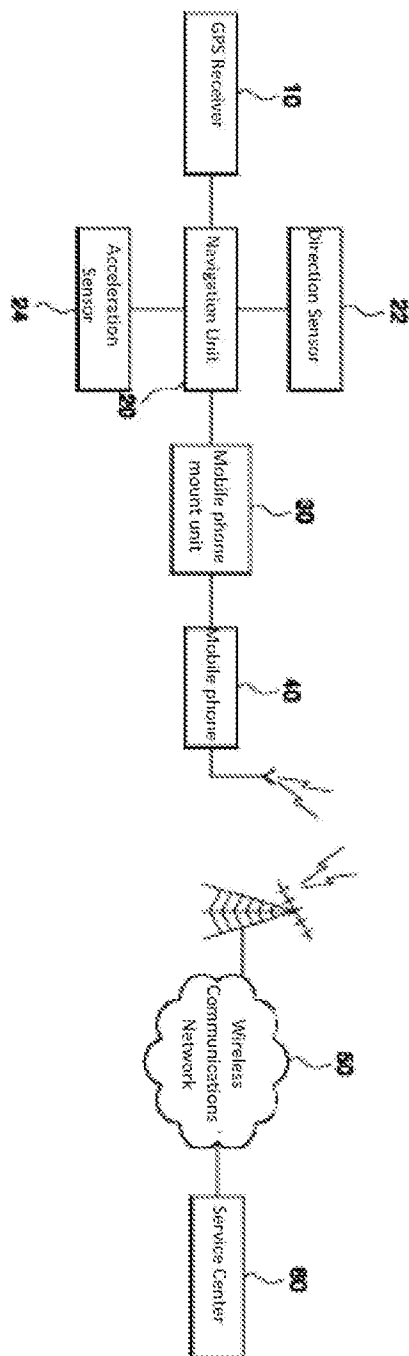


FIG. 2

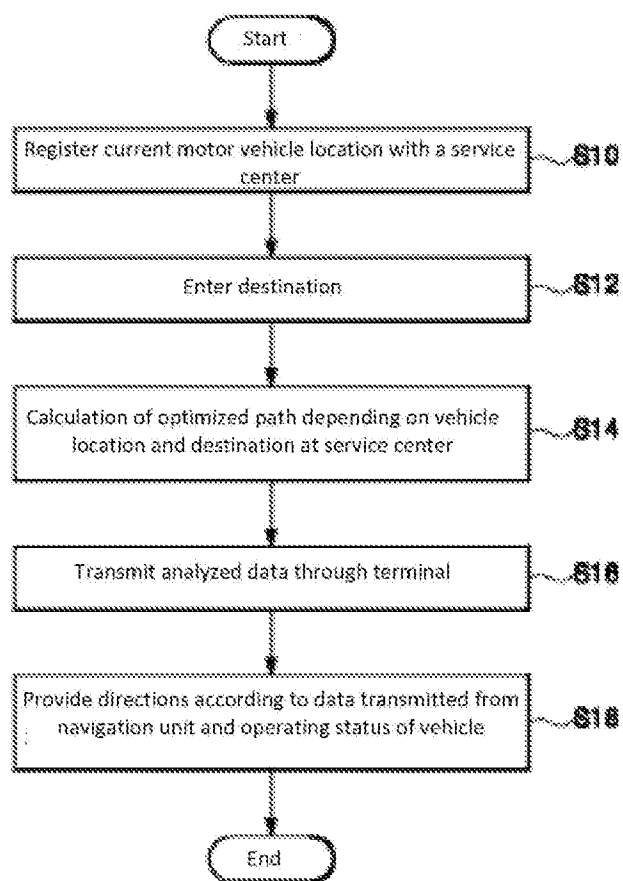


FIG. 3

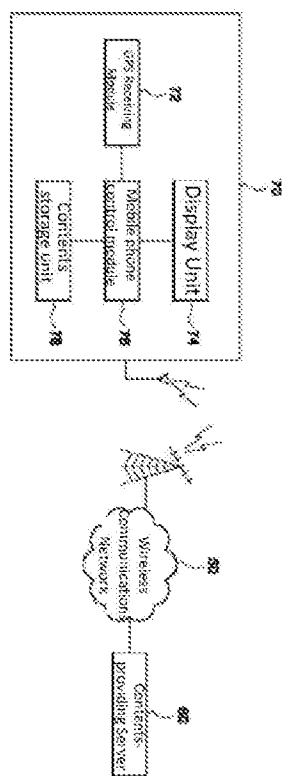


FIG. 4

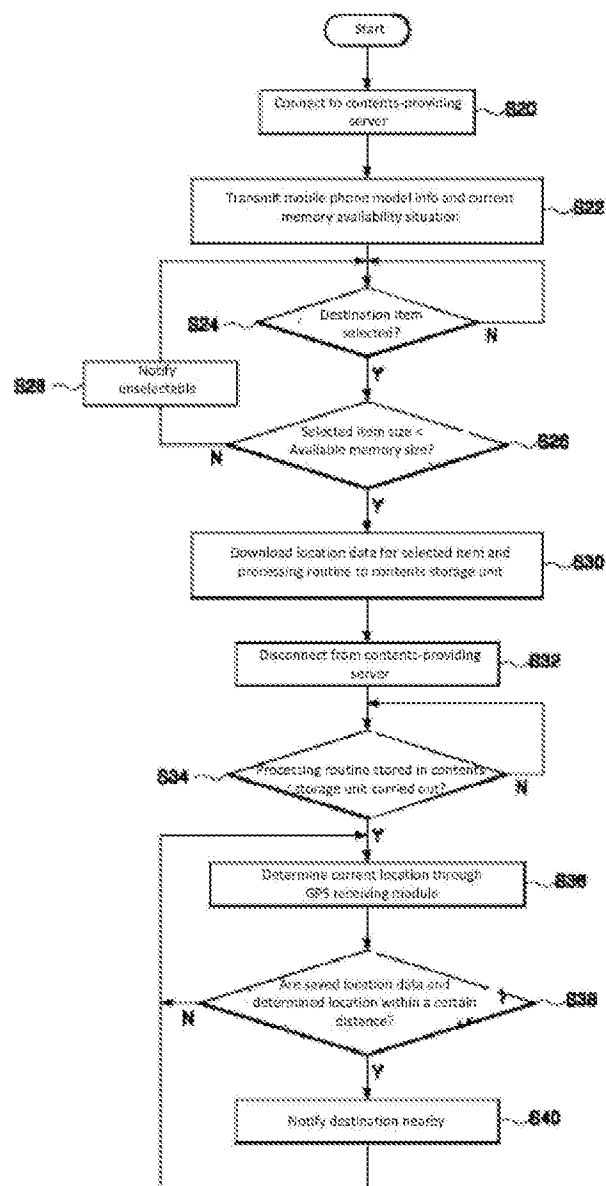


FIG. 5



	(19) 대한민국특허청(KR) (12) 공개특허공보(A)	(11) 공개번호 10-2008-0019867 (43) 공개일자 2008년03월05일
(51) Int. Cl. G06Q 30/00B0 (2006.01) (21) 출원번호 10-2006-0082322 (22) 출원일자 2006년08월29일 심사청구일자 2006년08월29일	(71) 출원인 주식회사 엘지텔레콤 서울 강남구 역삼1동 679 (72) 발명자 전영서 서울시 광진구 광장동 현대아파트 903동 1501호 (74) 대리인 특허법인무한	

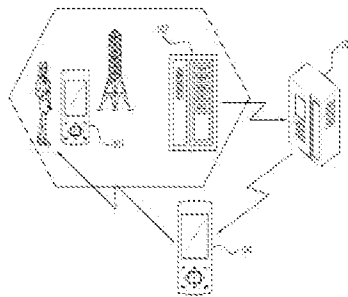
전체 청구항 수 : 총 11 항

(54) 위치 기반으로 사전 선택한 광고 콘텐츠를 제공하는 방법 및 광고 서버

(57) 요약

본 발명은 휴대 단말기의 사용자와 관련하여 광고 지역과 광고 패턴을 미리 저장하고, 상기 휴대 단말기의 위치 정보가 상기 미리 저장된 광고 지역에 진입하는지 판단하고, 상기 판단 결과에 따라 상기 휴대 단말기로 광고 콘텐츠를 제공하는 광고 콘텐츠 제공 방법 및 광고 서버에 관한 것이다. 본 발명에 따른 광고 서버에서 휴대 단말기의 위치 정보를 이용하여 광고 콘텐츠를 제공하는 방법은 적어도 하나의 휴대 단말기의 사용자 정보에 대응되는 적어도 하나의 광고 지역과 광고 패턴을 광고 패턴 데이터베이스에 유지하는 단계, 적어도 하나의 광고 콘텐츠를 광고 콘텐츠 데이터베이스에 유지하는 단계, 위치 기반 서비스 서버로부터 휴대 단말기의 위치 정보를 수신하는 단계, 상기 위치 정보에 따라 상기 광고 패턴 데이터베이스를 참조하여 상기 휴대 단말기가 해당 광고 지역에 진입하는 지를 판단하는 단계, 상기 판단 결과에 따라 상기 휴대 단말기의 사용자 정보에 대응되는 광고 패턴을 식별하는 단계, 및 상기 광고 콘텐츠 데이터베이스를 참조하여 상기 식별된 광고 패턴에 대응되는 광고 콘텐츠를 상기 휴대 단말기로 전송하는 단계를 포함하는 것을 특징으로 한다.

도면도 - 도1



특허청구의 범위

청구항 1

광고 서버에서 휴대 단말기의 위치 정보를 이용하여 광고 콘텐츠를 제공하는 방법에 있어서,
적어도 하나의 휴대 단말기의 사용자 정보에 대응되는 적어도 하나의 광고 지역과 광고 패턴을 광고 패턴 데이터베이스에 유지하는 단계;
적어도 하나의 광고 콘텐츠를 광고 콘텐츠 데이터베이스에 유지하는 단계;
위치 기반 서비스 서버로부터 휴대 단말기의 위치 정보를 수신하는 단계;
상기 위치 정보에 따라 상기 광고 패턴 데이터베이스를 참조하여 상기 휴대 단말기가 해당 광고 지역에 진입하는 지를 판단하는 단계;
상기 판단 결과에 따라 상기 휴대 단말기의 사용자 정보에 대응되는 광고 패턴을 식별하는 단계; 및
상기 광고 콘텐츠 데이터베이스를 참조하여 상기 식별된 광고 패턴에 대응되는 광고 콘텐츠를 상기 휴대 단말기로 전송하는 단계
를 포함하는 것을 특징으로 하는 광고 콘텐츠 제공 방법.

청구항 2

제1항에 있어서,
상기 광고 지역은 각 지역 기지국의 서비스 커버리지에 기초하여 결정되는 것을 특징으로 하는 광고 콘텐츠 제공 방법.

청구항 3

제1항에 있어서,
상기 광고 패턴은 광고주 정보 및 광고 송출 패턴을 포함하는 것을 특징으로 하는 광고 콘텐츠 제공 방법.

청구항 4

제3항에 있어서,
상기 광고주 정보는 광고주명, 및 광고 이용 횟수에 따른 사용자 혜택을 포함하는 것을 특징으로 하는 광고 콘텐츠 제공 방법.

청구항 5

제3항에 있어서,
상기 광고 송출 패턴은 일일 송출 횟수, 일일 송출 시간, 통화 연결음(Ring Back Tone) 설정, 발신자 정보 표시(Caller Identification Display) 설정, 문자 메시지 수신 설정, 및 멀티미디어 데이터 수신 설정 중 적어도 하나를 포함하는 것을 특징으로 하는 광고 콘텐츠 제공 방법.

청구항 6

제1항에 있어서,
상기 광고 콘텐츠는 통화 연결음, 문자 메시지, 및 멀티미디어 데이터 중 적어도 하나를 포함하는 것을 특징으로 하는 광고 콘텐츠 제공 방법.

청구항 7

제1항 내지 제6항 중 어느 한 항의 방법을 실행시키기 위한 프로그램을 기록한 컴퓨터 판독 가능한 기록 매체.

청구항 8

휴대 단말기의 위치 정보를 이용하여 광고 콘텐츠를 제공하는 광고 서버에 있어서,
 적어도 하나의 휴대 단말기의 사용자 정보에 대응되는 적어도 하나의 광고 지역과 광고 패턴을 유지하는 광고 패턴 데이터베이스;
 적어도 하나의 광고 콘텐츠를 유지하는 광고 콘텐츠 데이터베이스;
 위치 기반 서비스 서버로부터 휴대 단말기의 위치 정보를 수신하는 위치 정보 수신부;
 상기 위치 정보에 따라 상기 광고 패턴 데이터베이스를 참조하여 상기 휴대 단말기가 해당 광고 지역에 진입하는지를 판단하는 광고 지역 결정부;
 상기 판단 결과에 따라 상기 휴대 단말기의 사용자 정보에 대응되는 광고 패턴을 식별하는 광고 패턴 식별부;
 및
 상기 광고 콘텐츠 데이터베이스를 참조하여 상기 식별된 광고 패턴에 대응되는 광고 콘텐츠를 상기 휴대 단말기로 전송하는 광고 콘텐츠 전송부
 를 포함하는 것을 특징으로 하는 광고 서버.

청구항 9

제8항에 있어서,
 상기 광고 패턴은 광고주 정보 및 광고 송출 패턴을 포함하는 것을 특징으로 하는 광고 서버.

청구항 10

제9항에 있어서,
 상기 광고주 정보는 광고주명, 및 광고 이용 횟수에 따른 사용자 혜택을 포함하고,
 상기 광고 송출 패턴은 일일 송출 횟수, 일일 송출 시간, 통화 연결음(Ring Back Tone) 설정, 발신자 정보 표시(Caller Identification Display) 설정, 문자 메시지 수신 설정, 및 멀티미디어 데이터 수신 설정 중 적어도 하나를 포함하는 것을 특징으로 하는 광고 서버.

청구항 11

제8항에 있어서,
 상기 광고 콘텐츠는 통화 연결음, 문자 메시지, 및 멀티미디어 데이터 중 적어도 하나를 포함하는 것을 특징으로 하는 광고 서버.

발명 상세 설명

발명의 상세한 설명

발명의 목적

발명이 속하는 기술 및 그 분야의 종래기술

- <13> 본 발명은 휴대 단말기의 사용자와 관련하여 광고 지역과 광고 패턴을 미리 저장하고, 상기 휴대 단말기의 위치 정보가 상기 미리 저장된 광고 지역에 진입하는지 판단하고, 상기 판단 결과에 따라 상기 휴대 단말기로 광고 콘텐츠를 제공하는 광고 콘텐츠 제공 방법 및 광고 서버에 관한 것이다.
- <14> 최근, 휴대 단말기의 사용이 급증하여 이동통신사에서는 휴대 단말기 이용자의 편의를 고려한 다양한 서비스를 많이 제공하고 있다. 또한, 휴대 단말기에 디지털카메라, MP3 PLAYER, 캠코더 등의 기능을 부가함으로써 휴대 단말기 하나로 다양한 기능을 제공할 수 있게 되었다.
- <15> 이러한, 휴대 단말기의 이용성이 높아지면서 휴대 단말기를 통한 광고 서비스가 많이 제공되고 있다. 휴대 단말기를 통한 광고 서비스는 광고 내용을 휴대 단말기로 전송해주고, 휴대 단말기의 가입자가 수신된 광고를 확인하는 경우 가입자의 광고 확인을 인식하여 광고 확인에 대한 대가를 가입자에게 지불하는 방식이었다.

- <16> 그러나, 광고가 지역적으로 동일하게 전송되는 경우 지역별로 특화된 타겟 마케팅 광고를 제공할 수 없다는 문제가 있다. 타겟 마케팅 광고는 상품 구매에 직접적으로 영향을 미치는 소비자층에 중점을 두고 광고하는 방식으로 광고 효과를 극대화할 수 있다. 예를 들어, 대학로 등의 지역에는 젊은층이 주로 분포하므로 젊은층을 타겟으로한 광고를 제공하고, 회사밀집 지역에는 구매력을 보유한 사람들을 타겟으로한 광고를 제공할 수 있다.
- <17> 따라서, 지역별로 특화된 타겟 마케팅 광고를 휴대 단말기로 효과적으로 제공할 수 있는 방법이 요구되고 있는 실정이다.

발명이 이루고자 하는 기술적 과제

- <18> 본 발명은 상술한 바와 같은 종래기술의 문제점을 해결하기 위해 안출된 것으로서, 휴대 단말기의 사용자와 관련하여 광고 지역과 광고 패턴을 미리 저장하고, 상기 휴대 단말기의 위치 정보가 상기 미리 저장된 광고 지역에 진입하는지 판단하여 상기 휴대 단말기로 광고 콘텐츠를 제공함으로써, 광고 효과를 극대화할 수 있는 광고 콘텐츠 제공 방법 및 광고 서비스를 제공하는 것을 그 목적으로 한다.
- <19> 또한, 본 발명에 따른 광고 콘텐츠 제공 방법 및 광고 서비스는 휴대 단말기를 통해 광고 콘텐츠를 제공받는 지역, 횟수, 시간, 광고 콘텐츠를 제공받을 서비스, 예를 들어, 통화 연결음, 문자 메시지, 멀티미디어 데이터 등을 사용자가 직접 설정함으로써, 사용자의 사생활 보호가 가능하고 이동 패턴에 따른 광고주를 선택하여 많은 사용자 혜택을 받을 수 있는 것을 그 목적으로 한다.
- <20> 또한, 본 발명에 따른 광고 콘텐츠 제공 방법 및 광고 서비스는 휴대 단말기의 위치가 미리 설정된 광고 지역에 진입하는 경우에만 광고 콘텐츠를 제공함으로써, 지역에 특화된 타겟 광고 콘텐츠를 제공할 수 있는 것을 그 목적으로 한다.
- <21> 또한, 본 발명에 따른 광고 콘텐츠 제공 방법 및 광고 서비스는 하나의 기기국의 커버리지를 하나의 광고 지역으로 설정하여 이동통신사에서 각 기기국 영역을 광고 콘텐츠를 제공하는 영역으로 광고주에게 판매함으로써, 새로운 수익 창출 모델을 제공할 수 있는 것을 그 목적으로 한다.

발명의 구성 및 작용

- <22> 상기의 목적을 달성하고, 상술한 종래기술의 문제점을 해결하기 위하여, 본 발명의 일실시예에 따른 광고 서버에서 휴대 단말기의 위치 정보를 이용하여 광고 콘텐츠를 제공하는 방법은 적어도 하나의 휴대 단말기의 사용자 정보에 대응되는 적어도 하나의 광고 지역과 광고 패턴을 광고 패턴 데이터베이스에 유지하는 단계, 적어도 하나의 광고 콘텐츠를 광고 콘텐츠 데이터베이스에 유지하는 단계, 위치 기반 서비스 서버로부터 휴대 단말기의 위치 정보를 수신하는 단계, 상기 위치 정보에 따라 상기 광고 패턴 데이터베이스를 참조하여 상기 휴대 단말기가 해당 광고 지역에 진입하는 지를 판단하는 단계, 상기 판단 결과에 따라 상기 휴대 단말기의 사용자 정보에 대응되는 광고 패턴을 식별하는 단계, 및 상기 광고 콘텐츠 데이터베이스를 참조하여 상기 식별된 광고 패턴에 대응되는 광고 콘텐츠를 상기 휴대 단말기로 전송하는 단계를 포함하는 것을 특징으로 한다.
- <23> 또한, 본 발명의 일실시예에 따른 휴대 단말기의 위치 정보를 이용하여 광고 콘텐츠를 제공하는 광고 서비스는, 적어도 하나의 휴대 단말기의 사용자 정보에 대응되는 적어도 하나의 광고 지역과 광고 패턴을 유지하는 광고 패턴 데이터베이스, 적어도 하나의 광고 콘텐츠를 유지하는 광고 콘텐츠 데이터베이스, 위치 기반 서비스 서버로부터 휴대 단말기의 위치 정보를 수신하는 위치 정보 수신부, 상기 위치 정보에 따라 상기 광고 패턴 데이터베이스를 참조하여 상기 휴대 단말기가 해당 광고 지역에 진입하는 지를 판단하는 광고 지역 결정부, 상기 판단 결과에 따라 상기 휴대 단말기의 사용자 정보에 대응되는 광고 패턴을 식별하는 광고 패턴 식별부, 및 상기 광고 콘텐츠 데이터베이스를 참조하여 상기 식별된 광고 패턴에 대응되는 광고 콘텐츠를 상기 휴대 단말기로 전송하는 광고 콘텐츠 전송부를 포함하는 것을 특징으로 한다.
- <24> 이하에서는 첨부된 도면을 참조하여 본 발명에 따른 광고 콘텐츠 제공 방법 및 광고 서비스의 실시예를 상세히 설명한다.
- <25> 도 1은 본 발명의 일실시예에 따른 광고 콘텐츠를 제공하는 네트워크 연결을 도시한 도면이다.
- <26> 도시한 바와 같이, 휴대 단말기(101)의 사용자는 광고 서버(103)에 접속하여 자신의 사용자 정보에 대응되는 적어도 하나의 광고 지역과 광고 패턴을 설정한다. 상기 광고 지역은 광고 콘텐츠를 제공받는 지역으로, 예를 들어, 선촌, 장남, 대학로 등으로 하나 또는 복수의 지역으로 설정할 수 있다. 상기 광고 패턴은 광고주 정보 및 광고 송출 패턴을 포함하며, 사용자의 선택에 따라 광고주, 광고 송출 횟수, 광고 송출 시간, 광고 송출 서비스

형태 등을 설정할 수 있다.

- <27> 광고 서버(102)는 휴대 단말기(101)의 사용자 정보에 대응되는 적어도 하나의 광고 지역과 광고 패턴을 광고 패턴 데이터베이스에 유지하고, 적어도 하나의 광고 콘텐츠를 광고 콘텐츠 데이터베이스에 유지한다. 상기 광고 콘텐츠는 광고 송출 서비스 형태에 따라 예를 들어, 통화 연결음, 문자 메시지 및 멀티미디어 데이터를 휴대 단말기로 제공할 수 있는 형식으로 상기 광고 콘텐츠 데이터베이스에 저장될 수 있다.
- <28> 위치 기반 서비스 서버(102, Location Based Service Server)는 휴대 단말기(101)의 위치를 식별하여 광고 서버(103)로 전송한다. 위치 기반 서비스 서버(102)는 휴대 단말기(101)가 기지국과 주고 받는 기지국 신호에 기초하여 휴대 단말기(101)의 위치 정보를 식별할 수 있다. 휴대 단말기(101)가 GPS 수신기를 가지는 경우에는, 상기 GPS 수신기와와 연동을 통하여 위치 기반 서비스 서버(102)가 휴대 단말기(101)의 더욱 정확한 위치 정보를 산출하고, 상기 산출된 위치 정보를 광고 서버(103)로 전송할 수도 있다. 상기 GPS 수신기는 3개 이상의 위성으로부터의 항법과 관련된 신호들을 이용하여 삼각 측량 방법 등에 따라 현재 위치를 계산할 수 있는 것으로서, 휴대 단말기(102)의 더욱 정확한 현재 위치 정보를 산출하기 위하여 이용될 수 있다. .
- <29> 광고 서버(103)는 상기 위치 정보에 따라 상기 광고 패턴 데이터베이스를 참조하여 휴대 단말기(101)가 해당 광고 지역에 진입하는지를 판단하고, 상기 판단 결과 휴대 단말기(101)가 해당 광고 지역에 진입하는 경우 광고 패턴을 식별한다. 이에 따라, 광고 서버(103)는 상기 광고 콘텐츠 데이터베이스를 참조하여 광고 콘텐츠를 휴대 단말기(101)로 전송한다.
- <30> 예를 들어, 상기 광고 콘텐츠가 통화 연결음인 경우, 휴대 단말기(101)가 타휴대 단말기(104)로 음성 통화를 연결하면, 휴대 단말기(101)는 해당 통화 연결음을 제공받을 수 있다. 또는 상기 광고 콘텐츠가 문자 메시지인 경우, 휴대 단말기(101)로 문자 메시지 형태로 상기 광고 콘텐츠를 전송할 수 있다.
- <31> 이처럼, 본 발명에 따르면, 휴대 단말기의 사용자와 관련하여 광고 지역과 광고 패턴을 미리 저장하고, 상기 휴대 단말기의 위치 정보가 상기 미리 저장된 광고 지역에 진입하는지 판단하여 상기 휴대 단말기로 광고 콘텐츠를 제공할으로써, 광고 효과를 극대화할 수 있다.
- <32> 도 2는 본 발명의 일실시예에 따른 광고 서버의 구성도를 도시한 도면이다.
- <33> 도시한 바와 같이, 광고 서버(200)는 적어도 하나의 휴대 단말기의 사용자 정보에 대응되는 적어도 하나의 광고 지역과 광고 패턴을 유지하는 광고 패턴 데이터베이스(201)와, 적어도 하나의 광고 콘텐츠를 유지하는 광고 콘텐츠 데이터베이스(202)와, 위치 기반 서비스 서버(102)로부터 휴대 단말기의 위치 정보를 수신하는 위치 정보 수신부(204)와, 상기 위치 정보에 따라 상기 광고 패턴 데이터베이스를 참조하여 상기 휴대 단말기가 해당 광고 지역에 진입하는 지를 판단하는 광고 지역 결정부(203)와, 상기 판단 결과에 따라 상기 휴대 단말기의 사용자 정보에 대응되는 광고 패턴을 식별하는 광고 패턴 식별부(205)와, 및 상기 광고 콘텐츠 데이터베이스를 참조하여 상기 식별된 광고 패턴에 대응되는 광고 콘텐츠를 상기 휴대 단말기로 전송하는 광고 콘텐츠 전송부(206)를 포함한다.
- <34> 본 발명의 일실시예에 따르면, 상기 광고 패턴은 광고주 정보 및 광고 송출 패턴을 포함하고, 상기 광고주 정보는 광고주명, 및 광고 이용 횟수에 따른 사용자 혜택을 포함하고, 상기 광고 송출 패턴은 일일 송출 횟수, 일일 송출 시간, 통화 연결음(Ring Back Tone) 설정, 발신자 정보 표시(Caller Identification Display) 설정, 문자 메시지 수신 설정, 및 멀티미디어 데이터 수신 설정 중 적어도 하나를 포함한다.
- <35> 도 3은 본 발명의 일실시예에 따른 광고 콘텐츠 제공 방법을 도시한 흐름도이다.
- <36> 단계(S301)에서, 광고 서버(200)는 적어도 하나의 휴대 단말기의 사용자 정보에 대응되는 적어도 하나의 광고 지역과 광고 패턴을 유지하는 광고 패턴 데이터베이스(201)와, 적어도 하나의 광고 콘텐츠를 유지하는 광고 콘텐츠 데이터베이스(202)를 유지한다.
- <37> 본 발명의 실시예에 따르면, 광고 콘텐츠를 제공받으자 하는 사용자는 광고 서버(200)에 접속하여 자신의 휴대 단말기(101)의 전화번호나 사용자 아이디에 대응하여 광고 지역과 광고 패턴을 입력할 수 있고, 광고 서버(200)는 상기 사용자로부터 입력된 광고 지역과 광고 패턴을 광고 패턴 데이터베이스(201)에 저장할 수 있다. 또한, 광고 콘텐츠를 제공하는 광고주도 광고 서버(200)에 접속하여 광고할 광고 콘텐츠를 등록할 수 있고, 광고 서버(200)는 상기 등록된 광고 콘텐츠를 상기 광고주와 연관하여 광고 콘텐츠 데이터베이스(202)에 기록할 수 있다. 상기 광고 콘텐츠는 광고 서버(200)의 운영자 또는 상기 광고주에 의해 다양하게 업데이트될 수 있다.
- <38> 도 4에서 도시한 바와 같이, 광고 패턴 데이터베이스(301)는 휴대 단말기의 전화번호(010-123-4567)에 대응하여

광고 지역(선촌), 광고주(두산), 일일 송출 횟수(3회), 송출 시간(6:00PM-9:00PM) 및 광고 서비스 형태(통화 연결음 등)를 포함한다. 상기 사용자 정보는 사용자를 식별하기 위한 정보로서, 예를 들어, 휴대 단말기(101)의 전화번호, 일련번호 또는 다른 사용자 식별자일 수 있다. 상기 광고 지역은 광고 콘텐츠를 제공받는 특정 지역으로, 기지국 커버리지에 기초하여 결정될 수 있다. 상기 기지국은 휴대 단말기와 이동전화교환국(MTSO: Mobile Telephone Switching Office) 사이에 위치한 이동전화기지국(Mobile Base Station)으로서, 일정 반경 영역을 포함하는 셀 단위로 설치되며, 상기 일정 반경 영역을 기지국의 커버리지(coverage)로 결정할 수 있다. 따라서, 본 발명에서는 사용자가 자신이 광고 콘텐츠를 제공받을 광고 지역을 하나 또는 복수 개로 설정할 수 있으며, 광고 서버(200)는 상기 사용자가 설정한 광고 지역에 상기 사용자가 진입하는 경우에만 광고 콘텐츠를 제공할 수 있다.

<39> 상기 일일 송출 횟수는 하루 동안 광고 콘텐츠를 제공받을 횟수로서, 설정한 횟수에 따라 사용자 혜택이 결정될 수 있다. 상기 사용자 혜택이란, 광고 콘텐츠를 수신함에 따라 광고주로부터 일정 대가를 받는 것으로, 일일 송출 횟수가 많으면 광고 콘텐츠를 더 많이 수신하여 광고 효과를 높일 수 있기 때문에 사용자 혜택이 더 많아질 수 있다. 또한, 상기 송출 시간은 광고 콘텐츠를 제공받을 시간대로서, 사용자가 광고 콘텐츠를 확인하기 편한 시간으로 설정할 수 있다.

<40> 상기 광고 서비스 형태는 광고 콘텐츠를 제공받을 광고 송출 서비스 형태로서, 통화 연결음, 문자 메시지 수신 및 멀티미디어 데이터 수신에 따라 각각 제공받을 광고 콘텐츠 형태가 달라질 수 있다. 예를 들어, 통화 연결음으로 광고 콘텐츠를 제공받는 경우에는 음악, 음성 등으로 광고주를 홍보하는 광고 콘텐츠가 제공되고, 상기 문자 메시지로 광고 콘텐츠를 제공받는 경우에는 이미지, 텍스트 등으로 광고 콘텐츠가 제공되며, 상기 멀티미디어 데이터로 광고 콘텐츠를 제공받는 경우에는 사진, 동영상, 아바타 등으로 광고 콘텐츠가 제공될 수 있다. 또한, 발신자 정보 표시 설정에 의하여 광고 콘텐츠를 제공받는 경우에도, 상기 문자 메시지와 상기 멀티미디어 데이터로 제공되는 광고 콘텐츠가 제공될 수 있으며, 예를 들어, 타휴대 단말기(104)로부터 통화 시도가 있는 경우에 타휴대 단말기(104)의 전화번호와 상기 문자 메시지와 상기 멀티미디어 데이터의 상기 광고 콘텐츠가 사용자 휴대 단말기에 그대로 제공될 수 있다.

<41> 각 광고 서비스별 제공되는 광고 콘텐츠는 광고 콘텐츠 데이터베이스(202)에 저장되며, 광고 서버(200)는 광고 패턴 데이터베이스(201)와 광고 콘텐츠 데이터베이스(202)를 참조하여 사용자별로 특화된 광고 콘텐츠를 제공할 수 있다.

<42> 이처럼, 본 발명에 따르면, 휴대 단말기를 통해 광고 콘텐츠를 제공받는 지역, 횟수, 시간, 광고 콘텐츠를 제공할 서비스를 예를 들어, 발신자 정보 표시, 통화 연결음, 문자 메시지, 멀티미디어 데이터 등을 사용자가 직접 설정함으로써, 사용자의 사생활 보호가 가능하고 이동 패턴에 따른 광고주를 선택하여 많은 사용자 혜택을 받을 수 있다.

<43> 다시, 도 3의 단계(S302)에서, 위치 기반 서비스 서버(102)는 휴대 단말기(101)의 위치 정보를 식별하여 광고 서버(200)로 전송한다. 위치 기반 서비스 서버(102)는 각 기지국으로부터 수신되는 기지국 신호에 기초하여 휴대 단말기(101)가 어느 기지국에 속해있는지 판단하여 위치 정보를 식별할 수 있다. 이 경우, 하나의 기지국의 커버리지를 하나의 광고 지역으로 설정하여 이동통신사에서 각 기지국의 커버리지를 광고 콘텐츠를 제공하는 광고 지역으로 광고주에게 판매함으로써, 새로운 수익을 창출할 수 있다.

<44> 단계(S303)에서, 광고 서버(200)는 위치 기반 서비스 서버(102)로부터 휴대 단말기(101)의 위치 정보를 수신하고, 상기 위치 정보가 광고 패턴 데이터베이스(201)에 저장된 광고 지역에 속하는지 여부를 판단한다. 상기에서 설명한 바와 같이, 광고 서버(200)는 광고 패턴 데이터베이스(201)에 미리 설정된 광고 지역에 휴대 단말기(101)의 위치가 속하는 경우에만 광고 콘텐츠를 제공하기 위해, 실시간으로 휴대 단말기(101)의 위치를 파악하여 광고 콘텐츠 제공 여부를 결정할 수 있다.

<45> 휴대 단말기(101)의 위치 정보가 해당 광고 지역에 속하는 경우, 단계(S304)에서, 광고 서버(200)는 광고 콘텐츠 데이터베이스(202)로부터 광고 송출 패턴에 대응되는 광고 콘텐츠를 식별하여 휴대 단말기(101)로 전송한다.

<46> 본 발명의 실시예에 따르면, 광고 지역별로 인구 유형에 따라 특화된 타겟 광고 콘텐츠를 제공할 수 있다. 예를 들어, 선촌, 대학교와 같은 대학가의 경우 젊은층이 주로 분포되어 있어 젊은층을 겨냥한 타겟 광고를 광고 콘텐츠로 제공하고, 광화문, 시청과 같은 회사 밀집지역의 경우 구매력을 보유한 사람들이 주로 분포되어 있어 상품의 판매를 겨냥한 타겟 광고를 광고 콘텐츠로 제공할 수 있다.

<47> 또는, 본 발명의 다른 실시예에 따르면, 특정 지역에 분포한 음식점, PC방, 노래방 등의 상호명, 전화번호를 광

고 콘텐츠로 하여 휴대 단말기의 위치가 상기 특정 지역에 속하는 경우 상기 광고 콘텐츠를 제공함으로써, 효과적으로 광고주를 홍보할 수 있다.

- <48> 이치면, 본 발명에 따르면, 광고 지역의 특징에 따라 특화된 타겟 광고 콘텐츠를 제공함으로써, 광고 효과를 극대화할 수 있는 장점이 있다.
- <49> 본 발명에 따른 광고 콘텐츠 제공 방법은 다양한 컴퓨터 수단을 통하여 수행될 수 있는 프로그램 명령 형태로 구현되어 컴퓨터 판독 가능 매체에 기록될 수 있다. 상기 컴퓨터 판독 가능 매체는 프로그램 명령, 데이터 파일, 데이터 구조 등을 단독으로 또는 조합하여 포함할 수 있다. 상기 매체에 기록되는 프로그램 명령은 본 발명을 위하여 특별히 설계되고 구성된 것들이거나 컴퓨터 소프트웨어 당업자에게 공지되어 사용 가능한 것일 수도 있다. 컴퓨터 판독 가능 기록 매체의 예에는 하드 디스크, 플로피 디스크 및 자기 테이프와 같은 자기 매체(magnetic media), CD-ROM, DVD와 같은 광기록 매체(optical media), 플롭티컬 디스크(floptical disk)와 같은 자기-광 매체(magneto-optical media), 및 롬(ROM), 램(RAM), 플래시 메모리 등과 같은 프로그램 명령을 저장하고 수행하도록 특별히 구성된 하드웨어 장치가 포함된다. 상기 매체는 프로그램 명령, 데이터 구조 등을 지정하는 신호를 전송하는 반송파를 포함하는 광 또는 음성선, 도파관 등의 전송 매체일 수도 있다. 프로그램 명령의 예에는 컴파일러에 의해 만들어지는 것과 같은 기계어 코드뿐만 아니라 인터프리터 등을 사용해서 컴퓨터에 의해서 실행될 수 있는 고급 언어 코드를 포함한다. 상기된 하드웨어 장치는 본 발명의 동작을 수행하기 위해 하나 이상의 소프트웨어 모듈로서 작동하도록 구성될 수 있으며, 그 역도 마찬가지이다.
- <50> 이상과 같이 본 발명은 비록 한정된 실시예와 도면에 의해 설명되었으나, 본 발명은 상기의 실시예에 한정되는 것은 아니며, 본 발명이 속하는 분야에서 통상의 지식을 가진 자라면 이러한 기재로부터 다양한 수정 및 변형이 가능하다.
- <51> 그러므로, 본 발명의 범위는 설명된 실시예에 국한되어 정해져서는 아니되며, 후술하는 특허청구범위뿐 아니라 이 특허청구범위와 균등한 것들에 의해 정해져야 한다.

발명의 효과

- <52> 본 발명에 따른 광고 콘텐츠 제공 방법 및 광고 서버에 의하면, 휴대 단말기의 사용자와 연관하여 광고 지역과 광고 패턴을 미리 저장하고, 상기 휴대 단말기의 위치 정보가 상기 미리 저장된 광고 지역에 진입하는지 판단하여 상기 휴대 단말기로 광고 콘텐츠를 제공함으로써, 광고 효과를 극대화할 수 있다.
- <53> 또한, 본 발명에 따른 광고 콘텐츠 제공 방법 및 광고 서버에 의하면, 휴대 단말기를 통해 광고 콘텐츠를 제공받는 지역, 횟수, 시간, 광고 콘텐츠를 제공받을 서비스 예를 들어, 통화 연결음, 문자 메시지, 멀티미디어 데이터 등을 사용자가 직접 설정함으로써, 사용자의 사생활 보호가 가능하고 이동 패턴에 따른 광고주를 선택하여 많은 사용자 혜택을 받을 수 있다.
- <54> 또한, 본 발명에 따른 광고 콘텐츠 제공 방법 및 광고 서버에 의하면, 휴대 단말기의 위치가 미리 설정된 광고 지역에 진입하는 경우에만 광고 콘텐츠를 제공함으로써, 지역에 특화된 타겟 광고 콘텐츠를 제공할 수 있다.
- <55> 또한, 본 발명에 따른 광고 콘텐츠 제공 방법 및 광고 서버에 의하면, 하나의 기지국의 커버리지를 하나의 광고 지역으로 설정하여 이동통신사에서 각 기지국 영역을 광고 콘텐츠를 제공하는 영역으로 광고주에게 판매함으로써, 새로운 수익 창출 모델을 제공할 수 있다.

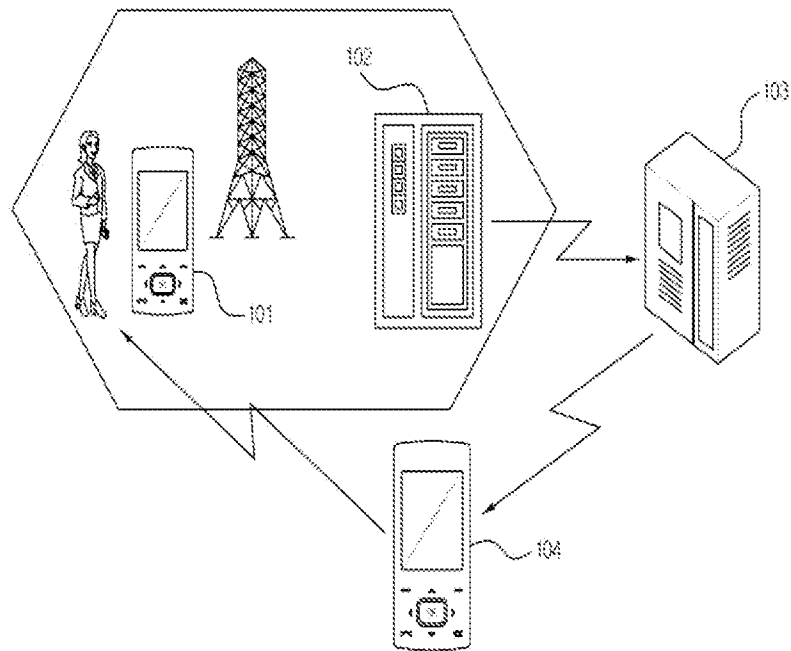
도면의 간단한 설명

- <1> 도 1은 본 발명의 일실시예에 따른 광고 콘텐츠를 제공하는 네트워크 연결을 도시한 도면이다.
- <2> 도 2는 본 발명의 일실시예에 따른 광고 서버의 구성도를 도시한 도면이다.
- <3> 도 3은 본 발명의 일실시예에 따른 광고 콘텐츠 제공 방법을 도시한 흐름도이다.
- <4> 도 4는 본 발명의 일실시예에 따른 광고 패턴 데이터베이스의 일례를 도시한 도면이다.
- <5> <도면의 주요 부분에 대한 부호의 설명>
- <6> 200: 광고 서버
- <7> 201: 광고 패턴 데이터베이스

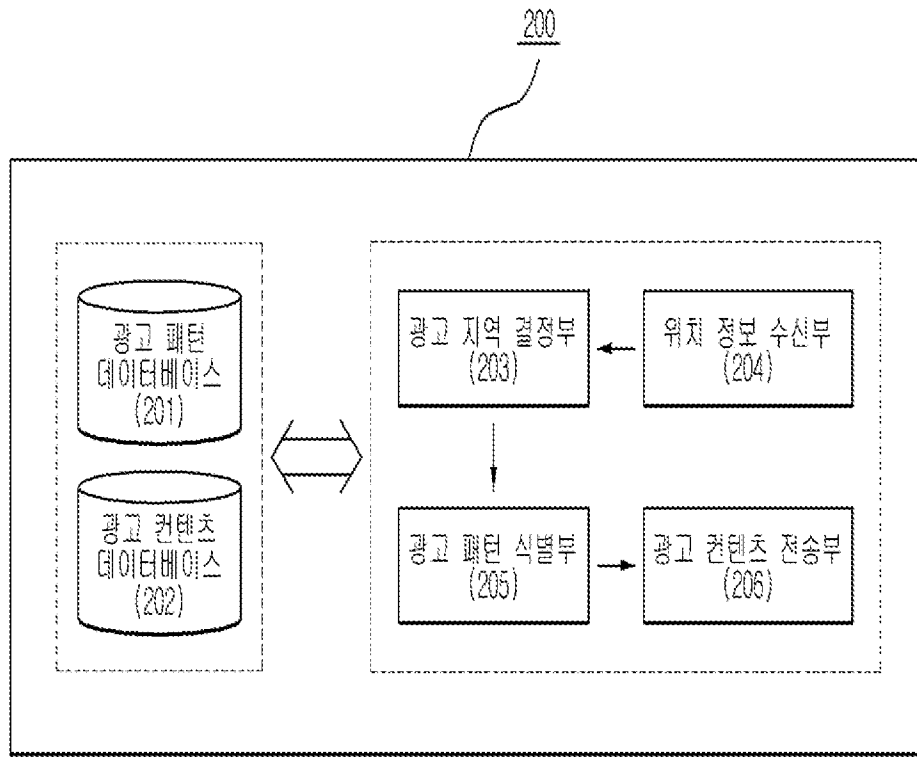
- <8> 202: 광고 콘텐츠 데이터베이스
- <9> 203: 광고 지역 결정부
- <10> 204: 위치 정보 수신부
- <11> 205: 광고 패턴 식별부
- <12> 206: 광고 콘텐츠 전송부

도면

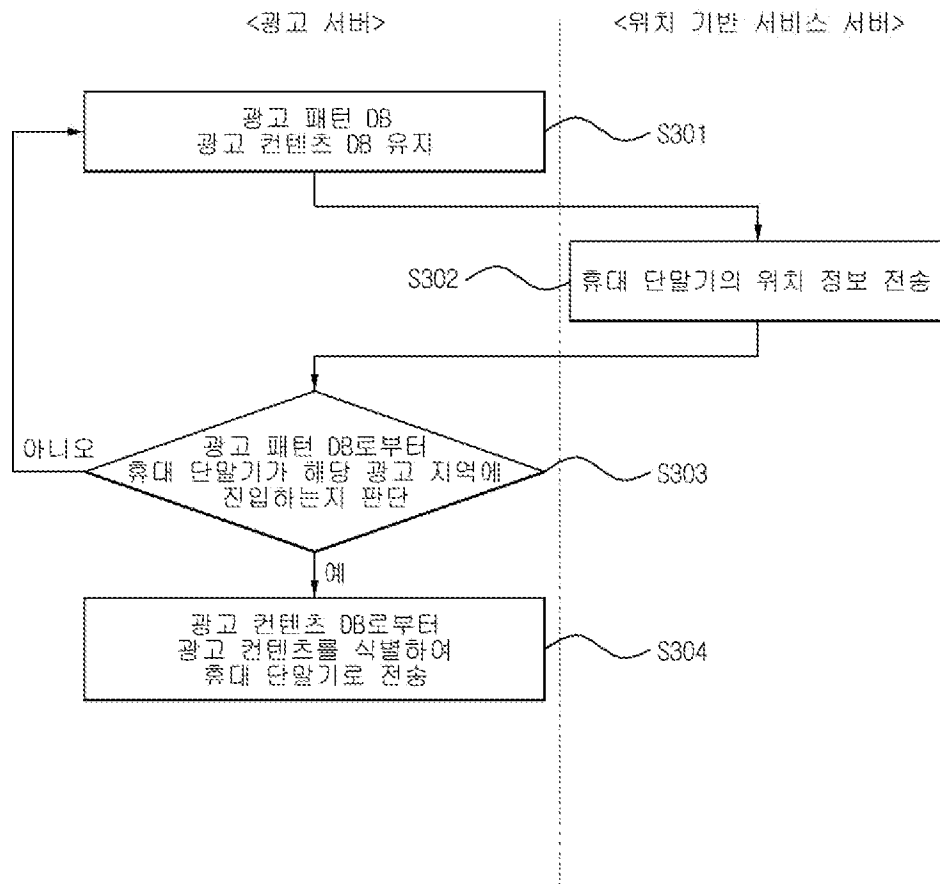
도면1



550



도면3



도면4

사용자 정보	지역	광고주	송출 횟수	송출 시간	광고 서비스	
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					문자 메시지 수신	
					멀티미디어 데이터 수신	
010-345-6789 • • •	강남 • • •	진로 • • •	10 • • •	9:00AM~6:00PM • • •	통화연결음	
					발신자 정보 표시	▽
					• •	



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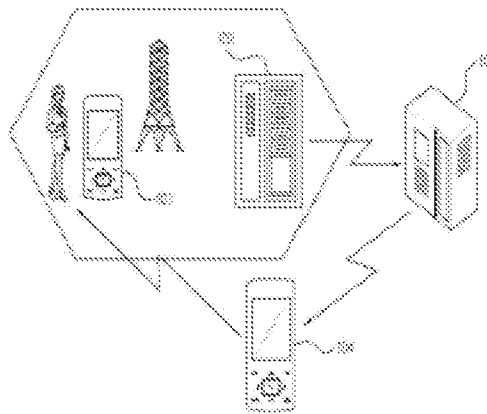
(74) Attorney

MUHANN Patent & Law Firm

Total number of claims : 11 total

(54) Method and advertisement server for providing preselected advertising contents based on location*(57) Abstract*

The present invention relates to a method and advertisement server, for pre-saving an advertising zone and advertising pattern for a user of a mobile device, determining whether or not a location data of the mobile device enters the pre-saved advertising zone, and providing advertising contents to the mobile device depending on the result of the determining. The method for providing advertising contents using location data of a portable device at an advertisement server according to the present invention is characterized by comprising a step of maintaining, in an advertising pattern database, at least one advertising zone and an advertising pattern corresponding to user information of at least one mobile device; a step of maintaining, in an advertising contents database, at least one advertising content item; a step of receiving location data of a portable device from a location-based service server; a step of determining, using the location data, whether or not the mobile device has entered an applicable advertising zone, with reference to the advertising pattern database; a step of, according to the result of the determining, identifying an advertising pattern corresponding to user information of the mobile device; and a step of transmitting to the mobile device an advertising content corresponding to the identified advertising pattern with reference to the advertising contents database.

Representative Drawing -- FIG. 1

What is claimed is...

Claim 1

A method for providing advertising contents using location data of a portable device at an advertisement server, the method comprising the following:

a step of maintaining, in an advertising pattern database, at least one advertising zone and an advertising pattern corresponding to user information of at least one mobile device;

a step of maintaining, in an advertising contents database, at least one advertising content item;

a step of receiving location data of a portable device from a location-based service server;

a step of determining, using the location data, whether or not the mobile device has entered an applicable advertising zone, with reference to the advertising pattern database;

a step of, according to the result of the determining, identifying an advertising pattern corresponding to user information of the mobile device; and,

an advertising content step of transmitting to the mobile device advertising content corresponding to the identified advertising pattern with reference to the advertising contents database.

Claim 2

The method for providing advertising contents of Claim 1,

characterized in that the advertising zone is determined based on a service coverage of each local base station.

Claim 3

The method for providing advertising contents of Claim 1,

characterized in that the advertising pattern includes advertiser information and an advertisement transmission pattern.

Claim 4

The method for providing advertising contents of Claim 3,

characterized in that the advertiser information includes an advertiser name, and user benefits according to a number of times of advertisement usage.

Claim 5

The method for providing advertising contents of Claim 3,

characterized in that the advertisement transmission pattern includes at least one of a daily transmission count, a daily transmission timing, a ring back tone setting, a caller identification display setting, an SMS receiving setting, and a multimedia data receiving setting.

Claim 6

The method for providing advertising contents of Claim 1,

characterized in that the advertising content includes at least one of a ring back tone, a text message, and a multimedia data.

Claim 7

A computer-readable recording medium recording a program for executing the method of any one of Claim 1 through Claim 6.

Claim 8

An advertisement server for providing advertising contents using location data of a portable device, the server comprising the following:

an advertising pattern database for maintaining at least one advertising zone and an advertising pattern corresponding to user information of at least one mobile device;

an advertising contents database for maintaining at least one advertising content item;

a location data receiving unit for receiving location data of a portable device from a location-based service server;

a zone determining unit for determining, using the location data, whether or not the mobile device has entered an applicable advertising zone, with reference to the advertising pattern database;

an advertising pattern identifying unit for identifying, according to the result of the determining, an advertising pattern corresponding to user information of the mobile device; and

an advertising content transmission unit for transmitting to the mobile device advertising content corresponding to the identified advertising pattern, with reference to the advertising contents database.

Claim 9

The advertisement server of Claim 8,

characterized in that the advertising pattern includes advertiser information and an advertisement transmission pattern.

Claim 10

The advertisement server of Claim 9,

characterized in that the advertiser information includes an advertiser name, and user benefits according to a number of times of advertisement usage.

and in that the advertisement transmission pattern includes at least one of a daily transmission count, transmission timing, a ring back tone setting, a caller identification display setting, an SMS receiving setting, and a multimedia data receiving setting.

Claim 11

The advertisement server of Claim 8,

characterized in that the advertising content includes at least one of a ring back tone, a text message, and a multimedia data.

Specification

Detailed Description of the Invention

Purpose of the invention

Technical field and prior art

- <13> The present invention relates to a method and advertisement server for pre-saving an advertising zone and advertising pattern for a user of a mobile device, determining whether or not a location data of the mobile device enters the pre-saved advertising zone, and providing advertising contents to the mobile device depending on the result of the determining.
- <14> Recently, with an explosion in the use of mobile devices, mobile communications providers are furnishing diversified services for the convenience of mobile device users. Further, by adding functions such digital cameras, MP3 Players, camcorders and the like to mobile devices, it has become possible to provide a variety of functions through a single mobile device.
- <15> With the improving usability of such mobile devices, many advertisement services are provided through mobile devices. Advertisement services through mobile devices transmit advertising content to a mobile device, and if the subscriber of the mobile device views the received advertisement, the fact that the subscriber has viewed the advertisement is recognized, and a reward for viewing is provided to the subscriber.
- <16> However, in a case where the same advertisement is transmitted across all regions, there is the problem that regionally specialized, targeting marketing advertisements cannot be provided. Targeted marketing advertisements are a method of advertisement with a focus on consumers that has a direct impact on product purchases, and is able to maximize advertisement effect. For example, as there is a high concentration of youth in areas near universities, advertisements targeting youth may be provided, and in business districts, advertisements targeting persons with greater purchasing power may be provided.
- <17> Accordingly, there is a need for a method for effectively providing, to mobile devices, targeted marketing advertisements specialized by region.

Problem to be Solved by the Invention

- <18> The purpose of the present invention, devised to solve the above-stated problem with the prior art, is to provide a method for providing advertising content and an advertisement server which pre-save the advertising zone and advertising pattern in relation to a user of a mobile device, and then determine whether or not the location data of the mobile device has entered the pre-saved advertising zone to provide advertising contents to the mobile device, and are thereby able to maximize advertisement effect.
- <19> Another purpose of the method and advertisement server for providing advertising contents according to the present invention, by allowing a user to configure directly, through their mobile device, the number of advertisements, transmission timing, and the service through which to receive advertisement contents, for example, ringback tone, text message, multimedia data, etc., the user directly sets, timings to protect user privacy and to select advertisers according to movement patterns to allow users to receive many benefits.
- <20> Another purpose of the method and advertisement server for providing advertising contents according to the present invention is to provide targeted advertising contents specialized to each region by providing advertising contents only when the location of a mobile device enters a pre-set advertising zone.
- <21> Another purpose of the method and advertisement server for providing advertising contents according to the present invention is to create a new profit-generating model, by setting the coverage of a given base station as an advertising zone, and by having a mobile communications provider sell the coverage of each base station to an advertiser as a coverage area for advertising contents.

Structure and Operation of the Invention

- <22> To achieve the above-stated purposes, and to resolve the above-described problem of prior art, the method for providing advertising contents using location data of a portable device at an advertisement server according to one embodiment of the present invention is characterized by comprising the following: a step of maintaining, in an advertising pattern database, at least one advertising zone and an advertising pattern corresponding to user information of at least one mobile device; a step of maintaining, in an advertising contents database, at least one advertising content item; a step of receiving location data of a portable device from a location-based service server; a step of determining, using the location data, whether or not the mobile device has entered an applicable advertising zone, with reference to the advertising pattern database; a step of, according to the result of the determining, identifying an advertising pattern corresponding to user information of the mobile device; and, an advertising contents step of transmitting to the mobile device advertising content corresponding to the identified advertising pattern with reference to the advertising contents database.
- <23> Further, the advertisement server for providing advertising contents using location data of a portable device according to one embodiment of the present invention is characterized by comprising the following: an advertising pattern database for maintaining at least one advertising zone and an advertising pattern corresponding to user information of at least one mobile device; an advertising contents database for maintaining at least one advertising content item; a location data receiving unit for receiving location data of a portable device from a location-based service server; a zone determining unit for determining, using the location data, whether or not the mobile device has entered an applicable advertising zone, with reference to the advertising pattern database; an advertising pattern identifying unit for identifying, according to the result of the determining, an advertising pattern corresponding to user information of the mobile device; and, an advertising content transmission unit for transmitting to the mobile device advertising content corresponding to the identified advertising pattern, with reference to the advertising contents database.
- <24> In the following, embodiments of the method and advertisement server for providing advertising contents using location data of a portable device at an advertisement server will be described in detail with reference to the attached drawings.
- <25> FIG. 1 is a drawing illustrating network connections for providing advertising contents according to one embodiment of the present invention.
- <26> As illustrated, a user of a mobile device (101) accesses an advertisement server (103) and sets at least one advertising zone and advertising pattern corresponding to his or her user information. The advertising zone is a region wherein advertising contents are provided, and may be Sinchon, Gangnam or Daehak-ro, for example, and one or a plurality of regions may be set. The advertising pattern includes advertiser information and an advertisement transmission pattern, and a user may choose and set the advertiser(s), number of times advertisements are transmitted, transmission timing, type of advertisement transmission service, and the like.

- <27> The advertisement server (103) maintains at least one advertising zone and advertising pattern corresponding to the user information of the mobile device (101) in an advertising pattern database, and maintains at least one advertising content item in an advertising content database. The advertising content may be stored in the advertising contents database according to the type of advertisement transmission service, for example, in a form by which a ring back tone, text message and multimedia data can be provided to a mobile device.
- <28> A location based service server (102) identifies a location of a mobile device (101) and transmits the same to the advertisement server (103). The location based service server (102) is able to identify location data of the mobile device (101) based on a base station signal exchanged by the mobile device (101) with a base station. In a case where the mobile device (101) has a GPS receiver, the location based service server (102) may interface with the GPS receiver to compute more accurate location data for the mobile device (101), and transmit the computed location data to the advertisement server (103). The GPS receiver may be one which uses navigation-related signals from three or more satellites to calculate current location using triangulation methods, etc., and may be used to compute more accurate location data for the mobile device (102).
- <29> The advertisement server (103) references the advertising pattern database according to the location data to determine whether or not the mobile device (101) has entered a given advertising zone, and if it is determined that the mobile device (101) has entered the given advertising zone, an advertising pattern is identified. Accordingly, the advertisement server (103) references the advertising contents database and transmits an advertising content to the mobile device (101).
- <30> For example, in a case where the advertising content is a ring back tone, if the mobile device (101) connects to another mobile device (104) by voice call, the mobile device (101) can be provided with the ring back tone in question. Further, in a case where the advertising content is a text message, the advertising content may be transmitted to the mobile device (101) in text message form.
- <31> Thus, according to the present invention, an advertising zone and advertising pattern in relation to a user of a mobile device can be pre-saved; then it can be determined whether or not a location data of the mobile device enters the pre-saved advertising zone, to provide advertising contents to the mobile device and maximize advertisement effect.
- <32> FIG. 2 is a drawing illustrating a block diagram of the advertisement server according to one embodiment of the present invention.
- <33> As is illustrated, the advertisement server (200) comprises the following: an advertising pattern database (201) for maintaining at least one advertising zone and an advertising pattern corresponding to user information of at least one mobile device; an advertising contents database (202) for maintaining at least one advertising content item; a location data receiving unit (204) for receiving location data of a portable device from a location-based service server (102); a zone determining unit (203) for determining, using the location data, whether or not the mobile device has entered an applicable advertising zone, with reference to the advertising pattern database; an advertising pattern identifying unit (205) for identifying, according to the result of the determining, an advertising pattern corresponding to user information of the mobile device; and, an advertising content transmission unit (206) for transmitting to the mobile device advertising content corresponding to the identified advertising pattern, with reference to the advertising contents database.
- <34> According to one embodiment of the present invention, the advertising pattern includes advertiser information and an advertisement transmission pattern, the advertiser information includes an advertiser name, and user benefits according to a number of times of advertisement usage, and the advertisement transmission pattern includes at least one of a daily transmission count, transmission timing, a ring back tone setting, a caller identification display setting, an SMS receiving setting, and a multimedia data receiving setting.
- <35> FIG. 3 is a flow chart illustrating the method of providing advertising content according to one embodiment of the present invention.

- <36> In Step (5301), an advertisement server (200) maintains an advertising pattern database (201) that maintains at least one advertising zone and advertising pattern corresponding to user information of at least one mobile device, and an advertising contents database (202) that maintains at least one advertising content item.
- <37> According to an embodiment of the present invention, a user who wishes to be provided advertising contents may access an advertisement server (200) and enter an advertising zone and advertising pattern corresponding to a telephone number or user ID of his or her mobile device (101), and the advertisement server (200) may store the advertising zone and advertising pattern entered by the user in an advertising pattern database (201). Further, an advertiser providing advertising contents may also access the advertisement server (200) to register advertising contents to advertise, and the advertisement server (200) may record the registered advertising contents in an advertising contents database (202) in association with the advertiser. The advertising contents may be updated by the administrator of the advertisement server (200) or by the advertiser.
- <38> As illustrated in FIG. 4, the advertising pattern database (201) includes an advertising zone (Sinchon), advertiser (Doosan), daily transmission count (3 times), transmission timing (6:00PM-9:00PM) and advertisement service type (ring back tone, etc.) corresponding to a telephone number (010-123-4567) of a mobile device. This user information is information for identifying a user, and may be, for example, a telephone number or serial number of a mobile device (101), or a different user identifier. The advertising zone is a specific region in which advertising content is provided, and may be determined based on base station coverage. The base station may be a mobile base station positioned between a mobile device and a mobile telephone switching office (MTSO), and may be installed as a cell covering an area within a certain radius, and the area within a certain radius may be determined as the coverage of a base station. Accordingly, in the present invention, a user may set a single advertising zone or a plurality thereof in which to be provided advertising contents, and the advertisement server (200) may only provide advertising contents when the user enters an advertising zone that the user has set.
- <39> The daily transmission count is the number of times [a user] will be provided an advertising content in a day, and a user benefit may be decided depending on the number of times set. A user benefit is a certain reward from the advertiser for receiving an advertising content, and as more advertising content can be received if the daily transmission count is larger, improving advertisement effect, a greater user benefit may be provided. Further, the transmission timing is the time slot in which advertising contents will be provided, and this may be set to a time period that is convenient for a user to view advertising contents.
- <40> The advertisement service type is the type of advertisement transmission service by which advertising contents will be provided; the type of advertisement service to be provided may differ depending on whether a ring back tone, text message or multimedia data is received. For example, in a case where advertising content is received as a ring back tone, advertising contents advertising the advertiser by means of music or voice may be provided. In a case where advertising content is received as a text message, advertising content may be provided in image or text form, and in a case where advertising content is received as multimedia data, advertising content may be provided in the form of photos, video, avatars, and the like. Further, in a case where advertising content is provided through a caller identification display setting, advertising contents which are provided as text messages and multimedia data may be provided. For example, in a case where there is a call attempt from another mobile device (104), the telephone number of the other mobile device (104) and the text message and multimedia data advertising content may be provided alternately to the user's mobile device.
- <41> The advertising contents provided for each advertisement service are stored in an advertising contents database (202), and the advertisement server (200) may, referencing an advertising pattern database (201) and the advertising contents database (202), provide advertising contents tailored to each user.
- <42> As explained, the present invention, by allowing a user to configure directly, through his or her mobile device, a region in which to be provided advertising contents through his or her mobile device, number of advertisements, transmission timing, and the service through which to receive advertising contents, for example, ring back tone, text message or multimedia data, etc., can protect user privacy and allows for advertisers to be selected according to movement patterns to allow users to receive many benefits.

- <43> Returning to Step (S302) of FIG. 3, a location based service server (102) identifies a location data of a mobile device (101) and transmits the same to an advertisement server (200). The location based service server (102) may identify location data by determining, based on base station signals received from the respective base stations, to which base station the mobile device (101) [is connected]. In this case, by setting the coverage of a given base station as one advertising zone, and selling the coverage of each base station to advertisers as an advertising zone in which advertising contents are provided, new profits can be created.
- <44> In Step (S303), the advertisement server (200) receives location data for the mobile device (101) from the location based service server (102), and determines whether or not the location data falls within the advertising zone stored in the advertising pattern database (201). As explained in the foregoing, the advertisement server (200) may determine the location of the mobile device (101) in real time and decide whether or not to provide advertising contents, so as to provide advertising contents only when the location of the mobile device (101) is within an advertising zone preset in the advertising pattern database (201).
- <45> In a case where the location data of the mobile device (101) is within the given advertising zone, in Step (S304), the advertisement server (200) identifies advertising contents corresponding to the advertisement transmission pattern in the advertising contents database (202), and transmits the same to the mobile device (101).
- <46> According to an embodiment of the present invention, targeted advertising contents tailored to the demographics of each advertising zone can be provided. For example, in areas near universities such as Sinchon and Daehak-ro, where most of the population is young, advertising contents targeting the younger generations may be provided, and in business districts such as Gwanghwamun and near the City Hall, as the population has greater purchasing power, targeted advertisements aimed at product sales may be provided as advertising contents.
- <47> Also, according to another embodiment of the present invention, the trade name and telephone number of food and beverage establishments, Internet cafes and *noraebang* in a certain area may be the advertising content, and by providing said advertising content in cases where the location of a mobile device falls inside the certain area, the advertiser can be promoted effectively.
- <48> Therefore, the present invention has the benefit of maximizing advertising effect by providing specialized and targeted advertising content depending on the characteristics of an advertising zone.
- <49> The method for providing advertising content according to the present invention may be implemented in the form of program commands which may be executed through various computer means, and recorded on a computer-readable medium. The computer-readable medium may comprise program commands, data files, data structure and the like, either alone or in combination. The program commands recorded on the medium may be specially engineered and configured for the present invention, or may be known to and at the disposal of a PHOSITA of computer software. Examples of computer readable recording medium include magnetic media such as hard disks, floppy disks and magnetic tapes, optical media such as CD-ROMs and DVDs, magneto-optical media such as floptical disks, and hardware devices such as ROM, RAM and flash memory specially configured to store and execute program commands. The media may be a transmission media such as optical and metal wires or waveguides, including carrier waves which transmit signals designating program commands and data structures, etc. Examples of program commands include not only machine language code such as that generated by a compiler, but also advanced language code which may be executed by a computer by using an interpreter, etc. The hardware device may be configured to operate as one or more software module to carry out the operation of the present invention, and the reverse may also be true.
- <50> While the present invention has been described in the foregoing through limited embodiments and drawings, the present invention is not limited to the above embodiments, and a PHOSITA will be able to apply various modifications and changes to such description.
- <51> Therefore, the scope of the present invention is not limited to the embodiments described, and shall be decided by the appended claims and their equivalents.

Effects of the invention

- <52> The method for providing advertising content and advertisement server according to the present invention pre-save the advertising zone and advertising pattern in relation to a user of a mobile device, and then determine whether or not the location data of the mobile device has entered the pre-saved advertising zone to provide advertising contents to the mobile device, thereby enabling maximization of the advertisement effect.

- <53> Further, the method and advertisement server for providing advertising contents according to the present invention, by allowing a user to configure directly, through their mobile device, a region in which to be provided advertising contents through their mobile device, number of advertisements, transmission timing, and the service through which to receive advertising contents, for example, ring back tone, text message or multimedia data, etc., are able to protect user privacy and enable the selection of advertisers according to movement patterns to allow users to receive many benefits.
- <54> Further, the method and advertisement server for providing advertising contents according to the present invention provide targeted advertising contents specialized to each region by providing advertising contents only when a location of a mobile device enters a pre-set advertising zone.
- <55> Further, the method and advertisement server for providing advertising contents according to the present invention can create a new profit-generating model, by setting the coverage of a given base station as an advertising zone, and by having a mobile communications provider sell the coverage of each base station to an advertiser as a coverage area for advertising contents.

Brief Description of the Drawings

- <1> FIG. 1 is a drawing illustrating network connections for providing advertising contents according to one embodiment of the present invention.
- <2> FIG. 2 is a drawing illustrating a block diagram of the advertisement server according to one embodiment of the present invention.
- <3> FIG. 3 is a flow chart illustrating the method for providing advertising contents according to one embodiment of the present invention.
- <4> FIG. 4 is a drawing illustrating an example of the advertising pattern database according to one embodiment of the present invention.
- <5> * Explanation of symbols for key parts of the drawings *
- <6> 200 : Advertisement server
- <7> 201 : Advertising pattern database
- <8> 202 : Advertising contents database
- <9> 203 : Zone determining unit
- <10> 204 : Location data receiving unit
- <11> 205 : Advertising pattern identifying unit
- <12> 206 : Advertising content transmission unit

Drawings

FIG. 1

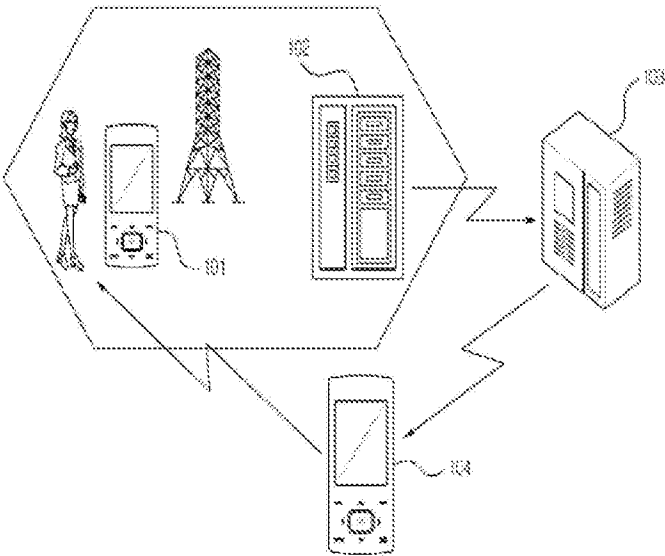


FIG. 2

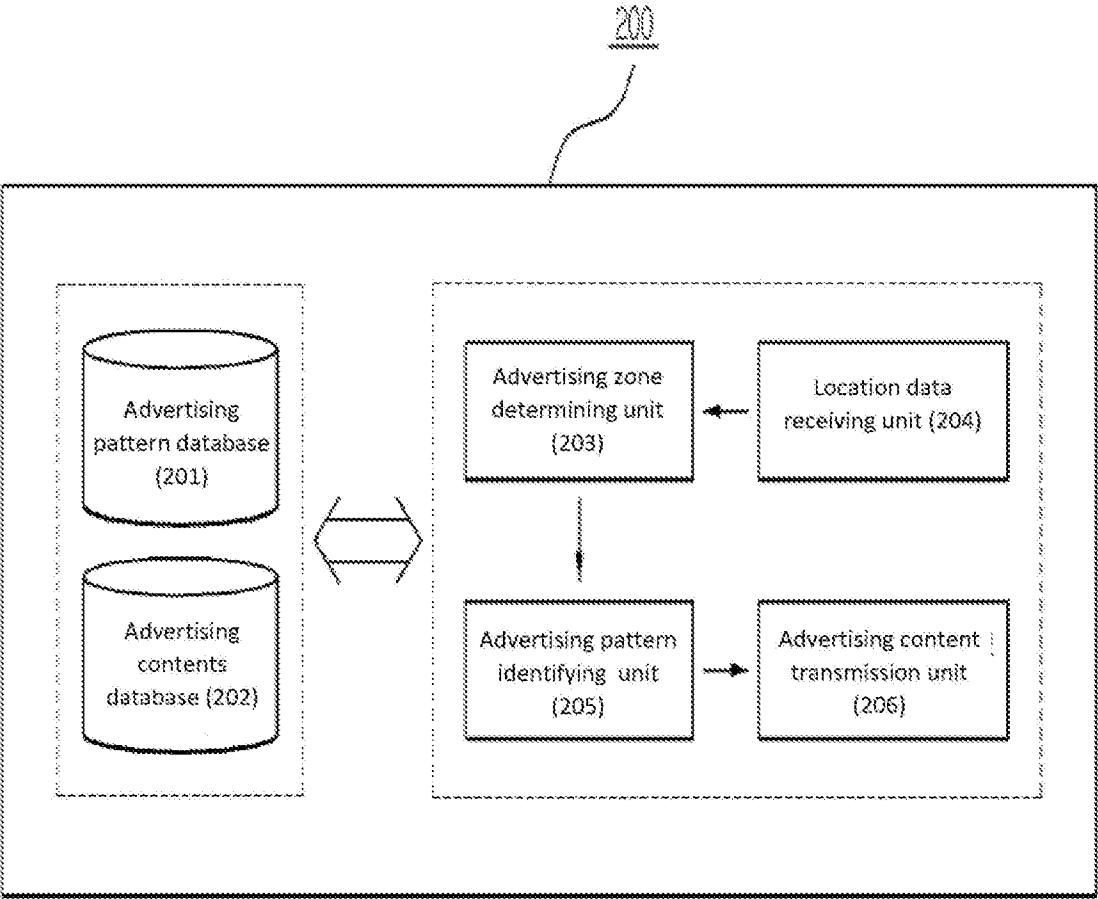


FIG. 3

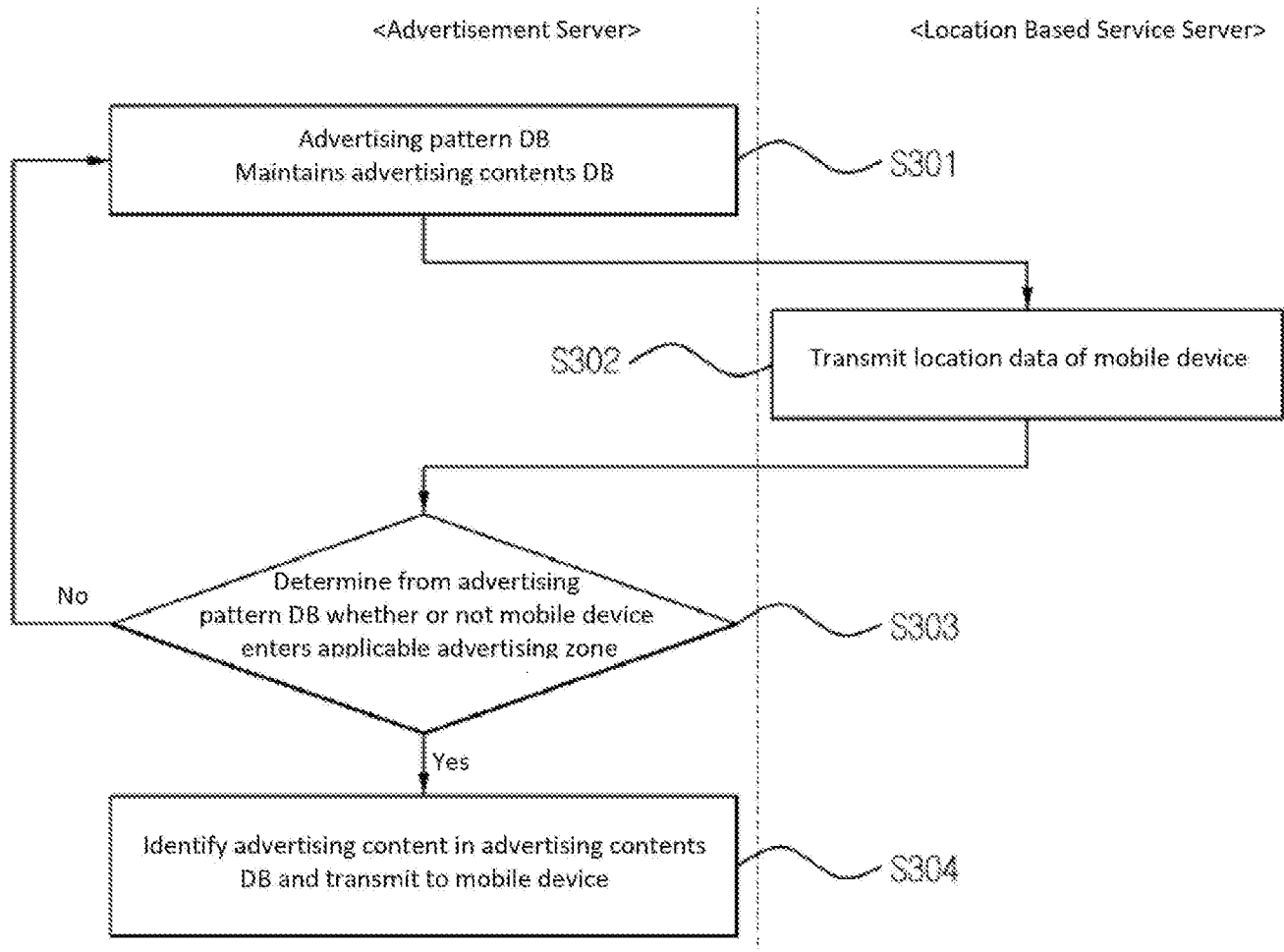


FIG. 4

User information	Zone	Advertiser	Transmission Count	Transmission Hours	Advertising service	
010-123-4567	Sinchon	Doosan	3	6:00PM-9:00PM	Ring back tone	▽
					Caller identification display	
					Receive text message	
					Receive multimedia data	
010-345-6789 • • •	Gangnam • • •	Jinro • • •	10 • • •	9:00AM-6:00PM • • •	Ring back tone	
					Caller identification display	▽
					• •	

Electronic Acknowledgement Receipt

EFS ID:	46256673
Application Number:	17863208
International Application Number:	
Confirmation Number:	2712
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas
First Named Inventor/Applicant Name:	Ryan Hardin
Customer Number:	118653
Filer:	Ryan J Hardin
Filer Authorized By:	
Attorney Docket Number:	0075652.00009
Receipt Date:	23-JUL-2022
Filing Date:	12-JUL-2022
Time Stamp:	10:02:31
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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			bb5457d3a8cff7a8dc997b9bfff87f75e6970a986		
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14	Non Patent Literature	NPL-7_MARTENS-OGAS- Open_Geographic_LGSAMSUNG-HARDIN-PA-00000920.pdf	3714837	no	6
			dabca911354b840a35ce6233644367a5c42ab0da		
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16	Non Patent Literature	NPL-9_PARSONS-The_Java_Location_API_LGSA MSUNG-HARDIN-PA-00001032.pdf	3733122	no	10
			5aa7fdfd254f6eb42022f1df85b23a1df62bc88f		
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17	Non Patent Literature	NPL-10_RANGANATHAN-MiddleWhere_LGSAMSUNG-HARDIN-PA-00001138.pdf	12769259	no	20
			cd3b762e400114ec4b07117ffa9db0943d9a5ca		
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18	Non Patent Literature	NPL-11_SOHN-Place-Its_A_Study_of_Location_LGSA MSUNG-HARDIN-PA-00001243.pdf	12487325	no	19
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			804b62f03d20e38ce4ff2b69a87947f9ee1c5d1f		
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			0f232cec20011f6a72b0f7b38d6369e82b9a5c37		
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22	Non Patent Literature	NPL-15_Android_Team_This_is_the_Droid_Youre_Looking_For_LGSAMSUNG-HARDIN-PA-00000086.pdf	394339	no	2
			fba4bb88325c14c27daeac9cbe98d6223e487fcb		
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			1124be25239ee9811d25e745f1300dbbd11ba76f		
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24	Non Patent Literature	NPL-17_Android_Team-Android_The_First_Week_LGSAMSUNG-HARDIN-PA-00000061.pdf	302667	no	2
			419c221098757823eba51fc420b863639adaed13		
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			33f12e41503d6795740c430eaf37d3bbccedd368		
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			ea0cb0e6dd299c1cec7e499f2f663c06ecae35e4		
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			a14d462294e16f93fe30b04361a87bba9320f2d1		
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			6f759c64b720aef97adfacef562bdbfdde52461f		
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30	Non Patent Literature	NPL-23_Android_Team-Announcing_Apps_for_Android_LGSAMSUNG-HARDIN-PA-00000068.pdf	826562	no	3
			f94c82f7c4bf82103a8cd4093dc831e82808c70c		
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33	Non Patent Literature	NPL-26_Android_Team_The_Top_50_Applications_LGSAMSUNG-HARDIN-PA-00000083.pdf	762774	no	3
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34	Non Patent Literature	NPL-27_Android_Team-Android_Developer_Challenge_Judges_LGSAMSUNG-HARDIN-PA-00000047.pdf	319757	no	2
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			c233f42192c2fba6bf5da70f2788758663dfab10		
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47	Non Patent Literature	NPL-40_Exhibit_A-2_-_418_Patent_-_Guido.pdf	824926	no	112
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49	Non Patent Literature	NPL-42_Exhibit_A-4_-_418_Patent_-_Nelissen.pdf	3767266	no	222
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51	Non Patent Literature	NPL-44_Exhibit_A-6_- _418_Patent_-_Phillips.pdf	3273430	no	163
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52	Non Patent Literature	NPL-45_Exhibit_A-7_- _418_Patent_-_Rosenberg.pdf	3122682	no	253
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53	Non Patent Literature	NPL-46_Exhibit_A-8_- _418_Patent_-_Ryu.pdf	1773102	no	130
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56	Non Patent Literature	NPL-49_Exhibit_A-11_- _418_Patent_-_Marmasse.pdf	2215321	no	166
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59	Non Patent Literature	NPL-52_Exhibit_A-14_-_418_Patent_-_Sohn.pdf	1807982 502b848686b0956e46ac43af0ee78cf2163fc760	no	128
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Total Files Size (in bytes):			244922223		
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		17863208
	Filing Date		2022-07-12
	First Named Inventor	Hardin, Ryan	
	Art Unit		
	Examiner Name		
	Attorney Docket Number		0075652.00009

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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
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number		17863208
Filing Date		2022-07-12
First Named Inventor	Hardin, Ryan	
Art Unit		
Examiner Name		
Attorney Docket Number	0075652.00009	

1	Exhibit A-13 - Invalidity of U.S. Patent No. 9,779,418 ("418 Patent") by Anand Ranganathan et al., MiddleWhere: A Middleware for Location Awareness in Ubiquitous Computing Applications, 3231 Lecture Notes in Comp. Sci. 397 (2004) ("Ranganathan")	☐
2	Exhibit A-14 - Invalidity of U.S. Patent No. 9,779,418 ("418 Patent") by Timothy Sohn et al., Place-Its: A Study of Location-Based Reminders on Mobile Phones, UbiComp '05: Proceedings of the 7th International Conference on Ubiquitous Computing 232 (Sept. 2005) ("Sohn")	☐
3	Exhibit A-15 - Invalidity of U.S. Patent No. 9,779,418 ("418 Patent") by Version 1.0 of the Android Operating System, Beta Versions of Android, and Android Software Development Kits ("Android 2007-2008")	☐
4	Exhibit A-16 - Invalidity of U.S. Patent No. 9,779,418 ("418 Patent") by Location API for Java™ 2 Micro Edition, Version 1.0.1 ("JSR 179")	☐
5	Exhibit A-17 - Invalidity of U.S. Patent No. 9,779,418 ("418 Patent") by U.S. Patent No. 9,286,625 ("625 Patent")	☐
6	Exhibit A-18 - Subject Matter Eligibility Contentions for U.S. Patent No. 9,779,418 ("418 Patent")	☐
7	Exhibit B-1 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. Patent Application Publication No. 2006/0223494 A1 ("Chmaytelli")	☐
8	Exhibit B-2 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. Patent No. 7,089,264 ("Guido")	☐
9	Exhibit B-3 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. Patent App. Pub. No. 2008/0032666 A1 ("Hughes")	☐
10	Exhibit B-4 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. Patent No. 8,219,115 ("Nelissen")	☐
11	Exhibit B-5 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. App. Pub. No. 2009/0089288 A1 ("Petersen")	☐

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12	Exhibit B-6 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. Patent App. Pub. No. 2006/0270421A1 ("Phillips")	☐
13	Exhibit B-7 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. Patent Application Pub. No. 2007/0129888A1 ("Rosenberg")	☐
14	Exhibit B-8 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. Patent Application Publication No. US 2009/0157632 A1 ("Ryu")	☐
15	Exhibit B-9 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. Patent Application Pub. No. 2006/0116817A1 ("Salmre")	☐
16	Exhibit B-10 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by U.S. Patent No. 7,054,649 ("Yamazaki")	☐
17	Exhibit B-11 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by Natalia Marmasse & Chris Schmandt, Location-Aware Information Delivery with ComMotion, in Lecture Notes in Computer Science 1927: Handheld and Ubiquitous Computing, Second International Symposium at 157 (Sept. 25-27, 2000) ("Marmasse")	☐
18	Exhibit B-12 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by David Parsons, The Java Location API, Dr. Dobb's Journal, Jan. 2006, at 53 ("Parsons")	☐
19	Exhibit B-13 - Invalidity of U.S. Patent No. 10,049,387 ("387 Patent") by Anand Ranganathan et al., MiddleWhere: A Middleware for Location Awareness in Ubiquitous Computing Applications, 3231 Lecture Notes in Comp. Sci. 397 (2004) ("Ranganathan")	☐
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25	Exhibit C-1 - Invalidity of U.S. Patent No. 10,984,447 ("447 Patent") by U.S. Patent Application Publication No. 2006/0223494 A1 ("Chmaytelli")	☐
26	Exhibit C-2 - Invalidity of U.S. Patent No. 10,984,447 ("447 Patent") by U.S. Patent No. 7,089,264 ("Guido")	☐
27	Exhibit C-3 - Invalidity of U.S. Patent No. 10,984,447 ("447 Patent") by U.S. Patent App. Pub. No. 2008/0032666 A1 ("Hughes")	☐
28	Exhibit C-4 - Invalidity of U.S. Patent No. 10,984,447 ("447 Patent") by U.S. Patent No. 8,219,115 ("Nelissen")	☐
29	Exhibit C-5 - Invalidity of U.S. Patent No. 10,984,447 ("447 Patent") by U.S. App. Pub. No. 2009/0089288 A1 ("Petersen")	☐
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42	Exhibit C-18 - Subject Matter Eligibility Contentions for U.S. Patent No. 10,984,447 ("447 Patent")	☐
43		☐
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Examiner Name	
Attorney Docket Number	0075652.00009

45		☐
46		☐
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	Examiner Name		
	Attorney Docket Number		0075652.00009

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).

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☐ 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	/Ryan J. Hardin/	Date (YYYY-MM-DD)	2022-07-21
Name/Print	Ryan J. Hardin	Registration Number	

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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	Art Unit		
	Examiner Name		
	Attorney Docket Number		0075652.00009

U.S.PATENTS						
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	7089264	B1	2006-08-08	Guido et al.	
	2	7536695	B2	2009-05-19	Alam et al.	
	3	7457628	B2	2008-11-25	Blumberg et al.	
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	5	7089264	B1	2006-08-08	Guido et al.	
	6	7712660	B2	2010-05-11	Keohane et al.	
	7	8219115	B1	2012-07-10	Nelissen	
	8	7054649	B2	2006-05-30	Yamazaki et al.	

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	9	9286652	B2	2016-03-15	Takishima	
	10	10002242	B2	2018-06-19	Jakobsson et al.	
	11	9654978	B2	2017-05-16	Lundblade et al.	
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	13	10248775	B2	2019-04-02	Archibald et al.	
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20	9400403	B2	2015-08-04	Hohlfeld et al.	
21	8943164	B2	2015-01-27	Kies et al.	
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	31	7644126	B2	2010-01-05	Chymaytelli	
	32	10043170	B2	2018-08-07	Minear et al.	
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	42	9503834	B2	2016-11-22	Ross et al.	
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U.S.PATENT APPLICATION PUBLICATIONS

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
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2	20060223494	A1	2006-10-05	Chmaytelli et al.	
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Application Number		17863208
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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

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- ☐ See attached certification statement.
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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.

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(Not for submission under 37 CFR 1.99)

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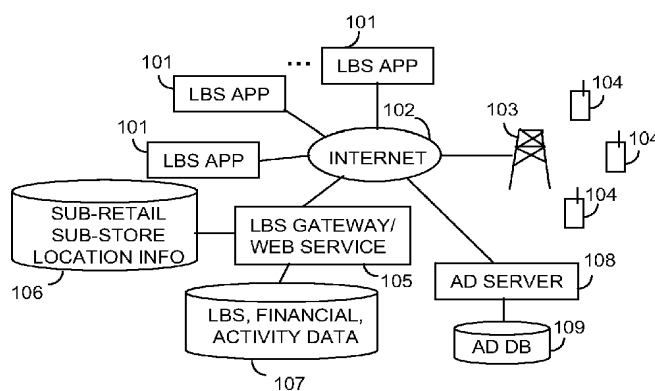
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(54) Title: LOCATION BASED SERVICE FOR DIRECTING ADS TO SUBSCRIBERS, TRANSACTION CARD ACCOUNT CONTROL, SEARCH ENGINE OPERATION, SOCIAL NETWORK APPLICATION COMMUNICATION, AND OTHER INVENTIONS



(57) Abstract: In one embodiment, a method of providing a location based service (LBS), comprises; receiving location information by one or more software programs from a plurality of wireless devices belonging to a plurality of subscribers of one or more location based services; processing the location information, by one or more software programs, to identify specific activities of subscribers at merchant locations from a plurality of predefined set of activities; storing identified activities in a respective activity log for each of the plurality of subscribers; comparing ad parameters against subscriber data, including data stored in the activity logs, to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by determining whether respective subscribers have already completed one or more activities as identified in the respective subscribers' activity logs; and communicating selected ads to wireless devices of the subscribers.

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LOCATION BASED SERVICE FOR DIRECTING ADS TO SUBSCRIBERS,
TRANSACTION CARD ACCOUNT CONTROL, SEARCH ENGINE OPERATION,
SOCIAL NETWORK APPLICATION COMMUNICATION, AND OTHER
INVENTIONS

RELATED APPLICATIONS

[0001] Under Patent Cooperation Treaty (PCT) conventions, this application claims priority to (i) U.S. Patent Application Serial No. 11/559,438, filed 14-NOV.-2006; (ii) U.S. Patent Application Serial No. 11/623,832, filed 17-JAN.-2007; (iii) U.S. Provisional Patent Application Serial No. 60/864,807, filed 08-NOV.-2006; and (iv) U.S. Provisional Patent Application Serial No 60/917,638, filed 11-MAY-2007. Under 35 U.S.C. § 120, the application is a (i) a continuation-in-part of U.S. Patent Application Serial No. 11/559,438, filed 14-NOV.-2006 (which claims the benefit of U.S. Provisional Application Serial No. 60/736,252, filed 14-NOV.-2005, U.S. Provisional Patent Application Serial No. 60/759,303, filed 17-JAN.-2006 and U.S. Provisional Patent Application Serial No. 60/773,852, filed 16-FEB.-2006); (ii) a continuation-in-part of U.S. Patent Application Serial No. 11/623,832, filed 17-JAN.-2007; (iii) a continuation-in-part of 11/747,286, filed 11-MAY-2007; (iv) claims benefit to U.S. Provisional Patent Application Serial No. 60/864,807, filed 08-NOV.-2006; and (v) claims benefit to U.S. Provisional Patent Application Serial No 60/917,638, filed 11-MAY-2007; all of the preceding applications are incorporated herein by reference.

BACKGROUND

[0002] Location based services refer generally to services that provide information to a user in relation to the location of the user. At the present time, location based services are relatively pedestrian in nature and provide relatively simple information. An example of a known location based service is a “weather” service in which the user’s zip code is provided to the service (e.g., through a conventional HTML webpage, a WAP or other cellular phone interface, etc.) through a network and the service responds by communicating the current weather conditions and the forecast for several days. Other known location based services provide “social” applications such as

allowing users to determine each other's locations, receive notification when a friend comes within a predetermined distance, and similar operations. Another type of location based services are generally referred to as "McDonalds finders" that provide search results in a map form (e.g., searching for specific locations of restaurants/stores within a given distance of the user). Other location based services have proposed delivering various types of "advertising" (e.g., when a user arrives at an airport, various ads can be delivered to the user's cellular phone). However, such advertising location based services are quite simplistic and do not possess any appreciable intelligence for selecting advertisements beyond the location of the user.

SUMMARY

[0003] In one embodiment, system for providing one or more location based services, comprises: one or more first software programs executed on one or more wireless devices, the one or more software programs operable to communicate location information indicative of the location of the one or more wireless devices; one or more servers for receiving location information generated by the one or more software programs, the one or more servers executing one or more second software programs, the one or more second software programs being operable to: (i) store location information for subscribers associated with the one or more wireless devices; (ii) process the location information using data defining known activities associated with predetermined locations; (iii) create or maintain one or more logs of information for each respective subscriber, each log containing information indicating activities of the subscribers; and (iv) select ads for communication to the subscribers, the selection of ads comparing ad selection parameters against activity information stored in the logs.

[0004] In another embodiment, the activities identified in the logs are defined in a hierarchical manner. In another embodiment, the logs identify when an activity has been completed. In another embodiment, the logs indicate completion of financial transactions with merchants.

[0005] In one embodiment, the server for LBS services comprises: one or

multiple databases storing information identifying subscribers of one or several LBS applications, wherein the one or multiple databases identifies groups of subscribers that have been detected to be located in close physical proximity on multiple occasions; one or multiple databases for storing advertisements to subscribers; code for determining whether subscribers are currently clustering based upon location information pertaining to subscribers; and code for selecting and communicating advertisements to subscribers based on locations of the subscribers, wherein the code for selecting and communicating determines selects ads for subscribers depending upon whether subscribers have been determined to be clustering.

[0006] In another embodiment, a method comprises the operations performed by the one or more first programs, by the one or more second programs, and/or the LBS applications.

[0007] In another embodiment, a method of providing a location based service (LBS), comprises: receiving location information by one or more software programs from a plurality of wireless devices belonging to a plurality of subscribers of one or more location based services; processing the location information, by one or more software programs, to identify activity of subscribers at merchant locations; maintaining a respective profile, by one or more software programs, for each of the plurality of subscribers that reflects norm shopping activity for the respective subscriber; comparing information pertaining to current or recent shopping activity, by one or more software programs, for each subscriber of the plurality of subscribers against information stored in the profile of the respective subscriber; selecting ads, by one or more software programs, for each subscriber of the plurality of subscribers in relation to the comparing; and communicating, by one or more software programs, the selected ads to plurality of wireless devices belonging to the plurality of subscribers.

[0008] The selects ads can be communicate to wireless devices while the plurality subscribers are conducting current shopping activity. In another embodiment, each profile comprises one or more activity norm parameters for a plurality of merchant types.

[0009] In another embodiment, each shopping behavior profile stores information related to a number of purchases typically conducted by the respective subscriber, wherein the selecting compares a number of recent purchases made by the respective subscriber against information stored in the respective subscriber's shopping behavior profile to select ads for communication to the respective subscriber.

[0010] The foregoing has outlined rather broadly certain features and/or technical advantages in order that the detailed description that follows may be better understood. Additional features and/or advantages will be described hereinafter which form the subject of the claims. It should be appreciated by those skilled in the art that the conception and specific embodiment disclosed may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the appended claims. The novel features, both as to organization and method of operation, together with further objects and advantages will be better understood from the following description when considered in connection with the accompanying figures. It is to be expressly understood, however, that each of the figures is provided for the purpose of illustration and description only and is not intended as a definition of the limits of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIGURE 1 depicts a system in which multiple LBS applications provide location based services to multiple subscribers and in which advertisements can be directed to the multiple subscribers using multiple types of information according to one representative embodiment.

[0012] FIGURE 2 depicts a block diagram of a subscriber device adapted for delivery of advertisements according to one representative embodiment.

[0013] FIGURE 3 depicts a flowchart for identifying clustering according to one representative embodiment.

[0014] FIGURE 4 depicts a flowchart for processing cluster data according to one representative embodiment.

[0015] FIGURE 5 depicts a flowchart for utilizing cluster information according to one representative embodiment.

[0016] FIGURE 6 depicts a flowchart for utilizing cluster information according to another representative embodiment.

[0017] FIGURES 7-14 depict activity norm summary information that can be compiled or calculated for use in selecting ads to communicate to subscribers according to some representative embodiments.

[0018] FIGURES 15-17 depict respective flowcharts for processing activity information and/or financial transaction information to generate respective norm parameters for storage in subscriber profiles according to some representative embodiments.

[0019] FIGURES 18 and 19 depict activity norm profiles and for different merchant types according to some representative embodiments.

[0020] FIGURE 20 depicts activity norm analysis that cross-correlates selected financial transaction behavior to other subscriber behavior.

[0021] FIGURE 21 depicts activity norm analysis that cross-correlates selected activities and/or sub-activities to financial transactions according to one representative embodiment.

DETAILED DESCRIPTION

[0022] Some representative embodiments are directed to systems and methods for monitoring data associated with users of location based services and directing advertisements to the users.

[0023] Referring now to the drawings, FIGURE 1 depicts a system in which multiple LBS applications and other applications 101 provide location based services to multiple subscribers 104 and in which advertisements can be directed to the multiple subscribers 104 using multiple types of information. Applications 101 may include one or more social network application such as the social network applications described in APPENDIX B. Applications 101 may include one or more search applications such as the search applications described in APPENDIX C.

[0024] As shown in FIGURE 1, there are preferably a plurality of LBS applications 101 (executed one or more servers or other suitable platforms) that provide location based services to subscribers 104. LBS applications 101 can provide conventional location based services such as map/navigation services, weather services, local merchant search services, etc. The LBS applications 101 can further include financial or shopping location based services as described in U.S. Provisional Patent Application No. 60/736,252, filed Nov. 14, 2005, 60/759,303, filed 01/17/2006 and 60/773,852, filed 02/16/2006, which are all incorporated herein by reference in their entirety. LBS applications 101 can include "social" LBS applications or gaming LBS applications that facilitate different types of subscriber interaction. LBS applications 101 receive location information that is indicative of the current location of subscribers 104 and communicate LBS information to the subscribers 104 according to the location information either upon request by the subscribers 104 or automatically depending upon the nature/purpose of the particular LBS application 101. The application data is preferably communicated through Internet 102 and a wireless network 103 (e.g., a cellular network) to subscribers 104. The subscriber devices 104 can be any type of suitable wireless device (e.g., cellular phones, "smartphones," wireless e-mail devices, wireless capable PDAs, etc.) that possess the ability to determine their approximate current location or communicate through a network that enables the approximate location to be determined.

[0025] LBS applications 101 also communicate with LBS gateway/web service 105. In preferred embodiments, subscribers 104 communicate their current location to LBS gateway/web service 105. Also, as subscribers 104 wish to access various LBS

applications, subscribers 104 communicate their activation of an LBS application to LBS gateway/web service 105. Gateway/web service 105 then intermediates communication between the selected LBS application(s) 101 and the respective subscribers 104. Thus, subscribers 104 can access multiple LBS applications through the same source. Also, subscribers 104 only need to communicate their current location to the same destination which is then available to any LBS application 101 as appropriate.

[0026] Although LBS gateway/web service 105 provides such gateway services, the gateway services are not critical to all embodiments. In alternative embodiments, LBS applications 101 can report to web service 105 (i) the current location of subscribers 104 to web service 105 as subscribers 104 utilize their respective applications and (ii) when a respective subscriber 104 accesses an application and ceases use of the application (if applicable).

[0027] Gateway/web service 105 maintains a log of locations where subscribers 104 visited in DB 107. Also, LBS application 101 maintains a log of interaction with or access to particular LBS applications 101. Additionally, gateway/web service 105 preferably maintains a log of financial transactions completed by various LBS subscribers as identified by financial LBS applications 101 (e.g., a budget LBS application, a fraud monitoring LBS application, etc.) and communicated to gateway/web service 105.

[0028] Gateway/web service 105 utilizes the location information, LBS application interaction information, and/or financial information to infer the activities performed by the subscribers and the current activity being performed by the subscribers. The logs of activities for subscribers and current activities being performed are stored in DB 107. The logs of activities enable more accurate selection of ads, incentives, offers, etc. to be directed to subscribers as will be discussed below.

[0029] In some embodiments, the following activities and sub-activities are defined: (i) commuting; (ii) work; (iii) school; (iv) dining - (a) fast food; (b) casual;...fine dining; (v) entertainment - (a) movie; (b) music venue;...bar; (vi) sports/recreation - (a) health club; (b) golf; (c) athletic complex/fields;...gaming; (vii) shopping - (a) groceries;

(b) gas; (c) clothing, shoes, accessories; (d) home decoration; (e) home improvement;...sports equipment; (viii) social; (ix) traveling/vacation, etc. Of course, these activities and sub-activities are by way of example and any other activities and/or sub-activities could be additionally or alternatively employed. Also, it shall be appreciated that the activities need not be mutually exclusive in that a single subscriber could be engaged in multiple activities at the same time. The information can be encoded in any suitable ontology. For example, a hierarchical classification of the types of locations could be formulated. In one embodiment, specific merchants are defined within the hierarchical framework within shopping related activities. An example branch in such a hierarchical framework could be RETAIL: shopping: big-box store: TARGET®: grocery section. In alternative embodiments, any such hierarchical descriptors assignable to locations that indicate the nature of the activity being undertaken by a subscriber may be employed. Importantly, in some embodiments, many of the activities and sub-activities are related to activities at physical locations (e.g., specific locations, specific merchants, etc.).

[0030] In some embodiments, a current activity of a subscriber can be inferred from the type of LBS application 101 that the subscriber is accessing. For example, if a subscriber is utilizing a navigation LBS application and the subscriber has not reached their destination, it may be inferred that the subscriber is commuting. If a subscriber is utilizing a social application, certain activities (work, school, etc.) can be eliminated while other activities can possess a greater probability (e.g., dining, entertainment, etc.). Accordingly, when gateway/web service 105 attempts to infer the current activity of a subscriber, gateway/web service 105 identifies the LBS applications 101 that are currently active for the subscriber.

[0031] In some embodiments, gateway/web service 105 utilizes information in DB 106 to infer the activity of the user. In general, DB 106 correlates specific locations to one or several specific activities. For example, DB 106 can be constructed by “mapping” the addresses or coordinates of residential areas, retail districts, schools, health care facilities, sports/athletic facilities, etc. to the particular activities that are customary to those types of locations. Additionally, DB 106 includes information at

several geospatial “resolution” levels. In some embodiments, DB 106 comprises geo-coordinates or other spatial information that define (i) various retail districts at a higher level, (ii) specific malls, strip-malls, stand-alone stores, etc. within a retail district, (iii) specific stores; and (iv) sub-store locations. In sub-store locations, the specific goods or specific service provided can be identified. By maintaining a log of the locations visited by a subscriber and the amount of time spent at the locations, the activities of a user can be estimated. Sub-store locations can be determined utilizing any number of mechanisms and/or algorithms. For example, a GPS receiver could be employed provided the GPS receiver possesses sufficient antenna gain and sufficient reception within the store. Alternatively, many retail locations utilize multiple WiFi access points. The particular ID's of the WiFi access points that are detectable and/or the relative signal strength of the WiFi access points can be utilized for an intra-store location determination. Also, sub-store locating functionality can be utilized to ascertain whether a subscriber has made a purchase at a particular merchant. For example, if a subscriber has spent an amount of time near a location where a cash-register is known to be present and the subscriber leaves the store after being at that location, it may be inferred that the subscriber has made a purchase at that store.

[0032] Financial information captured by financial related LBS applications 101 can be used to augment the identification of subscriber activities. In such financial related applications 101, the applications monitor user accounts for the completion of transactions (e.g., credit or debit card transactions). Using the merchant information (merchant ID, merchant name, merchant classification, etc.) in the transaction information, the activity can be more closely estimated. For example, if a user is located within a mall and the user previously purchased items at a clothing store, the specific current shopping activity can be inferred to include clothing shopping even though the user may temporarily depart from stores containing such items. Alternatively, transaction information may signal that a particular activity has been completed by the user. For example, if a user makes a purchase at a grocery store that is typical for their weekly grocery purchases, one can conclude that the user will not be conducting further significant grocery shopping for some amount of time. Transaction information can be obtained using the systems disclosed in U.S. Patent Application No. 11/623,832, filed

Jan. 17, 2007 which is attached hereto as APPENDIX A.

[0033] As an example of a user log could be given by: 6:00am-8:30am: undefined; 8:30am-9:00am: banking; 9:15am-10:20am: grocery shopping; 12:15pm-1:00pm; dining (fast food); 1:30pm-2:00pm: commuting; 2:00pm: begin shopping (clothing): clothing purchase made at 2:35 at young women's depart. of dept. store retailer. In some representative embodiments, logs can be reviewed by advertisers, although the specific identity of subscribers are preferably not reviewable. In alternative embodiments, the logs are not actually reviewable by advertisers. Instead, the logs are merely maintained in DB 107 and advertising parameters are compared against the information in the logs to direct advertisements.

[0034] By providing such a log of activities (previously performed and currently performed), a more intelligent selection of ads for communication to the subscriber can occur. For example, when the grocery shopping activity has been completed, selection of ads for specific grocery items will have relatively little value. Depending upon the purchasing behavior of the subscriber, it may be advantageous to send the subscriber clothing-related advertisements while the subscriber is clothing shopping (even after one or several purchases have been made). Alternatively, if the subscriber has already spent more than the subscriber usually spends as reflected in the prior purchases, it may not be advantageous to send more clothing advertisements since the subscriber may have already spent their limit and is only currently "browsing," i.e. the probability of further purchases can be estimated as being low.

[0035] In some embodiments, activity norms and financial norms are calculated by observing subscriber behavior over a period of time. For the purpose of this application, the term "norm" parameter refers to a parameter that is indicative of a general level or average for the particular subscriber. For example, for grocery shopping norms, the typical period between grocery shopping (e.g., in days), the typical day(s) for grocery shopping, the average amount spent, the range of amounts spent, the standard deviation of amounts spent, the type of stores in which grocery shopping occurs, etc. can be compiled from location information and financial information obtained by LBS

applications. As another example, for clothing-type shopping norms, the typical day(s) for shopping, the average amount spent, the standard deviation of amounts spent, the number of transactions per shopping event, the average amount of time spent shopping at a particular retail location and/or per day, the types of stores visited, etc. can be compiled, the types of items purchases (if known), etc. can be compiled. Also, correlation between activities can be compiled. For example, it may be observed that a particular subscriber may routinely engage in a “dining (fast food)” activity after engaging in “recreation - sports complex” activity. Subscriber activity and/or financial norms are then compared against subscriber’s more recent activities for the purpose of ad selection.

[0036] By compiling such information, intelligent selection of ads for subscribers may occur. In preferred embodiments, advertisers upload ads into ad DB 109 through ad server 108. Also, the advertisers specify any specific ad parameters for association with their various ads. The ad parameters are compared by ad server 108 against subscriber information and the activity information and norm information in DB 107. When the information in DB 107 satisfies the ad parameters for particular subscribers, the respective ad(s) are communicated to those subscribers by ad server 108. Any other ad selection criteria can be employed. For example, the ads of certain advertisers can be prioritized based upon purchased ad placements. The payment for placement of ads may include payments to prioritize ad placement according to any ad parameter discussed herein or in the related APPENDICES. For example, payments for ad placements may occur according to purchasing norm parameters, clustering parameters, shopping timing parameters, etc. which are discussed below. The payments for ad placements may also utilize any such parameters in combination or in combination with other subscriber data. For example, an advertiser may pay for ad placements for subscribers that typically spend greater than \$200 per shopping trip, shop at a specific type of retail establishment, and that fit a given demographic profile. All such combination of ad parameters are contemplated according to some representative embodiments.

[0037] Referring now to FIGURE 2, subscriber device 200 is shown that is adapted for delivery of advertisements according to one representative embodiment.

Subscriber device 200 can be any suitable wireless device, such as a cellular phone, that is capable of executing software instructions. The software instructions on subscriber device 200 preferably include multiple LBS applications 203. The local LBS applications 203 contact remote LBS applications 101 to deliver the application location based information to the subscriber. Subscriber device 200 further includes LBS agent 201. LBS agent 201 preferably manages or intermediates the communication of location LBS applications 203 with remote LBS applications 101. LBS agent 201 preferably forwards location information to the appropriate LBS applications 101 at times defined by the respective applications. Also, LBS agent 201 receives messages from LBS applications 101 and forwards the messages to the respective local LBS applications 203 as appropriate. LBS agent 201 simplifies the implementation of LBS applications 203 and prevents conflict or difficulties in the execution of local LBS applications 203. Also, LBS agent 201 can manage updates to any LBS functionality that is common to all LBS applications 203 or one or several specific LBS applications 203.

[0038] Subscriber device 200 further comprises software for presenting ads to subscribers in an efficient manner. In one embodiment, subscriber device 200 comprises ticker software application 204 and ad detail menu application 205. In preferred embodiments, some ads are communicated to LBS agent 201 of subscriber device 200 using SMS messaging. The SMS messages preferably detail how the ad is to be presented to the subscriber. Preferably, the SMS messages detail whether the ad is to be placed into a ticker, for how long, and what particular text is to be displayed in the ticker. A ticker generally refers to a scrolling stream of characters on a screen of the wireless device (e.g., that mimics a “ticker-tape” in electronic form). LBS agent 201 provides the appropriate information to ticker software application 204 to display to the user when the user reviews the screen of subscriber device 200 (e.g., when the subscriber opens his/her phone). Also, the SMS messages preferably detail information to be placed in a menu type form that provides a more detailed presentation of ads for subscriber review. Also, should a subscriber desire to view additional detail for an ad or download a digital coupon, a hyperlink can be included for user selection that causes browser application 206 to download the corresponding content.

[0039] In some embodiments, “digital coupons” are communicated to subscriber devices 104 through the ad selection functionality of ad server 108 and ad DB 107. The digital coupons are preferably implemented by use of a digital image encoded according to a digital rights management (DRM) scheme. The digital image can display the “coupon” details, such as product/store/location/purchase conditions, the amount of the coupon, etc. Also, the digital image preferably includes a “code” (e.g., an alphanumeric string) that authenticates the validity of the coupon. When a subscriber wishes to use a digital coupon, the user can present the screen of the subscriber device 104 displaying the digital coupon to a clerk of a merchant. A merchant that has previously agreed to accept such digital coupons can enter the code into the merchant’s POS device during a transaction. The merchant’s system can then determine the validity of the coupon in real-time by communicating the code to a suitable server. Upon determining the validity of the coupon, the merchant’s POS device can suitably adjust the transaction total. Also, the merchant’s system can use the code to obtain settlement of the coupon amount at a later appropriate time using the code.

[0040] The DRM functionality can be used for several purposes in the digital coupon process. In some embodiments, the DRM functionality ties the digital coupon to a specific subscriber device 104, i.e., the digital image is not decrypted by other subscriber devices. Also, in some embodiments, location information can be encoded within the DRM rules. For example, spatial coordinates and a radius distance can be defined such that the digital image is only decrypted by the DRM software when the user is within the area defined by the spatial coordinates and the radius distance (to ensure that the coupon is only presented at desired retail locations/merchants, etc.). That is, the DRM software accesses the current location of the subscriber device 104 and selectively decrypts the digital image by comparing the current location to the location rules defined in the DRM license associated with the digital coupon.

[0041] In some embodiments, a short “ad” of several seconds (e.g., a promotional video) is incorporated with a digital coupon. When a subscriber initially reviews the digital coupon, the promotional video is played. After the promotional video is played, the digital image containing the coupon information is then displayed. The

DRM license can contain a DRM rule that causes the video to be deleted upon review for the purpose of minimizing the memory usage of the digital coupon over time.

[0042] Some representative embodiments can provide a number of advantages. For example, by maintaining a database of sub-locations within specific stores and the types of goods at those sub-locations, intelligent selection of ads for delivery to subscribers can occur. For example, in ordinary e-advertising and LBS advertising, it is most likely never useful to communicate an advertisement for an inexpensive, somewhat common-place food item. That is, the ad will have a very low probability of affecting the subscriber's purchasing activities. However, if it is known that a subscriber is standing in a particular grocery aisle of a "big-box" retailer that contains that type of food item according to representative embodiments, communication of such an ad may make economic sense because the probability of the ad being successful in affecting the purchasing behavior is much higher than if the ad were communicated when the subscriber is at another type of location.

[0043] Additionally, by providing a log of activities, selection of ads for subscribers can occur in a much more efficient and effective manner than possible according to conventional LBS applications. That is, subscriber activities provide a more reasoned basis for estimating the appropriateness of an ad for a subscriber than the mere current location of the subscriber. Also, by aggregating data over time and data from multiple sources, the activities of a subscriber can be more accurately inferred. Also, by compiling historical norms, the effectiveness of an advertisement in affecting immediate purchasing behavior can be more readily determined.

[0044] FIGURES 7-14 depict activity norm summary information 700, 800, 900, 1000, 1100, 1200, 1300, and 1400 that can be compiled or calculated for use in selecting ads to communicate to subscribers according to some representative embodiments.

[0045] FIGURE 7 depicts activity summary profile 700 according to one representative embodiment. Activity summary profile 700 stores information that indicates the amount of time spent by a subscriber for a plurality of activities. Also, the

information is provided in a hierarchical manner. Specifically, the amount of time is shown for various sub-activities. As shown in FIGURE 7, for ACTIVITY 1, the average amounts of time spent for ACTIVITY 1 per day of the week (Sunday through Saturday) are represented by parameters V1-V7. The standard deviations for the amounts of time spent for ACTIVITY 1 per each day of the week are represented by parameters s1-s7. The average amounts of time spent per week and per month for ACTIVITY 1 are represented by parameters V8 and V9 and the standard deviations for time spent per week and per month are represented by s8 and s9. In a similar manner, average amounts of time and standard deviations are shown for SUBACTIVITIES, i.e., (V'1-V'9, s'1-s'9) for a first sublevel activity and (V''1-V''9, s''1-s''9) for a second sublevel activity. Any suitable number of subactivities and levels of subactivities could be so provided. As shown in FIGURE 7, this type of information is repeated for a plurality of activities (through "ACTIVITY N").

[0046] FIGURE 8 depicts activity probability profile 800 according to one representative embodiment. Activity probability profile 800 is defined for one day of the week (i.e., Sunday). Preferably, similar profiles (not shown) are defined for other days of the week. Profile 800 defines the probability that a subscriber will engage in a particular activity within a given time frame. For example, the probability that the subscriber will engage in ACTIVITY 1 between 5am and 6am is defined by the parameter P1. Likewise, the probabilities for the other hours of the day for ACTIVITY 1 are defined by parameters P2-P24. Probabilities for hierarchical subactivities are shown in parameters P25-P48 and P49-P72. Probabilities are preferably defined for a plurality of activities through ACTIVITY N.

[0047] FIGURE 9 depicts shopping activity profile 900 according to one representative embodiment. Profile 900 comprises relatively high level shopping summary information. Profile 900 comprises the average amounts of time spent shopping per each day of the week, per week, and per month in parameters X1-X9. The standard deviations for these times are shown in parameters x1-x9. The shopping frequencies for these time periods are represented by parameters F1-F9. The shopping frequency represents the average number of discrete shopping trips taken by the

subscriber for the respective time period. The standard deviations for the shopping frequency for these periods are represented by parameters f1-f9. The average amounts of time per shopping trip are represented by parameters T1-T9 for these time periods with the standard deviations represented by parameters t1-t9.

[0048] The average amounts of time spent shopping per shopping location (e.g., MALL X, MALL Y,...MALL Z, etc.) is shown for a plurality of locations for these time periods. The locations are preferably retail locations in which there are multiple merchant stores in relatively close proximity such as a mall or retail district. For LOCATION 1, the average amounts of time for the various time periods are represented by parameters L1-L9 with the standard deviations represented by parameters l1-l9. Also, the average numbers of stores visited by retail location for the time periods for LOCATION 1 are represented by parameters SL1-SL9 with the standard deviations represented by parameters sl1-sl9. Similar parameters are defined for a plurality of locations (as shown through LOCATION Z).

[0049] FIGURE 10 depicts merchant type shopping profile 1000 according to one representative embodiment. Profile 1000 preferably stores average amounts of time spent shopping for a plurality of merchant types (e.g., clothing retailers, electronics retailers, bookstores, big-box retailers, grocery retailers, etc.). Also, the standard deviations are defined (denoted by the "s" prefix). The amounts of time and standard deviations are preferably calculated or compiled for each day of the week, per week, and per month time periods. Also, average amounts of time and standard deviations are defined for sub-store locations or departments for various merchant types. Such information is preferably compiled or calculated for a plurality of merchant types (shown as MERCHANT TYPE 1 through MERCHANT TYPE X). FIGURE 11 depicts merchant shopping profile 1100 according to one representative embodiment. Profile 1100 stores the same type of information as profile 1000 except the information pertains to specific merchants as opposed to types of merchants.

[0050] When financial transactions are monitored and logged, shopping activity norms in terms of purchases are preferably compiled or calculated. FIGURE 12 depicts

shopping purchase profile 1200 according to one representative embodiment. Profile 1200 stores average numbers of purchases per shopping trip (parameters NP1-1 through NP1-9) and average amounts spent per shopping trip (parameters DP1-1 through DP1-9) for each day of the week, per week, and per month time frames. The standard deviations for these values are also given (parameters sNP1-1 through sNP1-9 and sDP1-1 through sDP1-9). Average numbers and amounts of purchases for locations are defined (LOCATION 1 through LOCATION N) as shown in parameters NP-L1-1 through NP-L1-9... NP-LN-1 through NP-LN-9 and DP-L1-1 through DP-L1-9...DP-LN-1 through DP-LN-9. Standard deviations are also defined for the locations for these time frames as shown in parameters sNP-L1-1 through sNP-L1-9...sNP-LN-1 through sNP-LN-9 and sDP-L1-1 through sDP-L1-9...sDP-LN-1 through sDP-LN-9. Merchant type purchase profile 1300 (FIGURE 13) and merchant purchase profile 1400 (FIGURE 14) depict similar purchase information (number of purchases, dollar amounts, standard deviations) by merchant types and specific merchants.

[0051] FIGURE 15 depicts a flowchart for processing shopping activity information for a respective subscriber to generate profile information according to one representative embodiment. In 1501, activity information is retrieved for the last 6 months in a preferred embodiment (although any other suitable length of time could be selected). The activity information is preferably retrieved from pre-existing activity logs according to one embodiment. Alternatively, location based information could be retrieved and correlated to activities in conjunction with the norm building process. In 1502, total time is calculated for each activity (and subactivity) per day of week, per week, per month. In 1503, the total amounts of time are divided by the numbers of each of days of the week, the number of weeks, and the number of months for the selected period of time. The values are stored in one or more profile(s).

[0052] In 1504, the number of times that each activity (subactivity) was performed in various time periods (e.g., each hour interval per day of week) is calculated. In 1505, the numbers of times for each activity/subactivity are divided by the total numbers of each of the days of the week in the selected period of time and the resulting values are stored in one or more profile(s).

[0053] In 1506, the number of times that the subscriber went shopping over the selected period and for each day of week are calculated. In 1507, the calculated numbers of times are divided by the number of months, the number of weeks, and the number of days, respectively. The resulting values are stored in one or more profile(s).

[0054] FIGURE 16 depicts a flowchart for processing shopping activity information for a respective subscriber to generate profile information according to one representative embodiment. In 1601, activity log information is retrieved for last 6 months (or any other suitable period of time). In 1602, the total amount of time spent shopping over the selected period of time is calculated. Also, the total amount of time for the selected period for each day of the week is also calculated. In 1603, the calculated values are divided by the numbers of each day of the week, number of weeks, number of months in the selected period of time and the resulting values are stored in one or more profiles to generate the average amounts of time spent shopping per day of week, per week, and per month. In 1604, the standard deviations for the various time periods are calculated and stored in one or more profiles.

[0055] In 1605, the calculation of averages and standard deviations for the time is repeated for a plurality of shopping locations or respective retail locations in which multiple merchants are present. The calculated values are stored in one or more profile(s). In 1606, the calculation of averages and standard deviations are repeated for each merchant type and sub-store location. The calculated values are stored in one or more profile(s). In 1607, the calculation of averages and standard deviations are repeated for each merchant and sub-store location. The calculated values are stored in one or more profile(s).

[0056] In 1606, the calculation of averages and standard deviations is repeated for each discrete shopping trip. That is, an individual shopping trip refers to a period of time where a subscriber was substantially continuously engaged in a shopping activity. The average amounts of time spent shopping per shopping trip per each day of week, per week, and per month are calculated and the standard deviations are calculated.

[0057] In 1607, the numbers of times that the subscriber went shopping over the

selected period and for each day of week over the selected period are calculated. In 1608, the calculated values are divided by the number of months, the number of weeks, the number of each day of the week in the selected period of time and the resulting values are stored in one or more store in one or more profiles.

[0058] FIGURE 17 depicts a flowchart for processing financial activity information for a respective subscriber to generate profile information according to one representative embodiment. In 1701, transaction information is retrieved for last 6 months or any other suitable period of time. In 1702, the total numbers of purchases for each day of week and total number of purchases are calculated. In 1703, the total dollar amounts of purchases are calculated for each day of the week and total dollar amount of purchases over the selected period of time are calculated. In 1704, the calculated values (from 1702 and 1703) are divided by the numbers of each day of the week, the number of weeks, and the number of months within the selected period to calculate the average values to be stored in the one or more profile(s). In 1705, the standard deviations for respective time periods are calculated and stored in one or more profiles.

[0059] In 1706, the calculations are repeated to calculate the averages and standard deviations for the various time periods for each shopping trip. The calculated values are stored in one or more profile(s). In 1707, the calculations are repeated for each shopping location. The calculated values are stored in one or more profile(s). In 1708, the calculations are repeated for each merchant type. In 1709, the calculations are repeated for each merchant. The calculated values are stored in one or more profile(s).

[0060] FIGURES 18 and 19 depict example activity norm profiles 1800 and 1900 for different types of merchants according to some representative embodiments. Norm profiles 1800 and 1900 are preferably compiled by monitoring activity information as determined using LBS data and financial information for the respective subscriber. Any number of similar profiles can be defined for other types of shopping or spending activities. Preferably, some profiles are created and maintained for each subscriber, although not every profile need be created and maintained for each subscriber as some subscribers may not sufficiently engage in the respective activity for the information to

be useful.

[0061] Norm profile 1800 depicts activity norm data for “FAST FOOD DINING.” Norm profile 1800 depicts the percentage of times that the subscriber engages in the activity at the respective times (by breakfast, lunch, and dinner) for each day of the week and the average amount spent at each respective time when the subscriber decides to engage in the activity. It may be observed that at certain times the subscriber dines with other parties, such as members of the subscriber’s family, while at other times the subscriber dines alone (compare breakfast on Sunday with lunch on Wednesday). Profile 1800 further details percentages of purchases by restaurants and restaurants types. For example, profile 1800 indicates that the subscriber dines at restaurant A 35% of time when the subscriber decides to engage in fast food dining. Profile 1800 further indicates that the subscriber dines at a restaurant of type A 45% of the time when the subscriber decides to engage in fast food dining.

[0062] Norm profile 1800 preferably indicates other activities that are correlated to fast food dining. For example, norm profile 1800 indicates that when the subscriber is engaged in a “work - traveling” activity, the subscriber engages in fast food dining 76% of the time (during or shortly thereafter the work-traveling activity). Also, norm profile 1800 indicates that when the subscriber is or recently has engaging in a “shopping mall” activity, the subscriber engages in fast food dining 44% of the time (during or shortly thereafter the shopping mall activity). By providing such correlation information, specific ads can be directed to a subscriber at an appropriate time. Specifically, the ads might be able to reach the subscriber before the subscriber has made a decision to engage in a specific activity or to go to a specific merchant. That is, if only current location data is utilized, “fast food dining” ads might not be selected. Accordingly, the subscriber may make a decision to engage at a specific fast food restaurant before ads are ever communicated to the subscriber. Some embodiments potentially enable ads to be communicated to the subscriber at a relevant time but before the subscribers has made such a decision. Thereby, the “steering” ability of communicated ads according to some embodiments may be relatively high.

[0063] Norm profile 1900 is similar to norm profile 1800 except that norm profile 1900 includes norm parameters relevant to clothing shopping, clothing merchants, and clothing merchant types (e.g., young-women's retailer, designer retailer, discount retailer, etc.). Profile 1900 includes additional information. For example, norm profile 1900 preferably includes a parameter that indicates that the number of clothing-related purchases that the subscriber typically makes per shopping trip. Norm profile 1900 may also include information indicative of the typical goods or type of goods purchased by the subscriber (e.g., if the information is made available by the retailers in connection with coupon, discount, or payment settlement processes).

[0064] Profile 1900 also preferably includes information that relates a correlation between other financial considerations and the purchase of clothing. Profile 1900 indicates that there is an increased probability of 50% of clothing purchases immediately after deposits into a financial account of the subscriber (e.g., when a paycheck or other funds are deposited in the account). Also, there is an increase in the average amount of said purchases immediately after deposits of 70%. It is seen, for this subscriber, that clothing purchases are highly correlated to available funds and, accordingly, the selection of ads for this subscriber should also depend upon the deposit of funds into the subscribers account (e.g., in terms of timing of the deposits and the amounts of the deposits).

[0065] Profile 1900 indicates decreased probability of 20% immediately after out of budget expenses. Profile 1900 further indicates a decreased average amount of purchase immediately after out of budget expenses of 50%. In general, expenses may be categorized by analyzing the financial activity of a subscriber to assign expenses/payments to various categories. See APPENDIX A. Significant deviations (e.g., greater than 20%, 30%,...50%, or any suitable dollar amount) from typical expenses for a significant budget category may indicate that the subscriber is currently experiencing financial difficulty or unexpected expenses. For some subscribers, such unexpected expenses may cause the subscribers to curtail certain other purchases. By correlating such unexpected expenses to purchasing behavior, subscriber reaction to subsequent unexpected expenses may be predicted and ad selection modified in response

thereto. Accordingly, such information can be obtained and stored in subscriber profiles according to some representative embodiments for the purpose of ad selection for subscribers.

[0066] FIGURE 20 depicts activity norm analysis that cross-correlates selected financial transaction behavior to other subscriber behavior. In 2001, deviations in typical expenditures (e.g., deviations exceeding 10%, 20%, 30%, and 40% of typical discretionary or other spending) are identified. Such deviations may be performed to identify unexpected expenses or significant purchases that may impact other purchasing decisions of the subscriber. In 2002, changes in purchasing behavior after identified deviations are identified for multiple shopping / spending categories in terms of probabilities of purchases and amounts of purchases. In 2003, changes in probabilities and amounts of purchases are stored in profiles for the various identified deviations (if any). In 2004, changes in purchasing behavior after deposits into subscriber account(s) in terms of probabilities of purchases and amounts of purchases are analyzed. In 2005, changes in probabilities and amounts of purchases are stored in profiles for various deviations. In 2006, changes in purchasing behavior in relation to variation in amounts of deposits into subscriber account(s) in terms of probabilities of purchases and amounts of purchases are analyzed. In 2007, changes in probabilities and amounts of purchases are stored in profiles for various deviations.

[0067] FIGURE 21 depicts a flowchart to identify correlations between purchasing behavior of a subscriber and various activities performed by the subscriber according to one representative embodiment. In 2101, an activity and/or subactivity of subscriber is selected for analysis. In 2102, occurrences of selected activity / subactivity in activity logs for a suitable time period (e.g., six months) are identified. In 2103, a logical comparison is made to determine whether the selected activity / subactivity has been performed greater than x number of times within the period of time. If so, the process flow proceeds to 2104. If not, the process flow proceeds to 2107.

[0068] In 2104, financial transactions within predetermined time period of each occurrence of activity / subactivity are retrieved (e.g., within one, two, or three hours, for

example). In 2105, transaction types that have occurred at least y% of the time that the activity / subactivity was performed by subscriber are identified (e.g., clothing purchases, payments for dining, payments for various forms of entertainment, etc.). A suitable percentage of the time may be 50% according to one embodiment (although any other suitable percentage could be employed for other embodiments). In 2106, identified transaction types and % for each type of financial transaction are stored in one or more profile(s).

[0069] In 2107, a logical comparison is made to determine whether other activities / subactivities have been performed by the subscriber within the last six months or other selected time period. If so, the process flow returns to 2101 for selection of another activity / subactivity. If not, the process flow ends at 2108.

[0070] In some embodiments, the information stored in DB 107 is utilized to analyze and detect the collective activities of subscribers. In some embodiments, “clustering” of subscriber activity is detected. As used in this application, clustering refers to multiple subscribers engaging in a common activity or activities within the relatively same geographical location. Clustering of such individuals could be detected over time by repeatedly observing the close proximity in the locations of such individuals. That is, because the same subscribers are observed in very close physical proximity on multiple occasions, some type of relationship is believed to exist between such subscribers. Specifically, their repeated presence together is not a mere accident. Alternatively, the relationship between such subscribers could be known using a priori information (e.g., as provided by one or several of the subscribers when opening an account with some web or other application, as defined by a social networking application, etc.). It shall be appreciated that clustering is not limited to any particular type of relationship. Clustering may occur in many contexts, e.g., family activities, gatherings of friends, business meetings, etc.

[0071] Clustering provides valuable insight into the expected behavior of subscribers and especially commercial behavior. Thus, the detection of clustering provides a valuable mechanism to direct various types of advertising to such subscribers.

The advertising may take the form of direct ads sent to wireless devices of the subscribers, e-mail advertisements, web page advertisements, etc. The communication of ads may occur while the clustering is taking place or may occur at a later time. The communication may occur before the clustering takes place. That is, it may be possible to predict a clustering event (e.g., the specific subscribers have been observed to cluster at the same approximate time/day, etc.) based on prior subscriber behavior. In such a case, delivery of the ads may occur immediately before the estimated time of the predicted clustering event as an example.

[0072] As an example, a family may decide to go to a mall on a weekend day. It is quite common for multiple members of the family to possess their own cellular phones. Perhaps, each parent and each teenager in the family would possess their own cellular phone or other wireless device. Assuming that each family members' wireless device possesses a suitable LBS application that reports the respective subscriber's location to an LBS application or LBS gateway, the clustering of the family members can be detected. For example, when the family members initially enter the mall, the family members' respective GPS data may be very similar. That is, the LBS applications of their wireless devices may report substantially similar location information. Also, as each family member enters the mall, the GPS reception may fade at substantially the same time (which can be communicated to an LBS application or gateway). Using such close GPS or other location information, their very close proximity to each other can be detected thereby indicating that a clustering event is occurring. Each member of the family may not necessarily be within very close proximity for the entire expedition to the mall. However, during the common activity, the activities of the family members will most likely be inter-dependent in many ways even though the members are not necessarily in very close proximity the entire time.

[0073] For example, the family members may initially separate to frequent each family member's favorite stores. However, the family members may gather back together to eat lunch or dinner together. Also, the purchases of the family members may be quite different when the family members are together as opposed to when the family members go shopping individually. For example, when a family is found to be clustering,

purchasing may be skewed towards the children or teenagers of the family. If the parents are found to cluster without the children, a different set of purchasing behavior could be expected. Likewise, if each individual were determined to be shopping alone, the purchasing behavior again may be different. Further, shopping in the context of peers or friends can exhibit another set of purchasing norms. Additionally, the individual making the purchases may be different depending upon the presence of other individuals. For example, a parent may decide to go to a particular establishment for a meal for the family which would not be chosen by any individual on their own. Hence, in such a situation, the type of ads for meals should depend upon whether the clustering is taking place and the members of the current cluster. Also, it would be beneficial to identify the party that is most likely to make the purchasing decision.

[0074] FIGURE 3 depicts a flowchart according to one representative embodiment. In step 301, LBS information is accessed from one or several databases for prior locations of a selected subscriber as logged in the database(s). In step 302, the database(s) is/are queried for other subscribers that were present at substantially the same location as the selected subscriber at substantially the same time. In step 303, a logical comparison is made to determine whether there are one or more subscribers that were repeatedly present at the same location as the selected subscriber.

[0075] If not, the selected subscriber has not been observed to exhibit clustering behavior and the process flow proceeds to step 304 where another logical determination is made. In step 304, it is determined whether there are additional subscribers to analyze. If not, the process flow proceeds to step 305 to quit. If there are, the process flow returns to step 301 to select another subscriber.

[0076] If the logical comparison of step 303 determines that there are one or more subscribers that were repeatedly present at the same location as the selected subscriber, the process flow proceeds from step 303 to step 306. In step 306, a suitable database update is completed to indicate that the selected subscriber exhibits clustering activity. The database update may include indicating the identifiers of other subscribers with which the subscriber tends to cluster.

[0077] In step 307, the activities, associated financial transactions, etc. associated with the common locations are identified for the selected subscriber are identified. In step 308, one or more databases are updated to indicate the type(s) of locations, type(s) of common activities and transaction data associated with the selected subscriber's clusters. The process flow proceeds from step 308 to step 304 to determine whether there are additional subscribers for the cluster analysis process.

[0078] FIGURE 4 depicts a flowchart for processing cluster data according to one representative embodiment. In step 401, a cluster of subscribers (multiple subscribers that have been repeatedly observed within close proximity of each other) is selected (e.g., as identified in one or more databases). In step 402, activity information and financial information (e.g., transaction details) for subscribers in the cluster are retrieved.

[0079] In step 403, the transactions by individuals in the cluster are categorized (if not already so processed). In step 404, the member(s) of the cluster that are likely to pay for various transactions during clustering are determined. In step 405, the types of goods and/or services that exhibit an increased or decreased probability of purchase are determined for the subscribers of the cluster. In step 406, the types of goods and/or services that exhibit a change in probability when the individuals are not clustering are identified. In step 407, the types of goods that exhibit a change in probability before and after clustering are determined for the subscribers of the cluster. In step 408, the activities that exhibit a change in probability (increase or decrease) in conjunction with the clustering are identified.

[0080] In step 409, the information pertaining to the clustering is stored in a suitable database or databases.

[0081] FIGURE 5 depicts a flowchart for utilizing cluster information according to one representative embodiment. In step 501, a request (e.g., an HTTP transaction to a suitable LBS advertising web server application) is received from an LBS advertiser.

[0082] In step 502, a suitable web page is provided to the LBS advertiser that

preferably includes interactive elements to enable the LBS advertiser to view subscriber information and to direct advertisements to suitable subscribers. In step 503, cluster information is included within the subscriber information for provision to the LBS advertiser. For example, the LBS subscriber may be allowed to click on a graphical element within the web page that represents a given subscriber. In response, subscriber information may be presented (e.g., an activity log, transaction information, activity norms, financial transaction norms, etc.). Within such information, preferably the LBS advertiser is provided information that indicates whether the subscriber is current “clustering” and, if so, with which other subscribers. The nature of the clustering is preferably identified (e.g., family clustering, peer clustering, business clustering, etc.). Also, information that identifies the types of transactions or activities that exhibit increased or decreased probability are preferably provided. By providing such information, the LBS advertiser can more effectively identify desirable subscribers for ads and/or selected more appropriate ads for the subscribers.

[0083] FIGURE 6 depicts another flowchart for utilizing cluster information according to one representative embodiment. In step 601, advertising parameters are received (which may include one or more clustering parameter values). The advertising parameters define the desired recipients of one or more directed advertisements (e.g., as will be delivered to subscriber wireless devices). For example, the following tag-encoded parameters could be used as part of a desired LBS advertising effort to direct advertisements to subscribers: {<LOCATION>STONEBRIAR MALL</LOCATION> AND <CLUSTERING> TRUE </CLUSTERING> AND (<CLUSTERINGWITHFAMILY> TRUE </CLUSTERINGWITHFAMILY> OR <CLUSTERINGWITHFRIENDS> TRUE </CLUSTERINGWITHFRIENDS>) AND (<CLUSTERINGPURCHASER> MEAL </CLUSTERINGPURCHASER>}. In this case, the ads would be directed to subscribers located within or proximate to “Stonebriar Mall.” Also, the subscribers would be required to be clustering before the advertisement(s) associated with these parameters would be delivered. Also, the subscribers would be required to be clustering with family members or friends (as opposed to business purpose clustering). Also, each advertising target would be required by these parameters to be a subscriber within the respective cluster that tends to pay for

meals during the clustering of the respective subscribers.

[0084] In step 602, ads are communicated by a suitable LBS advertising platform to subscribers according to the received parameters. The direction of the ads may directly depend upon the defined clustering parameters/data provided in the received parameters. For example, an advertiser may direct that advertisements are only to be sent to members of a cluster that make purchasing decisions for meals among other advertising parameters in addition to providing non-clustering advertising parameters. The ad parameters may be defined in terms of any of the clustering information discussed herein or any other suitable clustering information. Alternatively, the advertiser may provide more general advertising parameters and automated subscriber selection algorithms can select the most probable subscribers to respond based upon the clustering information.

[0085] When implemented in software, the various elements or components of representative embodiments are the code or software segments adapted to perform the respective tasks. The program or code segments can be stored in a machine readable medium, such as a processor readable medium, or transmitted by a computer data signal embodied in a carrier wave, or a signal modulated by a carrier, over a transmission medium. The "computer readable medium" may include any medium that can store or transfer information. Examples of the computer readable medium include an electronic circuit, a semiconductor memory device, a ROM, a flash memory, an erasable programmable ROM (EPROM), a floppy diskette, a compact disk CD-ROM, an optical disk, a hard disk, a fiber optic medium, a radio frequency (RF) link, etc. The computer data signal may include any signal that can propagate over a transmission medium such as electronic network channels, optical fibers, air, electromagnetic, RF links, etc. The code segments may be downloaded via computer networks such as the Internet, Intranet, etc.

[0086] Although representative embodiments and advantages have been described in detail, it should be understood that various changes, substitutions and alterations can be made herein without departing from the spirit and scope of the

appended claims. Moreover, the scope of the present application is not intended to be limited to the particular embodiments of the process, machine, manufacture, composition of matter, means, methods and steps described in the specification. As one of ordinary skill in the art will readily appreciate from the disclosure that processes, machines, manufacture, compositions of matter, means, methods, or steps, presently existing or later to be developed that perform substantially the same function or achieve substantially the same result as the corresponding embodiments described herein may be utilized. Accordingly, the appended claims are intended to include within their scope such processes, machines, manufacture, compositions of matter, means, methods, or steps.

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APPENDIX A

NON-PROVISIONAL UTILITY PATENT APPLICATION IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

TITLE:
SYSTEMS AND METHODS FOR PROCESSING A FINANCIAL TRANSACTION
ACCORDING TO MULTIPLE BUDGET CATEGORIES

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APPENDIX A**RELATED APPLICATIONS**

[0001] This application is a continuation-in-part of U.S. Patent No. 11/559,438, filed 11/14/2006 (which claims the benefit of U.S. Provisional Application Serial No. 60/736,252, filed Nov. 14, 2005, U.S. Provisional Patent Application No. 60/759,303, filed 01/17/2006 and U.S. Provisional Patent Application No. 60/773,852, filed 02/16/2006); this application also claims the benefit of U.S. Provisional Patent Application No. 60/759,303, filed 01/17/2006 and U.S. Provisional Patent Application No. 60/773,852, filed 02/16/2006, all of which are incorporated herein by reference.

BACKGROUND

[0002] Financial transactions are increasingly completed using various card payment options and cash payments have become somewhat rare for many retail transactions that require more than a nominal amount of funds. For example, the use of credit cards and debits cards have become virtually ubiquitous. Also, so-called “stored value” cards have gained wide-spread acceptance.

[0003] Payment for a transaction using such cards follows a relatively simple process. Typically, the respective card is “swiped” through or by a reader of a “point-of-sale” device that reads account information from the card. The point-of-sale system communicates the account information, transaction amount, merchant information, and other information to a payment server. The payment server communicates within a payment system to clear the transaction. Within the payment system, another server (the “payor” server) associated with the financial institution responsible for the account associated with the cards processes the financial transaction information. Specifically, the payor server determines whether sufficient funds are available in the identified account for the transaction. If so, the payor communicates a transaction approval. Otherwise, a transaction denial is communicated back through the payment system to the original server and to the point-of-sale system. Eventually, the actual funds are transferred from the account associated with the card to the merchant’s account (possibly through other accounts of financial intermediaries).

[0004] At the current time, providing cards to third parties (i.e., parties other than the individual responsible for the underlying accounts) is problematic. Specifically, a third party possesses the ability to incur substantial charges (up to a credit limit for credit accounts) or spend the entire available funds (for deposit type accounts). Stored value cards offer some degree of usefulness for providing cards to third parties to limit the transactions of the third parties. The stored value cards are typically limited to one or more specific merchants and only store a limited amount of funds at any given time. When the third party depletes the funds associated with a stored value card, the account holder can “replenish” the card if the account holder so desires.

DETAILED DESCRIPTION

[0005] Referring now to the drawings, FIGURE 1 depicts a system for managing financial accounts, defining budget limits for such accounts, for processing transactions for the accounts according to such limits, communicating transaction and budget information to card holders and account holders, and communicating advertisements to card holders and account holders according to one representative embodiment.

[0006] Financial accounts or other types of payment accounts can be created utilizing any known or later development manner. For example, an individual may simply enter a bank and open a checking account and receive a debit card to allow debit transactions to occur from the account. Alternatively, an individual may open an account over the Internet 104 via a web browser 113. Any suitable type of account may be utilized according to some representative embodiments from credit card accounts, savings and checking accounts, money market accounts, stored-value accounts, pre-paid card accounts, etc.

[0007] Preferably, conventional account information is stored in account database 114 such as account holder information and account balance information. In some embodiments, card holder information is also stored. For the purpose of this application, account holder means an individual who opens, controls, or manages an account and card holder refers to an individual that uses a card to pay for transactions.

The card holder can be, but need not be, the same individual as the account holder. Additionally, multiple cards could be issued for a single account and information for multiple card holders could be entered into the database. The account information may also include contact information (e.g., cell phone numbers, e-mail addresses) for the account holders and the card holders to communicate transaction and budget information to the account and/or card holders.

[0008] Referring to budget creation, according to one representative embodiment, account holders can set budgets (using their browsers 113 to communicate with web server 105) that delineate how users wish to spend their funds or how the users wish to limit how other card holders spend funds (optionally according to hierarchical categories). The budget information is stored in database 109. The transactions using their personal accounts (e.g., their banks accounts, credit card accounts, etc.) are monitored and compared against the budget categories. Transaction information (e.g., merchant ID, merchant location, transaction amount, time, etc.) is also preferably stored in database 109 for review by account and card holders and for use in selecting ads for communication to such users. Such information is preferably stored as transactions are completed. Also, such information is preferably processed to identify various types of purchasing norms and patterns to facilitate selection of ads for communication to account and card holders.

[0009] In some embodiments, the account holders can be taken through a series of pages in a progressive manner (e.g., through a "budget wizard") to enter budget information. Example categories and subcategories can include the following: EATING OUT/MEALS: (i) breakfast; (ii) lunch; (iii) dinner; (iv) misc. (v) total: ENTERTAINMENT: (i) movies; (ii) sports; (iii) live events;...total: EDUCATION: (i) books; (ii) supplies...total: MEDICAL:...HOUSEHOLD EXPENSES/GROCERIES: CLOTHING...DISCRETIONARY.

[0010] Clearly, not all categories are pertinent for all users and need not be defined for all budgets. Also, any additional budget categories can be defined. Account holders can be given the option of defining only gross amounts for top-level categories

or, going forward and defining the specific amounts for various subcategories. Additionally, any number of user defined budget categories or subcategories could be defined if desired. Also, the users are preferably given the option of defining the budget period for the various categories and/or subcategories. The default option is preferably a monthly budget period for common expenses, e.g., groceries. Weekly budget expenses could be defined, as examples, for work-week lunch expenses, entertainment expenses, etc..

[0011] In some embodiments, account holders can identify specific permitted merchants for one or more budget categories. Also, account holders can be given the ability to select specific merchant locations for specific budget categories. For example, a map of an area in which the card holders is expected to conduct most transactions can be presented via the account holder's web browser 113. Specific categories or types of merchants within the area can be identified on the map for selection by the account user for a specific budget category. Thereafter, the card holder would only be permitted to conduct transactions for the specific budget category at the selected merchants/locations. In general, such functionality may be implemented by storing a database of merchant identifiers (as defined for use in a payment system) and correlating the merchant identifiers to more detailed merchant information (e.g., merchant name or other merchant metadata). Also, for each merchant entry, merchant type information can be stored in the database.

[0012] Transactions may begin in the ordinary manner in which credit card information, debit card information, stored-value card information is obtained from a card holder via a point-of-sale devices/merchant devices 103. Merchants 103 communicate transaction information (e.g., account number, transaction information, merchant ID, etc.) through payment system 102. The bank server 101 responds to the transaction information by communicating approvals or disapprovals, debiting/charging user accounts, transferring funds within the payment system, etc. The transaction approvals or denials depend upon the budget information stored in database 109. Specifically, if a series of prior transactions cause a card holder to reach a budget limit for a particular budget category, a subsequent transaction would be denied for that budget

category. Although bank server 101 is described, server 101 need not be chartered bank. Bank server 101 can be any server that processes financial transactions and could be managed by credit unions, brokerage firms, or any suitable financial entity permitted access to payment system 102 as examples.

[0013] Bank server 101 preferably communicates transaction information to web server 105 (e.g., through the Internet 104). Either bank server 101 or web server 105 may initiate the communication to obtain the transaction information. In some embodiments, selected transaction information is stored in database 109. Preferably, each transaction is categorized according to one or several budget categories upon being stored in database 109 (e.g., a field in the database is filled with a value corresponding to the respective budget category).

[0014] Budget and transaction information is preferably sent to wireless devices 106 of account holders and wireless devices 107 of card holders. For example, a card holder may pay for a transaction using a card. The transaction amount can be added to the expended funds for a particular budget category as stored in database 109. A message can be sent (e.g., via SMS messaging) to the account holder's wireless device 106 and/or the card holder's wireless device 107 indicating the transaction amount, the amount of expended funds for the budget category, remaining available funds for the category, and/or the like. In this manner, the account holder can be informed of the financial activity of the card holder. Also, the card holder can have near constant awareness of how the card holder's activities conform to the budget limits. Such information may be communicated by server 105 as an example.

[0015] Server 105 preferably obtains the location information of users. Specifically, in preferred embodiment, a JAVATM MIDlet client application is stored and executed on each user wireless devices (e.g., their cellular phones) 106 and 107. The client application obtains information that is indicative of the current location of the respective wireless device and communicates the information (e.g., with a time stamp) to server 105 through cellular infrastructure 108 and/or the Internet 104. In one embodiment, the information is communicated in an SMS message. The information can

be encrypted or otherwise obscured to maintain the privacy of the user. In some embodiments, depending upon the capabilities of the wireless devices 106/107, GPS coordinates are communicated to server 105 that identify the precise location of the device 106/107 at a particular moment in time. For example, "assisted" GPS (AGPS) functionality is available in many commercially cellular phones that enables the GPS location to be retrieved using an API call that accesses an AGPS chip in the phone. In other embodiments, the wireless device 106/107 communicates cell ID information (e.g., the identifier of the current cell in the wireless system serving the respective wireless device). The cell ID information can be used to look-up the location of the serving cell which, in many urban cases, is "relatively" close to the wireless device (e.g., within one mile or closer). Server 105 stores the location information and time information in location DB 112.

[0016] Additionally, as transaction information and the location information are received by server 105, the two sets of information are compared for discrepancies. Specifically, transaction information associated with a credit card transaction includes an identifier of the merchant and the merchant location (e.g., a particular merchant store). The merchant location can be correlated to a merchant address. The merchant address can then be compared against the location of the card holder's cellular phone 107 at the time that the transaction occurred. If the address does not match the location of the cellular phone 107, it is possible that an unauthorized person used the card or card account to make the purchase. Preferably, some amount of tolerance is provided to the comparison to account for a lack of complete precision in the location information (e.g., when a cell ID is used) or in the merchant location information.

[0017] Upon detection of possible fraud, a suitable message is sent to the card holder's wireless device 107 and/or to the account holder's wireless device 106. In some embodiments, the message is sent as an SMS message to a particular port. The client MIDlet is registered to process SMS messages on the port and communicates the possible fraud to the user. The client MIDlet preferably presents the information to the user and prompts the user to input whether the transaction is actually fraudulent. If the user indicates that the transaction is fraudulent, the client MIDlet can give the user one or

several options. One option may include automatically initiating a call to the fraud number associated with the user's bank for the user to report the fraud.

[0018] In some embodiments, the budget/transaction processing can occur in conjunction with a system that enables the user to control which transactions are approved or denied by bank server 101. In some embodiments, a MIDlet is stored on the user's cellular phone. The MIDlet is accessed when the user wishes to "activate" the user's card account for a particular type of transaction (e.g., for "everyday" transactions, "gas" transactions, "eating-out" transaction, "entertainment" transactions, etc.). Also, at any point in time, the MIDlet preferably provides the user with updated budget information (i.e., the current budget limit, available funds, projected over-budget or under-budget amounts, etc.) for the various budget categories. The MIDlet is preferably customized to the individual user (e.g., the ordering of transaction options in its user interface and the particular categories of transaction options for selection within the user interface are adapted for the specific user). Also, the MIDlet preferably is given a private key to digitally sign its messages to authenticate the origin of the messages.

[0019] The customized MIDlet is preferably customized at an appropriate server and downloaded to the user's cellular phone when the user sets-up his/her account for management. In operation, when the user selects one of the options from one or several menus (or other user interface elements), the MIDlet communicates an "activation" message to a server associated with the user's account. The account is then temporarily activated to approve transactions subject to the selected category (e.g., for thirty minutes or any other suitable amount of time). When transaction information is received that originated from a merchant, the transaction information is compared against the limitations associated with the selected category. For example, if the merchant identifier in the transaction information is consistent with the selected category, the transaction is approved. If not, the transaction information is denied.

[0020] In some embodiments, the card holders and/or account holders are given the option of receiving advertisements, offers, incentives, etc. according to a "location based services" (LBS) scheme. In some embodiments, ad server 110 receives ads from

advertisers via the Internet 104 and stores those ads in ad database 111. Preferably, target audience parameters are associated with the ads to define which subscribers should receive the ads. In this LBS application, the ads are communicated to such users in a manner that is dependent upon the current location of the users. For example, a user can go to a specific mall and request communication of current offers/incentives etc. that are applicable at that mall. The user can make such a request using a WAP browser on the wireless device 107 as an example. The WAP request may include the current location of the cellular phone 107. Alternatively, a MIDlet application on the wireless device 107 may automatically download such ads for presentation to the card holder. The location enables the selection by ad server 110 of incentives/offers from the particular merchants at the mall to be identified. The transaction information and/or budget information can be further utilized by server 110 to sort and/or pair down the advertisements, incentives, offers, etc. to those that are more likely to be relevant to the particular card holder. Upon selection of the relevant ads, ad server 110 communicates the ads (e.g., by WAP transaction processing, MMS messaging, etc.) to the wireless device 107.

[0021] In some embodiments, budget information and transaction information stored in database 109 can be used to communicate targeted advertisements to users either to web browsers 113 or cellular phones 106 and/or 107 as examples. For example, users can be given the option of receiving such advertisements/offers. Users that select the option will receive advertisements/offers that correspond to their particular needs in view of the purchases and budgets. Suppose a user is overbudget for groceries as an example, various coupons/incentives can be sent to such a user to enable the user to reduce the user's grocery expenses. The sponsors of the coupons/incentives benefit by steering the user to their products and/or stores and generating customer loyalty to their brands.

[0022] Also, suppose a user reviews their expenditures to discover that the user is overbudget and does not immediately know how to reduce their expenditures. The user can invoke a software module to automatically review the user's expenditures and identifies products/services that can reduce the user's expenditures. Similarly, the user

may identify budget categories that the user wishes to reduce their expenditures and relevant advertisements/offers/incentives can be sent to such users.

[0023] Likewise, when a user is underbudget, various offers/incentives for discretionary purchases can be sent to the user. Also, the user's transaction history can be used to select such discretionary items that are likely to be interesting to the user. In some embodiments, when a user comes close to completing predefined "savings" for some particular purpose (e.g., as defined for a "vacation" fund), targeted advertisements/incentives/offers can be sent to the user related to the purpose of the savings fund. For example, a user can define a SAVINGS category into which any amount or, perhaps, unused funds are deposited. The user can defined a purpose for such an account. When advertisers have offers that correspond to the purpose of the account and approximately match the amount of funds in the account, their advertisements can be communicated.

[0024] In some embodiments, the communication of the advertisements/incentives/offers can occur according to a "location based services" (LBS) scheme. In LBS applications, information is communicated to users in a manner that is dependent upon the current location of the users. For example, a user can go to a specific mall and request communication of current offers/incentives etc. that are applicable at that mall. The user can make such a request using a WAP browser on their cellular phone 106 or 107 as an example. The user can manually input their location (e.g., by "typing" or by selection from a menu or other graphical control), the location can be inferred by reference to the current cell of the wireless system that is serving the cellular phone 106 or 107, or the cellular phone can itself determine the location (e.g., using assisted GPS functionality). The location enables the selection of incentives/offers from the particular merchants at the mall to be identified. The budget and transaction information can be further utilized to sort and/or pair down the incentives/offers/ads to those that are more likely to be appropriate or most relevant to the particular user.

[0025] Although different databases and servers are discussed herein, the databases and servers can be implemented on common computing platforms or split

among different platforms as desired. A specific computing architecture is not critical for all embodiments. Any implementation may be utilized so long as the appropriate transaction processing and/or advertisement selection occurs.

[0026] FIGURE 2 depicts a flowchart for establishing a budget for management of one or several financial accounts and/or payment cards according to one representative embodiment. In preferred embodiments, the process of FIGURE 2 is implemented using suitable computer platforms (e.g., a personal computer of an account number and a server platform) and suitable software code executed by those platforms. For example, the code may include the browser application code (e.g., Internet Explorer, Firefox, etc.), web server code (e.g., APACHE and custom PERL scripts for processing HTTP transactions), and the HTML or other browser executable code (as executed by the browser itself or through a "plug-in") communicated from the server to the account holder's computing platform. Also, a suitable communication connection is preferably established between the platforms such as through one or more of the following a local area network, the Internet, a wireless network, a telephony network, and other communication network.

[0027] In step 201 of FIGURE 2, a communication connection is established between an account holder's browser and a suitable server (e.g., server 105) that supports the budget creation process. The communication connection may be established using conventional processing, such as TCP/IP connections using secure socket layer (SSL) communication, HTTP transactions, authentication (e.g., user ID, password, etc.), and/or the like.

[0028] In step 202, one or more web page(s) are presented to account holder using the account holder's web browser via communication between the server and the web server.

[0029] In step 203, in conjunction with the presentation of the web pages, input is received from the account holder in web page forms defined by the web page(s) communicated to the account holder's web browser. The web page forms allow the user to create and/or modify budget rules. For example, the account holder may select predefined budget categories or create user specific budget categories. For the

selected/created budget categories, the account holder can select predefined limitations and/or define user specific limitations. Also, “default” limitations can be associated with the predefined budget categories and the account holder may modify those limitations.

[0030] The limitations may define time of day and day of week restrictions. For example, a budget category for “EATING OUT/MEALS: LUNCH (WORK WEEK)” may be created and a time restriction of 10:30 - 2:30 and a day of week restriction of Monday - Friday could be defined for such a category.

[0031] Merchant type restrictions can be defined for budget categories. For example, transactions for a GROCERY/HOUSEHOLD NEEDS category could be restricted to GROCERY STORE and BIG-BOX RETAILER merchant types. More specific merchant restrictions could be applied to budget categories. For example, geographical limitations could be defined. For example, merchant stores within a specific geographical area or areas (e.g., defined by city, zip codes, area selected from a map in a user interface, etc.) may be defined as the only acceptable locations for transactions with one or more budget categories. Additionally, to the extent that the account holder wishes to do so, only specific merchants may be permissible for one or more budget categories such as a specific big-box retailer or a specific grocery retailer.

[0032] In some embodiments, “activation” rules are applied to one or more budget categories. Such activation rules preferably require the account holder and/or the card holder to “activate” (as will be discussed below) a budget category before transactions will be approved during transaction processing for the category. For example, “ELECTRONIC PURCHASES,” “CLOTHING PURCHASES,” and “INTERNET PURCHASES) categories may be defined. These categories could be defined as normally inactive. If a transaction were attempted at an electronic retailer, at a clothing retailer, at a Internet payment web service, the transaction would be denied. However, when such purchases are deemed appropriate or necessary, the account holder (or possibly the card holder) may communicate with the server to activate the appropriate budget category. Preferably, for a predefined period of time, transactions for the budget category will be approved. The activation rules may identify which categories must be

active for transaction approval. Also, the activation rules may specify who is allowed to activate the categories (e.g., the account holder only or the account holder and the card holder). The activation rules may also specify how long the budget categories remain active after activation.

[0033] Per transaction limits could be defined for one or more budget categories. Transaction limits could be defined to limit a total dollar amount per transaction or to limit a number of transactions within a given period of time for one or more budget categories.

[0034] Also, to the extent product information is available, product restrictions could be defined. For example, certain stored value card systems (as implemented by various retailers) allow access to data identifying the products and/or services being purchases. Budget categories may restrict transactions to permit only certain products, services, or types of products or services.

[0035] Rules can be defined for left-over funds or for over-budget transactions. For example, if a transaction exceeds a budget limit may a predefined amount, the transaction may be approved if permitted by an over-budget rule or may be alternatively denied. If some amount of over-budget spending is permitted, rules may be defined to address such over-budget spending such as reducing the available funds from another budget category (in the current budget period or in another budget period) or reducing the available funds for the same budget category for the next budget period.

[0036] The over-budget rules may also specify whether a more general budget category or another budget category could be employed for a transaction if a specific budget category limit is exceeded. For example, if a card holder exceeds a budget limit for MEALS: LUNCHES (WORK WEEK), it may be permitted (by decision of the account holder or by default) to pay for a transaction using a more general category "MEALS" or a general budget category "DISCRETIONARY SPENDING." Alternatively, if a card holder exceeds a budget limit for an "ENTERTAINMENT" budget category, the account holder may define a rule prohibiting completion of payments for entertainment transactions using more general categories.

[0037] In step 203, the data input by the account holder is communicated to the budget server (e.g., using conventional HTTP transactions over a secure socket layer connection).

[0038] In step 204, the budget information is stored in a suitable database or databases or other data store for subsequent use.

[0039] In step 205, the account holder is preferably given the option of deciding whether advertising is communicated in conjunction with the transaction information and the information is communicated to the server. Also, if the account holder may enter contact information for communicating budget information (step 206). For example, the account holder may enter the telephone number of the account holder's wireless device and the telephone number of the card holder's wireless device for receiving text messages of budget information as transactions are completed. Also, advertising may be sent via MMS messaging or other suitable communication means to such wireless devices.

[0040] FIGURE 3 depicts a flowchart for processing a financial transaction according to one representative embodiment. In preferred embodiments, the process of FIGURE 3 is implemented using suitable computer platform and suitable computer code executed by that platform. Preferably, the platform or server is adapted to communicate within a payment system and to perform the various authentication protocols associated therewith. The server differs from known payment system servers in regard to the logic that server employs to decide whether to approve or deny a given transaction.

[0041] In step 301, transaction information is received for approval or denial of a transaction within a payment system. The transaction information may include account number, transaction amount, merchant id, store location, time information, etc. Also, in some embodiments, product information may be included within the transaction information.

[0042] In step 302, budget information is retrieved from a suitable database using the account number identified in the transaction information.

[0043] In step 303, one or more budget categories matching the transaction information are identified. The time of day and day of week may also be used to identify the budget categories appropriate for the transaction. Alternatively, the card holder could have explicitly selected the budget category (before the transaction occurs) by “activating” a specific budget category for one or more purchases.

[0044] In step 304, the “best” budget category is selected (or the “next” best depending upon whether one or more budget categories have already been examined). As used herein, the “best” or next “best” category refers to the level of specificity of the category. For example, the most specific matching sub-category of multiple hierarchical categories is preferably selected first and then more general categories are selected later.

[0045] For example, the following categories could be applicable to pay for a meal purchased by a card holder: (i) EATING OUT/MEALS: dinner; (ii) EATING OUT/MEALS: misc.; and (iii) DISCRETIONARY. The categories would be analyzed in that order (i.e., (i)-(iii)) due to the level of generality of those categories. The level of generality is preferably defined by default for the predefined categories. For user created categories, the account holder is preferably given the ability to define the level of generality relative to other categories during the budget creation process (see FIGURE 2). In step 305, a logical comparison is made to determine whether the respective budget category is active (if an activation rule is defined for the budget category). If so, the process flow proceeds to step 306. If not, the process flow proceeds to step 309.

[0046] In step 306, a logical comparison is made to determine whether the transaction satisfies merchant, location, transaction, and/or product limitations for respective category. If so, the process flow proceeds to step 307. If not, the process flow proceeds to step 309.

[0047] In step 307, a logical comparison is made to determine whether sufficient funds are currently available for the respective budget category (it may also be considered whether there are actually sufficient funds or credit available in the underlying account). The amount of funds necessary for the comparison in regard to the budget category preferably depends upon whether funds (although not all the funds necessary for

the transaction) were available for a prior category. For example, a transaction may involve a \$50 amount. If \$30 is available in a first budget category, thereafter the logical comparison in step 307 will determine whether \$20 is available in another category (or split among multiple other categories). If so, the process proceeds to step 311 for approval of the transaction. If not, the process flow proceeds to step 308.

[0048] In step 308, a logical comparison is made upon the basis of any over-budget rules. If an over-budget rule permits the card holder to go over the transaction by the excess of the transaction amount (or a reduced amount, see step 307) over the currently available funds for the budget category, the process flow proceeds to step 311 for transaction approval. If an over-budget rule prohibits any overage for the budget category, the process flow proceeds to step 310 for transaction denial. If "roll-over" to another budget category is allowed, the process flow proceeds to step 308 to step 309.

[0049] In step 309, a logical comparison is made to determine whether another budget category is possible for the transaction. If so, the process flow returns to step 304. If not, the process flow proceeds to step 310 for transaction denial.

[0051] In step 310, a transaction denial occurs by communicating a transaction denial message pursuant to the protocols of the respective payment system. Thereafter, the denial will be communicated back to the merchant and the card holder will have to pay using some other funds or forgo the transaction entirely.

[0052] In step 311, a transaction approval occurs by communicating a transaction approval pursuant to protocols of the payment system.

[0053] In step 312, the financial account linked to the card account is debited or charged for the transaction amount. An electronic transfer of funds between accounts by various financial institutions/entities may occur immediately upon transaction approval (or the transfer may occur subsequently at the end of the business day or at another suitable time as customary within the payment system).

[0054] In step 313, the amount of available funds for the various budget categories are reduced according to how the funds were allocated during the transaction processing.

[0055] In step 314, updated transaction information is communicated (e.g., to the account holder and/or the card holder). In preferred embodiments, SMS messages are sent to the account holder and the card holder that indicate the amount of the transaction amount, the budget category/categories involved, and the amount of remaining funds for the budget category/categories. Over-budget information or projected over-budget information may be included. Although budget information is communicated using SMS messaging according to some embodiments, any other messaging may occur (e.g., via e-mail or via on a web page accessed at a later time, etc.).

[0056] Several example budget update messages will be provided. Suppose an account holder sets a budget of \$45 for week-day lunches. The card holder can utilize a card linked to a suitable account to make the purchases for his/her lunches, which is monitored by the budget server. Suppose on Monday, the card holder purchases a lunch of \$10; an update message can be sent to the card holder and/or the account holder in an SMS message as follows: lunches weekly amount: \$45; spent: \$10; remaining: \$35. Suppose on Tuesday, the card holder purchases another lunch of \$10; an update message can be sent an SMS message as follows: lunches weekly amount: \$45; spent \$20; remaining: \$25; projected over: \$5 (in some embodiments, projected amounts can be provided after a plurality of purchases are made or the projected amount exceeds some threshold). Suppose on Wednesday, the card holder purchases his/her lunch for \$5; an update message can be sent to the user in an SMS message as follows: lunches weekly amount: \$45; spent \$25; remaining \$20. Suppose on Thursday the card holder skips lunch and on Friday the card holder purchases a \$25 lunch, a message can be sent as follows: lunches weekly amount: \$45; spent: \$50; \$5 removed from Entertainment to equal \$45. It shall be appreciated that these messages are by way of example only. Other formats can be used and other information can be included. In some embodiments, multiple categories/subcategories can be communicated at the same time.

[0057] FIGURE 4 depicts a flowchart for managing financial transactions associated with one or more card accounts according to one representative embodiment. In preferred embodiments, the process of FIGURE 4 is implemented using suitable platforms (e.g., a cellular phone and a server platform) and suitable software code executed by those platforms.

[0058] In step 401, a communication connection is established between an account holder's wireless device and server using conventional mechanisms. In one specific embodiment, a MIDlet is distributed to the account holder's cellular phone or other wireless device. The MIDlet then conducts the communication between the cellular phone and the server and receives input from the account holder to obtain account management data.

[0059] In step 402, the account holder is permitted to authorize or prohibit over-budget transactions. In step 403, the account holder is permitted to change budget limits associated with one or more budget categories. In step 404, the account holder is permitted to activate or inactive budget categories.

[0060] FIGURE 5 depicts a flowchart for managing financial transactions associated with one or more card accounts according to one representative embodiment. In preferred embodiments, the process of FIGURE 5 is implemented using suitable platforms (e.g., a cellular phone and a server platform) and suitable software code executed by those platforms.

[0061] In step 501, a communication connection is established between a card holder's wireless device and a suitable server. In step 502, the card holder is permitted to select budget category for one or more subsequent purchase(s). In step 503, the card holder is permitted to activate budget category/categories (depending upon how the account holder has configured the account).

[0062] FIGURE 6 depicts a flowchart for managing budget limits according to one representative embodiment. In preferred embodiments, the process of FIGURE 6 is

implemented using a suitable server platform and suitable software code executed by the server.

[0063] In step 601, budget categories with left-over funds or over-budget amounts for budget period are identified. In step 602, roll-over rule(s) for the category/categories are retrieved as provided by the account holder or provided by default. In step 603, budget category limit(s) are modified for same or other budget category/categories according to roll-over rule(s).

[0064] For example, in a given week, the card holder may decide not to spend all of the available funds within the MEALS category, i.e., the card holder spends an amount for this category less than the defined budget limit. The account holder may have defined a rule to permit the left over amount to be assigned to a DISCRETIONARY budget category. Accordingly, the DISCRETIONARY budget category is increased at the end of the budget period for the MEALS category.

[0065] Some representative embodiments are directed to communicating various types of electronic ads to users of a system that provides budget or other financial services functionality. In some embodiments, advertisements are selected in terms of the budget information of account holders and/or card holders (such as any of the budget or financial information discussed above). For example, ads can be selected for communication depending upon the budget limits set for account holders and/or card holders. In other embodiments, ads can be selected in relation to over-budget or under-budget considerations (actual or projected over/under budget amounts) and/or in regard to the amount of any such over-budget or under-budget occurrence. In other embodiments, ads can be selected upon the basis of the remainder of unspent funds within one or more budget categories. In some embodiments, ads can be selected in regard to a per transaction limit defined for a budget category.

[0066] Ads can be selected in regard to the defined merchant information for budget categories. Alternatively, ads can be selected in regard to merchant information identified in the transaction information stored in a history of transactions by a card holder in one or more appropriate databases. Ads can be selected in regard to

when/whether a card holder has made a purchase within a given category. For example, it may make little sense to send an ads for a certain type of grocery item, if the card holder has already made a purchase at a grocery store that day.

[0067] Such analysis can take into account other purchase history information (such as the typical number of transactions for a category within a given amount of time) and/or comparing such information against observed purchasing behavior. For example, if a card holder frequency spends more than \$200 (at one or more merchants) when shopping for clothes and the card holder has been observed to have only spent \$75 (at one or more merchants), it may be appropriate to send ads to that user. Specifically, based prior purchasing behavior, it is highly probable that the card holder will spend additional funds on clothing within a very short period of time. Accordingly, that card holder is a valuable candidate to target for the receipt of ads that attempt to direct the card holder to make purchase of specific products or at specific merchants. Alternatively, if the card holder has spent \$250, it is less likely that the card holder will make significant purchases and so the value of directing clothing ads to that card holder is reduced at that time. In some embodiments, a histogram is applied to analyze such purchasing patterns in which the percentile of purchases falling within various dollar ranges are maintained.

[0068] Historical timing of purchases can be utilized for the selection of ads. For example, certain discretionary purchases (clothing, entertainment, etc.) may be made more frequently by a card holder at a certain times of the month, certain days, certain times of day, etc. Alternatively, certain purchases may occur relative to certain defined events, e.g., the deposit of funds within an account (e.g., near payday where an automatic deposit of funds occurs).

[0069] Other purchase history information can be selected for the selection of ads. For example, if a card holder usually follows up a large transaction amount in a given category with a smaller transaction amount, such an observation can be utilized for ad selection. For example, if a card holder usually picks an inexpensive lunch the day after purchasing an expensive meal, such information can be utilized to select appropriate ads.

[0070] The budget and financial information can be selected in combination any other suitable information such as demographic information, product preferences, etc.

[0071] In some embodiments, the budget and financial information is combined with location based information to select ads for communication. In some embodiments, the location of a card holder is obtained through location information associated with the card holder's wireless device (e.g., his/her cellular phone). Such information is used in conjunction with other appropriate information to communicate ads to the card holder. For example, different ads would be selected depending upon whether the card holder is at a clothing retailer at a mall versus at a big-box hardware store. Also, the timing of ads may depend upon such location information (e.g., when the card holder initially arrives at a given location, how long the card holder has been at a location, and when the card holder leaves a given location).

[0072] FIGURE 7 depicts a flowchart for communication ads to subscribers according to one representative embodiment. In preferred embodiments, the process of FIGURE 7 is implemented using a suitable server platform and suitable software code executed by the server.

[0073] In step 701, ads are received from advertisers with target audience parameters. The target audience parameters may include demographic information. Also, the target audience parameters may include various budget, financial, or past purchase history information, etc. as discussed above. In step 702, an LBS server, preferably, identify when subscribers enter geographical location. In step 703, ads are identified for geographical area associated with the various subscribers, where the ads are selected to match the parameters of the ads to the various subscribers. In step 704, the most valuable ads are selected for and communicated to subscribers upon the basis of financial, budget, historical purchasing data, etc.

[0074] When implemented in software, the various elements or components of representative embodiments are the code or software segments adapted to perform the respective tasks. Any type of suitable code or software may be utilized from machine code, compiled software, interpreted software, browser executable code (HTML, JAVA

script, FLASH code, etc), “JAVA” variants, PYTHON scripts, and/or the like. The program or code segments can be stored in a machine readable medium, such as a processor readable medium, or transmitted by a computer data signal embodied in a carrier wave, or a signal modulated by a carrier, over a transmission medium. The “computer readable medium” may include any medium that can store or transfer information. Examples of the computer readable medium include an electronic circuit, a semiconductor memory device, a ROM, a flash memory, an erasable programmable ROM (EPROM), a floppy diskette, a compact disk CD-ROM, an optical disk, a hard disk, a fiber optic medium, a radio frequency (RF) link, etc. The computer data signal may include any signal that can propagate over a transmission medium such as electronic network channels, optical fibers, air, electromagnetic, RF links, etc. The code segments may be downloaded via computer networks such as the Internet, an intranet, etc.

[0075] Although representative embodiments and advantages have been described in detail, it should be understood that various changes, substitutions and alterations can be made herein without departing from the spirit and scope of the appended claims. Moreover, the scope of the present application is not intended to be limited to the particular embodiments of the process, machine, manufacture, composition of matter, means, methods and steps described in the specification. As one of ordinary skill in the art will readily appreciate from the disclosure that processes, machines, manufacture, compositions of matter, means, methods, or steps, presently existing or later to be developed that perform substantially the same function or achieve substantially the same result as the corresponding embodiments described herein may be utilized. Accordingly, the appended claims are intended to include within their scope such processes, machines, manufacture, compositions of matter, means, methods, or steps.

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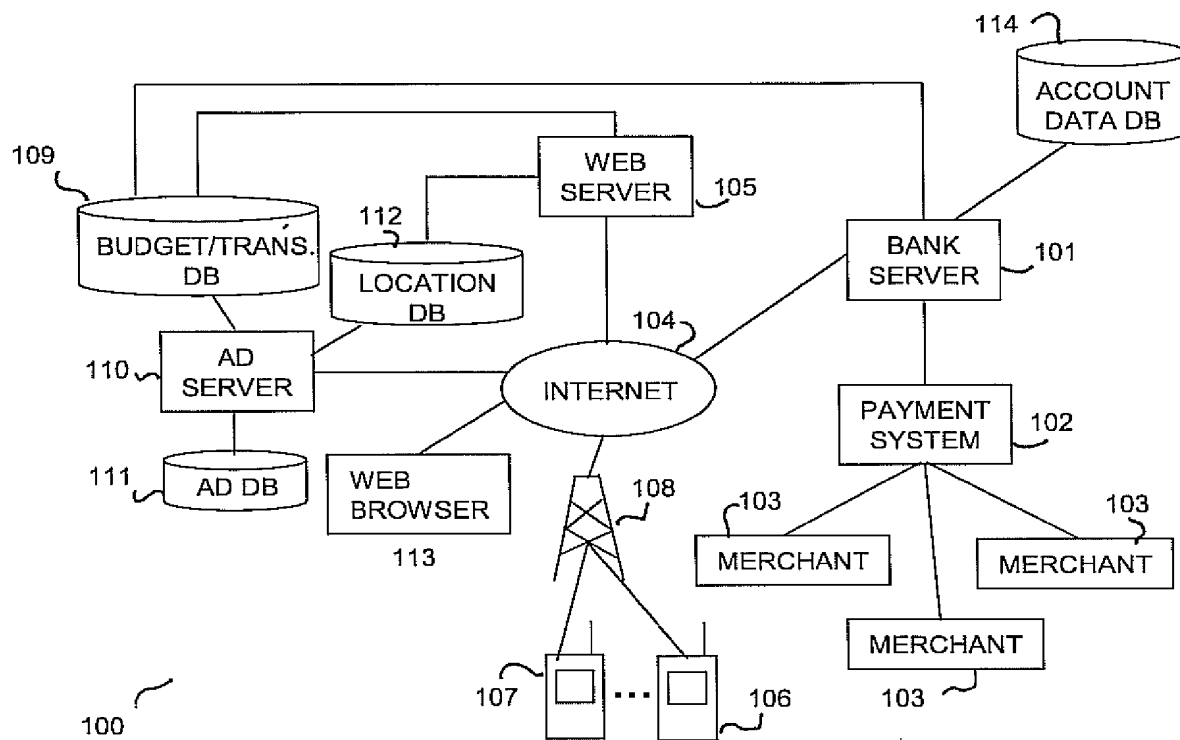
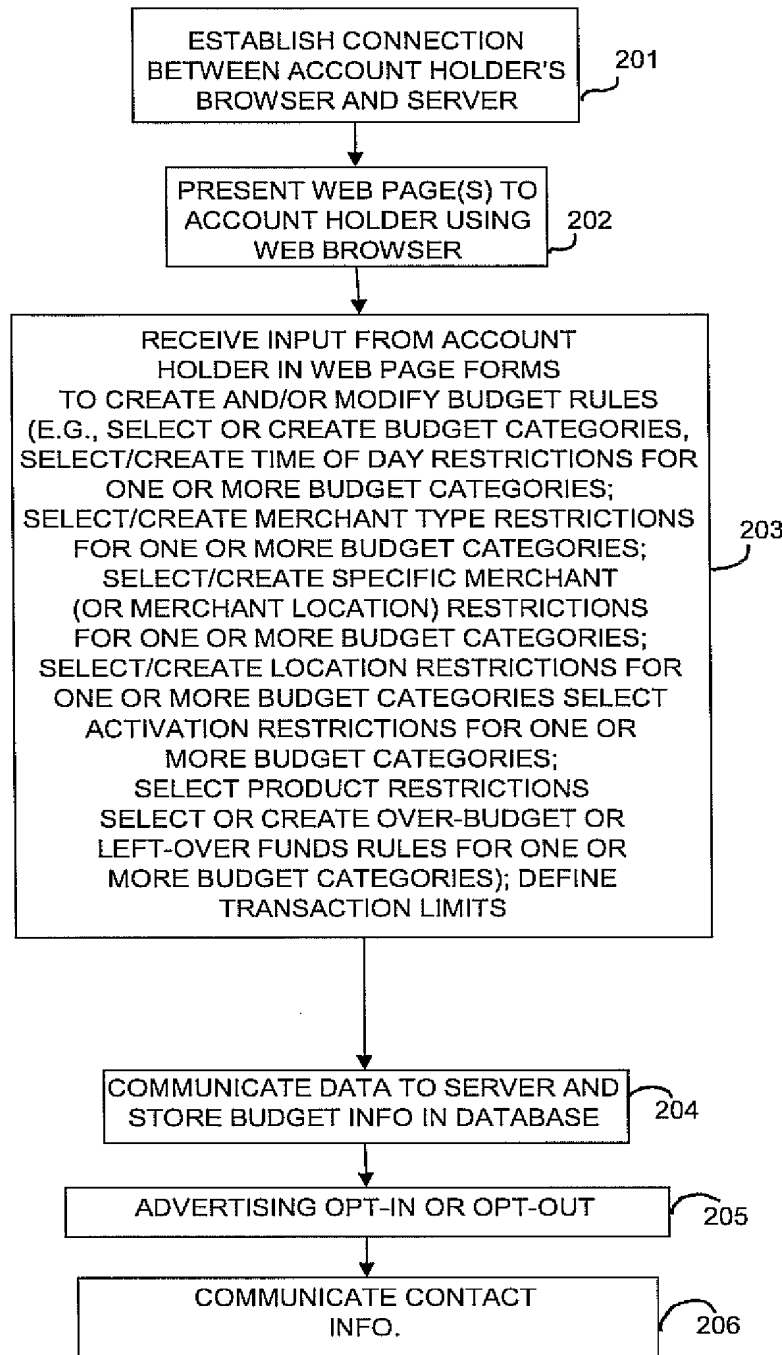
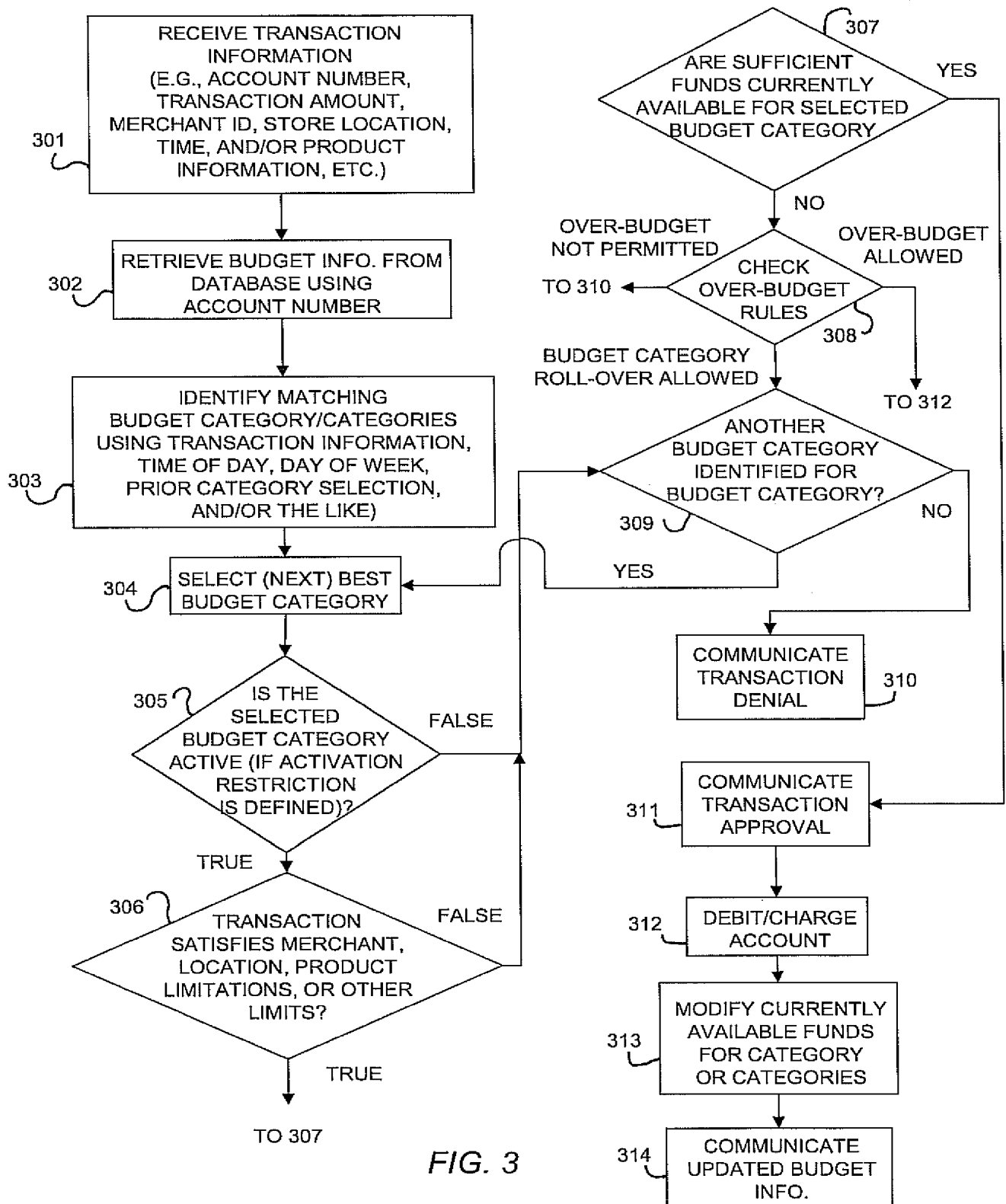


FIG. 1

FIG. 2





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FIG. 4

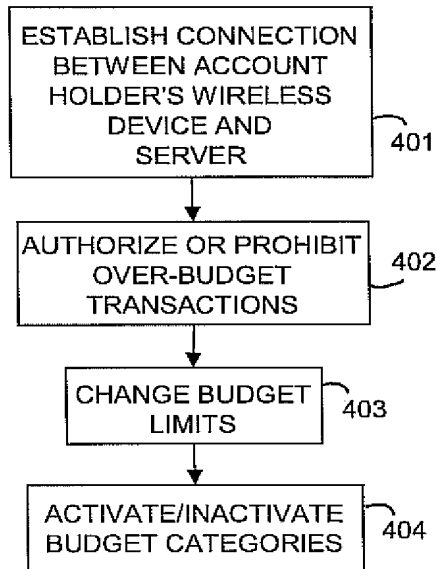


FIG. 6

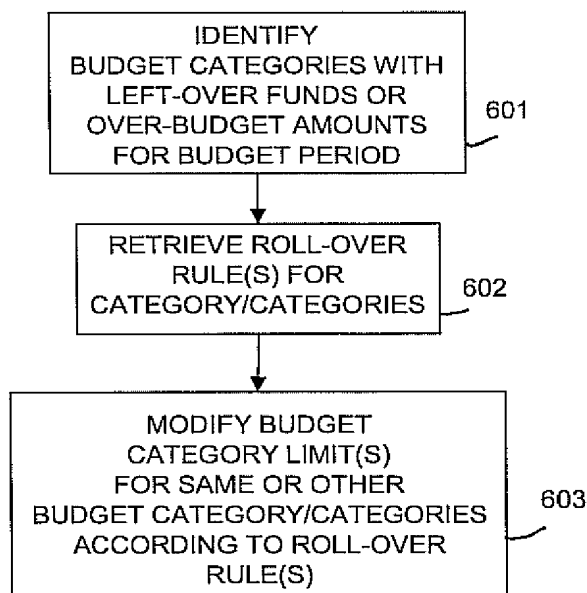


FIG. 5

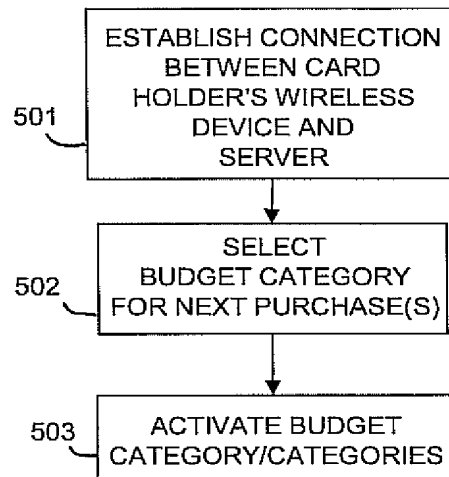
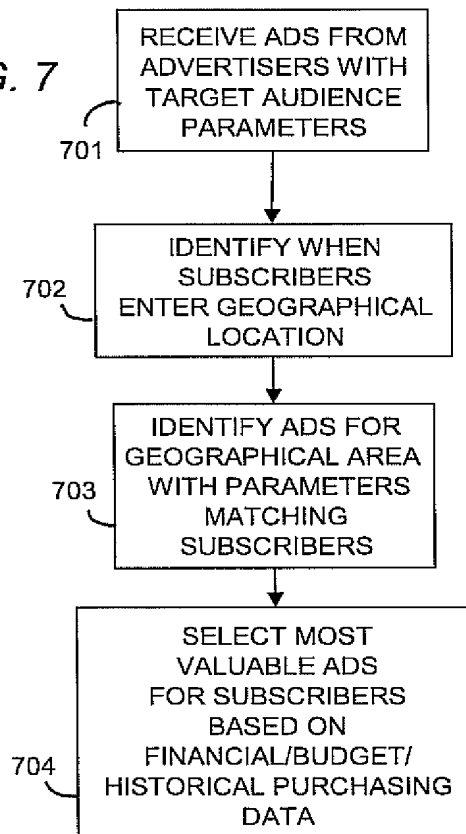


FIG. 7



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UTILITY APPLICATION IN THE UNITED STATES PATENT AND TRADEMARK
OFFICE

TITLE:

SOCIAL NETWORK APPLICATION FOR PROCESSING IMAGE OR VIDEO DATA
FROM WIRELESS DEVICES OF USERS AND METHODS OF OPERATION

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RELATED APPLICATIONS

[0001] This application is a continuation-in-part of U.S. Patent Application Serial No. 11/623,832, filed 01/17/2007, which is a continuation-in-part of U.S. Patent Application Serial No. 11/559,438, filed 11/14/2006 (which claims the benefit of U.S. Provisional Application Serial No. 60/736,252, filed Nov. 14, 2005, U.S. Provisional Patent Application Serial No. 60/759,303, filed 01/17/2006 and U.S. Provisional Patent Application Serial No. 60/773,852, filed 02/16/2006); U.S. Patent Application Serial No. 11/623,832 also claims the benefit of U.S. Provisional Patent Application Serial No. 60/759,303, filed 01/17/2006 and U.S. Provisional Patent Application Serial No. 60/773,852, filed 02/16/2006.

BACKGROUND

[0002] Location based services refer generally to services that provide information to a user in relation to the location of the user. At the present time, location based services are relatively pedestrian in nature and provide relatively simple information. An example of a known location based service is a “weather” service in which the user’s zip code is provided to the service (e.g., through a conventional HTML webpage, a WAP or other cellular phone interface, etc.) through a network and the service responds by communicating the current weather conditions and the forecast for several days. Other known location based services provide “social” applications such as allowing users to determine each other’s locations, receive notification when a friend comes within a predetermined distance, and similar operations. Another type of location based services are generally referred to as “McDonalds finders” that provide search results in a map form (e.g., searching for specific locations of restaurants/stores within a given distance of the user). Other location based services have proposed delivering various types of “advertising” (e.g., when a user arrives at an airport, various ads can be delivered to the user’s cellular phone). However, such advertising location based services are quite simplistic and do not possess any appreciable intelligence for selecting advertisements beyond the location of the user.

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[0003] Social network applications commonly refer to applications that facilitate interaction of individuals through various websites or other Internet-based distribution of content. Originally, the concept of a social network originated within the field of sociology as method of modeling social interactions or relationships. Within such modeling, individuals, groups, or organizations are represented as nodes within a social network and the relationships between the “nodes” are represented as links between the nodes thereby forming a “network.”

[0004] Social network applications have knowingly or unknowingly utilized such concepts to facilitate interaction between individuals via the Internet. In most social network applications, a specific user can create an account and provide various types of content specific to the individual, such as pictures of the individual, their friends, their family, etc., personal information in text form, favorite music or videos, etc. The content is then made available to other users of the social network application (sometimes limited upon restrictions defined by the respective user). For example, one or more web pages may be defined for each user of the social network application that can be viewed by other users of the social network application. Also, social network applications typically allow a user to define a set of “friends,” “contacts,” or “members” with whom the respective user wishes to repeatedly communicate. Users of a social network application may post comments or other content to portions of each other’s web pages.

[0005] For the purpose of this application, a social network application refers to any application in which users are permitted to create or define accounts in which the users can make personalized content available via the Internet for viewing by other users of the social network application and, in which, users can define, allow, or create contacts or friends within the social network application in which repeated interaction is intended to occur through the social network application.

SUMMARY

[0006] In one embodiment, a method for operating a social network application, comprises: capturing an image or video using a wireless device by a user of the social

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network application; communicating the image or video from the wireless device of the user to a social network application server; storing the image or video by the social network application server; identifying a user account by the social network application server in response to communication of the image or video; and modifying data, by the social network application server, associated with the account of the user to automatically post the image or video to a web page of the user to make the image or video available for viewing by other users of the social network application.

[0007] The foregoing has outlined rather broadly certain features and/or technical advantages in order that the detailed description that follows may be better understood. Additional features and/or advantages will be described hereinafter which form the subject of the claims. It should be appreciated by those skilled in the art that the conception and specific embodiment disclosed may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the appended claims. The novel features, both as to organization and method of operation, together with further objects and advantages will be better understood from the following description when considered in connection with the accompanying figures. It is to be expressly understood, however, that each of the figures is provided for the purpose of illustration and description only and is not intended as a definition of the limits of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIGURE 1 depicts a system for implementing a social network application in which image and/or video data can be communicated between “friends” using a location based service scheme or otherwise according to one representative embodiment.

[0009] FIGURE 2 depicts a flowchart for creating and/or managing a social network application account according to one representative embodiment.

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[0010] FIGURE 3 depicts a flowchart for communicating image and/or video data between users of a social network application according to one representative embodiment.

[0011] FIGURE 4 depicts a flowchart for communicating image and/or video data between users of a social network application according to another representative embodiment.

DETAILED DESCRIPTION

[0012] Some representative embodiments are directed to a social network application that permits users of the application to communicate image and/or video data using location based service functionality. In some embodiments, users of the social network upload image and/or video data to their accounts with the social network application using camera-capable wireless devices (e.g., digital camera enabled cellular phones). In preferred embodiments, location information is associated with the images or videos when transferred to the image/video server. Certain images may be communicated to all or selected members of each user's group of "friends" or "contacts" according to a "location based service" scheme. For example, suppose a first user takes a picture at a nightclub and transfers the picture to the image/video server using their camera phone. When other users of the social network who are "friends" of the first user arrive at the nightclub or any suitable location, the other users may receive communication of the image or video via their cell phones. In other embodiments, the image and/or videos are relatively immediately (e.g., within a few minutes) communicated to one or more users who are friends of the first user irrespective of the location of the users.

[0013] Referring now to the drawing(s), FIGURE 1 depicts system 100 for operating a social network according to one representative embodiment. Initially, a user can use their web browser 107 to access a web site served by social network application web server 106 through Internet 108. The user can create an account for sharing personal information, digital content, etc. with other users of the social network application.

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During creation of the account, the user can define a user ID, password, etc. which can be stored in database (DB) 102. The user can define a web page, upload content, etc. for their personal web page on the social network application, where the appropriate data is stored in DB 102. The user can also allow family members, friends, co-workers, acquaintances, other social network application users, etc. to become “friends” in the social network application as defined by data stored in DB 102.

[0014] Preferably, the users can provide appropriate information to facilitate the communication of image and/or video data using wireless devices of the users of the social network application (e.g., a phone number of the wireless device, the e-mail address/user information associated with the user’s wireless device, etc.). In one embodiment, a JAVATM MIDlet is stored on the user’s wireless device to facilitate the communication of the image and/or video data. In another embodiment, during the account creation process, the user is provided a registration string and the user e-mails the registration string to a predefined e-mail address associated with the social network application. The user’s e-mail information is automatically gathered from the registering user’s e-mail. A user token can be optionally defined for inclusion within subsequently communicated image or video messages. Only image or video messages from appropriate e-mail addresses containing suitable user information and/or the user token are accepted for posting to a user’s web page(s) or communication to other users.

[0015] Database 102 stores identifiers of the user accounts, the friends of each user, content for each user’s web page within the social network application, various user information, user identifiers, user passwords, user cellular phone numbers or e-mail addresses, etc. It shall be appreciated that when the present application discusses a database or server, any suitable computing architecture could be employed. For example, the desired functionality could be duplicated using multiple instances of software and multiple platforms. The various software and platforms could also possess a distributed architecture. Also, DB 102 need not be implemented using a strict database application. Any suitable set of software for storing and managing data could be employed.

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[0016] After creating an account with the social network application, the users of the social network application can begin sharing image or video messages. A user can take a picture or a video at a given location. The user can transfer the image to e-mail server 104 or web server 106 as examples. In some embodiments, a MIDlet, a script, or another suitable program also is stored on the user's cell phone 110 to facilitate the transfer. The MIDlet preferably allows the user to input metadata (e.g., a text description) to be associated with the image and/or video data. Other data could also be associated with the image or video such as audio data.

[0017] In some embodiments, depending upon the capabilities of the wireless device, the MIDlet uses the cell phone functionality to determine the approximate location of the user's cell phone 110 (e.g., using the cell phone's 110 assisted GPS (AGPS) functionality), see e.g., the "location API" published for J2ME. In other embodiments (e.g., non-AGPS devices operating in GSM networks), the CELL-ID is obtained (e.g., using the appropriate API call using a PYTHON script on a Symbian OS-based cellular phones) for the purpose of automatically identifying the approximate location of the user's cell phone 110. Depending upon the capability of the wireless device the identifiers of "Wi-Fi" hotspots can be obtained for the purpose of identifying the approximate location of the user's device (i.e., the identifiers are used to perform a look-up of the user location against a database that correlates Wi-Fi identifiers to GPS, addresses, ZIP codes, or other coordinates). In alternative embodiments, a "network-location" service is used to determine the location associated with the user's cell phone 110 upon receipt of the e-mail. In an alternative embodiment, the user can input the location in a user interface of the MIDlet.

[0018] Upon receiving/obtaining the information, the MIDlet preferably creates an e-mail or "multi-media message" (MMS) containing the various information (perhaps in encrypted form) with the image as an attachment and communicates the e-mail/MMS 111 using cellular infrastructure 109. In other embodiments, the image and the metadata can be communicated separately. Other communication protocols could be alternatively employed. E-Mail/data server 104 may receive the image and the metadata and stores them in image DB 101. Other users within the social network may subsequently view the

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image/video and selected metadata via their cellular phones 110, their web browsers 107, their e-mail clients (not shown), etc. The metadata may also identify that the user wishes to immediately transfer the image and data to one or more selected friends within the social network. If so, e-mail/data server 104 preferably communicates the image or video to the other users' cellular phones or wireless devices 110.

[0019] When a user transfers an image to the image/video database, one or several advertisements are preferably sent to the user (and/or recipients of the image/video). In preferred embodiments, the location information is used to select one or several advertisements from advertisements DB 103. Additionally, the metadata is also used to select the one or several advertisements from DB 103 (e.g., using keyword matching and/or context analysis using the text description supplied by the given user). By utilizing such information, a more effective selection of advertisements can occur. Multiple advertisements can be communicated to the user at a single time. For example, browser-executable files can be communicated to allow the user to browse through multiple ads. Some of the ads in the browser-executable files can be described in text format and some of the ads can be shown with images. Any suitable format for the advertisements may be employed such as SMS messages, MMS messages, etc.

[0020] As previously mentioned, a user can communicate an image or video to one or several other "friends" within the social network application on a substantially immediate basis. Images and metadata can be shared in other ways. Users within the social network can view each other's images using their web browsers 107. Also, if desired, users within the social network could access the images via a browser executing on their cellular phone 110. In some embodiments, a user can communicate their current location (e.g., through manual data entry, through AGPS functionality of their phone, or automatically through a MIDlet) to obtain recently uploaded images or videos associated with "nearby" locations. For example, images or videos from a first user can automatically be communicated to friends of a first user when the friends arrive at locations where the first user had originally taken the images or videos. In preferred embodiments, the communication of image and/or video data is automatic. Specifically, when a user arrives at a given location, a MIDlet on the user's wireless device

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communicates the location of the wireless device to server 106. Web server 106 uses the location information to determine whether there are any images or videos from friends of the respective user associated with the current location of the user. If so, web server 106 communicates the images and/or videos to the user. For example, the images and/or videos may “pop-up” for presentation to the user when the user arrives at a specific location.

[0021] In some embodiments, a users can access one or more webpages (e.g., through a typical web browser or, perhaps, a wireless device-specific browser) to view uploaded images from their friends. The webpages preferably organize the images in multiple ways (e.g., by friend, by location, by types, by metadata descriptors, etc.). The user can navigate through a series of links corresponding to the organization of the images and videos to browse through content of interest. Alternatively, the user can submit a query for content of interest (of friends only and/or of other non-friend users) to receive search results from the database of images, videos, and metadata. Also, advertisements are preferably provided along with the images and videos - whether the user browses through the navigation links or submits a search query.

[0022] In some embodiments, when user wireless devices contain more advanced location functionality (e.g., AGPS functionality), a user within the social network may be notified when friends of the user within the social network application are present at the same approximate location for the purpose of allowing the friends to meet each other. For example, suppose a first user of the social network arrives at “Willow Bend” mall. When another user who is a friend of the first user arrives at the mall, the first user can be notified of the arrival of the second user and the second user can be notified of the particular location of the first user (e.g., at store “X”). In one representative embodiment, an image or video message from the other user can be delivered with the notification. Also, the location notification functionality can preferably be “turned” on and off by users of the social network application (if the users do not wish to be located at a particular time). The image or video message can be intended for any friend or specifically addressed for an identified “friend” (i.e., it will only be delivered to the identified friend).

[0023] In some embodiments, video or images can be made available for any users within the social network application. For example, when a first user arrives at a location, the user may submit a request to view any recent images or videos uploaded for the user's current location using a MIDlet on the user's wireless device. A number of images or videos from other users (whether friends or not) may then be communicated to the first user. A list of available images or videos can be presented to the first user to permit the first user to select specific content for viewing. Additionally, the first user may submit various search terms to identify images or videos of interest to the first user from all available images or content for the current location of the first user. In one representative embodiments, a user may define various criteria via their account that define the types of videos that the user wishes to receive (whether from friends or otherwise). The social network application will then communicate matching image and/or videos to the user according to the defined criteria as the user goes from location to location.

[0024] FIGURE 2 depicts a flowchart for creating and/or managing a social network application account according to one representative embodiment. In 201, a user accesses social network account creation web page. In 202, the user enters e-mail address, creates user id, password, in accordance with typical account creation methods. In 203, the user enters an identifier of the user's wireless device (e.g., the telephone number, the ESN/MIN, an e-mail address associated with an account maintained by the service provider of cellular services, etc.). In 204, the user creates, uploads, or identifies personalized content for user web page(s) using typical web methods. In 205, the user identifies friends with social network application. In 206, the user defines access restrictions for user's web page(s). The user can define restrictions that only permit certain users (e.g., only friends, only selected friends, users matching specific (demographic or otherwise) criteria) to view, access, or receive communication of certain types of content. For example, the user may only wish selected friends to receive images and video data via LBS functionality and the social network application will then only communicate such data to those friends.

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[0025] In 207, the user downloads a MIDlet to wireless device for accessing social network application (e.g., uploading digital images or video). Preferably, the user is given instructions in a web page provided by the social network application during the account creation process how to access the MIDlet. For example, the user is preferably given a URL to enter in the browser of the user's wireless device to obtain the MIDlet and instructions upon how to install the URL on his or her phone. The MIDlet may be personalized for the user to make performing different actions within the social network more efficient such as to communicate with specific friends with the social network. In an alternative embodiment, a MIDlet may be pre-installed on a commercially available cellular phone or other wireless device and the user need only provide his or her account information (e.g., user ID, password, and/or the like) to make the MIDlet functional with regard to the user's account with the social network application.

[0026] FIGURE 3 depicts a flowchart for communicating image and/or video data between users of a social network application according to one representative embodiment. In 301, a user takes an image or video using camera of user's wireless device. In 302, location information is associated with image or video. In 303, the user enters text description to associate with image or video. In 304, the user transfers image or video to social network server using wireless device. This may occur automatically by software on the user's wireless device in some embodiments. In 305, the social network server automatically associates received image or video with the user's account (e.g., makes the image or video available on the user's web page(s)). In 306, a logical determination is made whether the image or video is for immediate communication (e.g., whether the user wishes the image or video to be sent to specific friends of the user). If so, the social network server communicates the image or video to wireless devices of (selected) users (307). In 308, ads are selected and communicated to users.

[0027] FIGURE 4 depicts a flowchart for communicating image and/or video data between users of a social network application according to another representative embodiment. In 401, a social network server receives location information from a wireless device of a user. In 402, the server compares location information to location information of stored images or videos. The location information may be information

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that defines where the stored images or videos were originally taken. Alternatively, a user could input location information for association with images or videos independently from where the images or videos were taken. For example, a supervisor may create a video for traveling subordinate employees for viewing by the employees when the employees arrive at a particular location (e.g., a client's office complex). Such location information may be associated with an image or video by entering known GPS coordinates, a street address, or by selecting a region or area on a map interface provided by the social network application. In 403, the server selects matching images or videos based upon the sets of location information. Other information may be used for the matching such as any selection criteria provided by the user (e.g., from certain users, certain friends, keywords for matching in associated text descriptions, etc.). In 404, the social network server communicates images or videos to the wireless device of user. Additionally or alternatively, the social network server may communicate a list of available images or videos, possibly with thumbnails or short descriptions of the available content. In 405, ads are selected and communicated to users by a suitable server.

[0028] Representative embodiments can be used for a variety of purposes to facilitate interaction between users of a social network application. For example, a company may implement a social network application to manage employees of the company according to various levels of corporate hierarchies. In accordance with one representative embodiment, the distribution of image and/or videos using location based services for such a social network application permits managers of the company to give specific direction and distribute information to employees when the employees are engaged in activities in the field.

[0029] As another example, a "dating" social network application may allow a first user who is seeking to meet new people to leave a video to be distributed to other users of the matching specific criteria for delivery at a specific location where the user is currently located (e.g., at a coffee house, bookstore, nightclub, etc.). Thereby, if any user matching the criteria arrives at the location, the image or video of the first user is

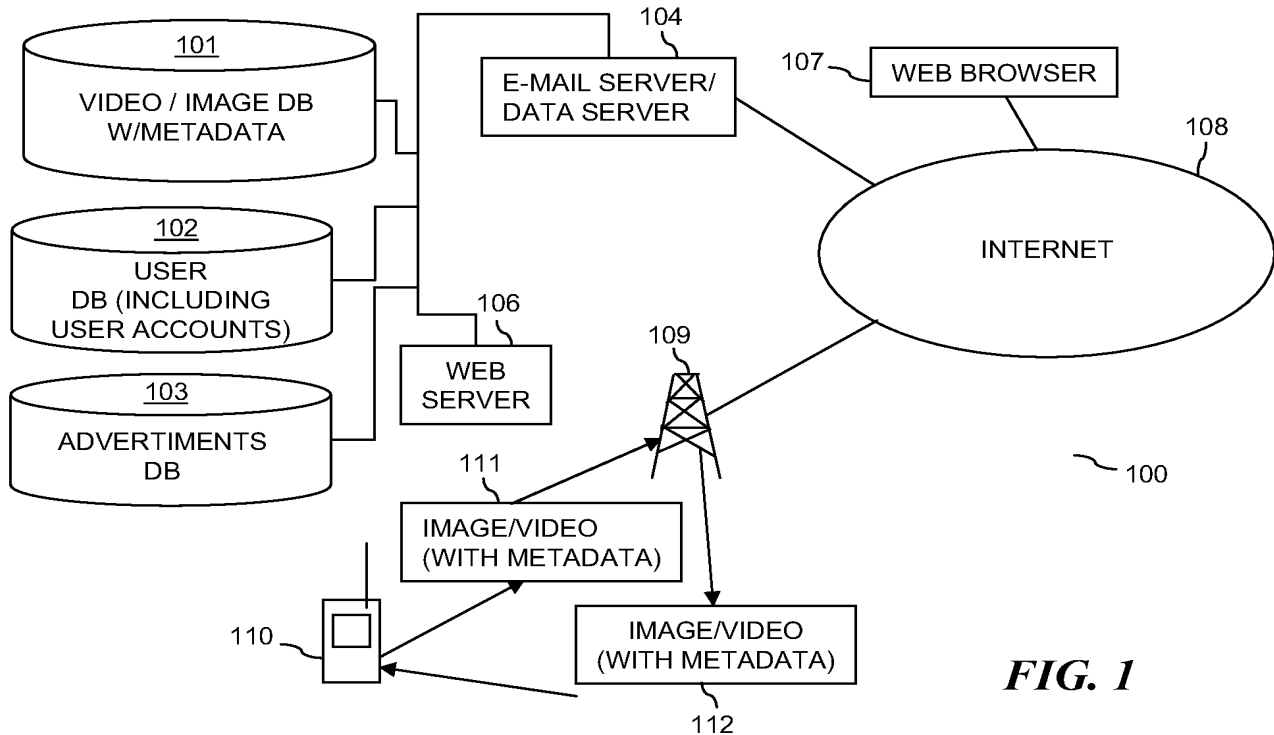
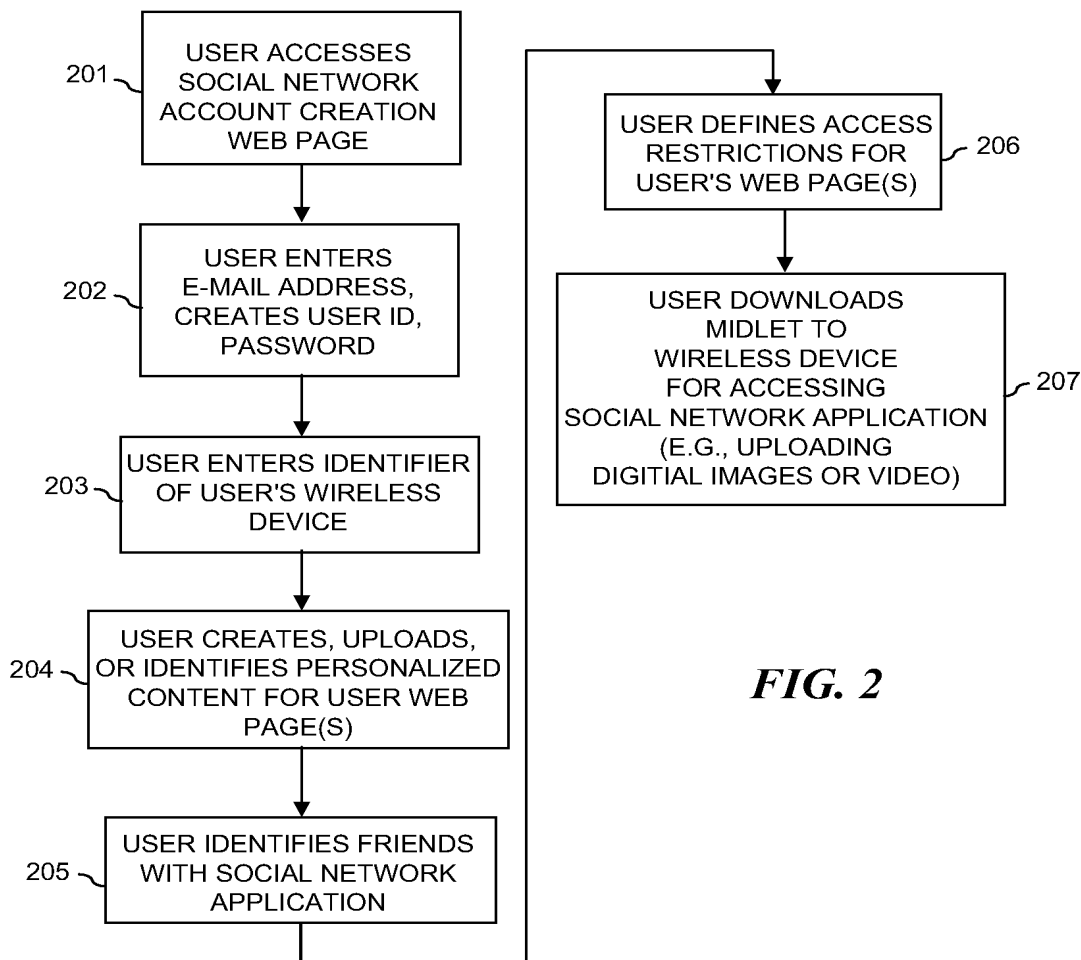
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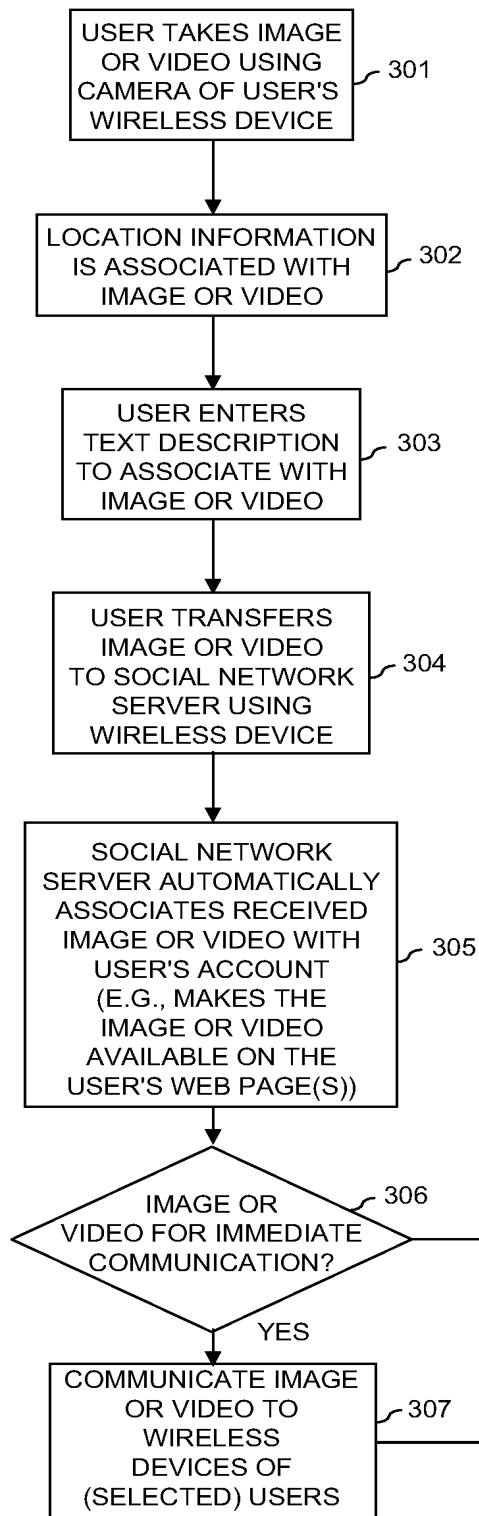
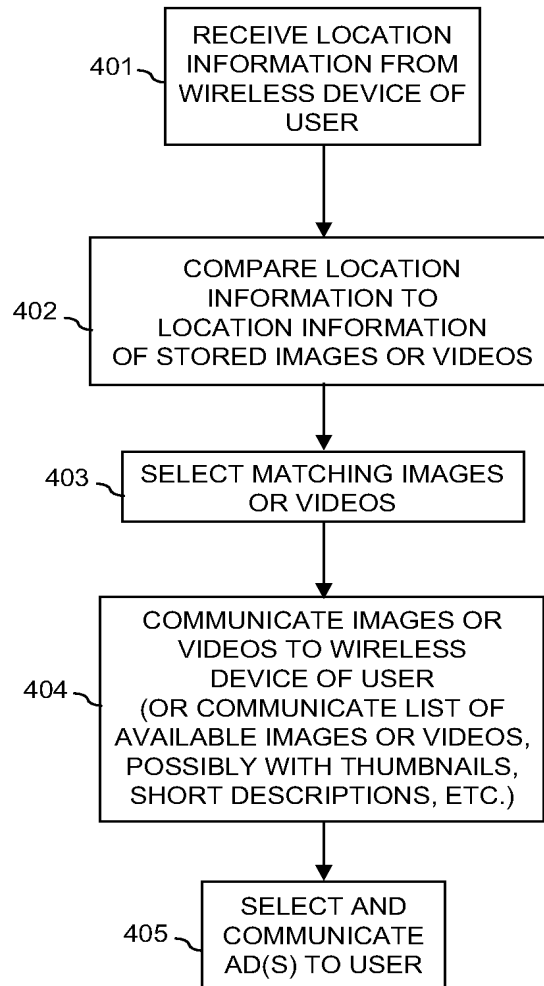
automatically delivered to the other users giving the other users notification that the first user is at the location, is seeking to meet new people, and information about the first user.

[0030] When implemented in software, the various elements or components of representative embodiments are the code or software segments adapted to perform the respective tasks. Any type of suitable code or software may be utilized from machine code, compiled software, interpreted software, browser executable code (e.g., HTML, JAVA script, FLASH code, etc), "JAVA" variants, PYTHON scripts, and/or the like. The program or code segments can be stored in a machine readable medium, such as a processor readable medium, or transmitted by a computer data signal embodied in a carrier wave, or a signal modulated by a carrier, over a transmission medium. The "computer readable medium" may include any medium that can store or transfer information. Examples of the computer readable medium include an electronic circuit, a semiconductor memory device, a ROM, a flash memory, an erasable programmable ROM (EPROM), a floppy diskette, a compact disk CD-ROM, an optical disk, a hard disk, a fiber optic medium, a radio frequency (RF) link, etc. The computer data signal may include any signal that can propagate over a transmission medium such as electronic network channels, optical fibers, air, electromagnetic, RF links, etc. The code segments may be downloaded via computer networks such as the Internet, an intranet, etc.

[0031] Although representative embodiments and advantages have been described in detail, it should be understood that various changes, substitutions and alterations can be made herein without departing from the spirit and scope of the appended claims. Moreover, the scope of the present application is not intended to be limited to the particular embodiments of the process, machine, manufacture, composition of matter, means, methods and steps described in the specification. As one of ordinary skill in the art will readily appreciate from the disclosure that processes, machines, manufacture, compositions of matter, means, methods, or steps, presently existing or later to be developed that perform substantially the same function or achieve substantially the same result as the corresponding embodiments described herein may be utilized. Accordingly, the appended claims are intended to include within their scope such processes, machines, manufacture, compositions of matter, means, methods, or steps.

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**FIG. 1****FIG. 2**

**FIG. 3****FIG. 4**

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NON-PROVISIONAL PATENT APPLICATION IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE

TITLE

SEARCH ENGINE PROVIDING PERSISTENT SEARCH FUNCTIONALITY OVER
MULTIPLE SEARCH QUERIES AND METHOD FOR OPERATING THE SAME

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RELATED APPLICATIONS

[0001] The present application claims the benefit of the following provisional patent applications: U.S. Provisional Application Serial No. 60/736,252, filed Nov. 14, 2005, U.S. Provisional Patent Application No. 60/759,303, filed 01/17/2006 and U.S. Provisional Patent Application No. 60/773,852, filed 02/16/2006, all of which are incorporated herein by reference.

BACKGROUND

[0002] A number of search engines exist that provide searching operations to be conducted on documents present on the Internet. However, as the number of documents on the Internet has increased on very substantial basis, the efficiency of search operations using conventional search engines has significantly lessened. Specifically, a keyword search provided by a user to a search engine can present a very large number of “hits” for a user to traverse. Moreover, because of the very large number of documents present on the Internet, the “hits” may include a large number of documents that contain the keywords in a manner not contemplated by and, typically, in an irrelevant manner to the searching user. Accordingly, the user typically must provide multiple queries in an attempt to locate documents of interest.

SUMMARY

[0003] In one embodiment, a method of operating a search engine comprises: initiating a continuous search state from a user; receiving multiple search queries during the continuous search state; and providing search results to the user, wherein the providing filters search results previously presented to the user in response to prior search queries during the continuous search state.

[0004] The foregoing has outlined rather broadly certain features and/or technical advantages in order that the detailed description that follows may be better understood. Additional features and/or advantages will be described hereinafter which form the subject of the claims. It should be appreciated by those skilled in the art that the

conception and specific embodiment disclosed may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the appended claims. The novel features, both as to organization and method of operation, together with further objects and advantages will be better understood from the following description when considered in connection with the accompanying figures. It is to be expressly understood, however, that each of the figures is provided for the purpose of illustration and description only and is not intended as a definition of the limits of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] FIGURE 1 depicts a web page for initiating a continuous search according to one representative embodiment.

[0006] FIGURE 2 depicts a response web page for a search engine for a continuous search according to one representative embodiment.

[0007] FIGURE 3 depicts a web page including search results presented in a manner for user review according to a continuous search according to some representative embodiments.

[0008] FIGURE 4 depicts a web page after re-sorting operations occur according to one representative embodiment.

[0009] FIGURE 5 depicts a web page to display stored search results according to one representative embodiment.

[0010] FIGURE 6 depicts a web page with various prior search terms according to one representative embodiment.

DETAILED DESCRIPTION

[0011] Representative embodiments enable a user to search for documents via a search engine over multiple independent or related queries on an efficient basis.

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Specifically, some representative embodiments enable a “continuous” search using an Internet search engine to be conducted in which documents can be saved in association across multiple search queries, documents excluded from subsequent query results, documents types of relevance and irrelevance identified for sorting of present and subsequent queries, and/or other such operations spanning multiple search queries. By managing search information across multiple searches, Internet searches can be conducted in an efficient manner.

[0012] Some representative embodiments enable a user to enter a “continuous” search through the common search engine web page presented by the search engine. FIGURE 1 depicts web page 100 for initiating a continuous search according to one representative embodiment. Web page 100 includes the typical graphical controls present in search engines to enter information defining a search query. Web page 100 also includes control 150 (e.g., a “button” or, alternatively, a hyperlink) that allows a user to start a continuous search. By selecting button 150, the selection is communicated to one of the web servers associated with the search engine via typical HTTP processing. The button allows the user to ability to enter the continuous search mode (i.e., the review or resume prior continuous searches or to start a new continuous search).

[0013] In response, the search engine generates web page 200 (shown in FIGURE 2) according to one representative embodiment. Web page 200 includes the same controls as web page 100 for defining search query terms. The web query term controls shown in FIGURE 2 are by way of example. Any suitable set of query term controls could be utilized according to representative embodiments. Web page 200 further includes control 210 for entering a name for the continuous search for further identification to the user (assuming the user wishes to start a new continuous search). Web page 200 further includes list 220 having a list of hyperlinks for prior searches (should the user wish to resume or review a prior search). Depending upon the number of saved searches, additional controls (not shown) could be provided to allow the user to review other searches not immediately displayed in web page 200.

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[0014] Preferably, the search engine stores a “cookie” on the user system to allow the search engine to identify the user for the presentation of the prior searches of the user. In an alternative embodiment, the user can enter a user id and/or password via an intermediate web page to allow the user to retrieve and control the user’s continuous searches. In an alternative embodiment, web pages 100 and 200 could be integrated into a single web page if desired.

[0015] Assuming the user starts a new continuous search and enters query terms, the query terms and the search name are communicated to a server of the search engine according to conventional HTTP operations. Search results are generated and sorted according to conventional search engine operations. A first web page of search results is communicated to the user. Also, one or several search file(s) are created to save information for the continuous search. The created search file(s) are associated with the user and the search name.

[0016] As shown in FIGURE 3, web page 300 illustrates search results presented in a manner for user review according to a continuous search according to some representative embodiments. The typical search results information can be provided such as the titles of the web pages, summary information of the web page (perhaps, including a portion of text from the result document containing the keyword(s)), and other such information. The search results can include hyperlinks (shown as 301 and 302) to allow the user to review the particular result documents. Preferably, the hyperlinks cause the document(s) to be presented in a separate “pop-up” window of the browser. Web page 300 may also include typical controls for navigating the search results (previous page button 321, next page button 322, go to page control 323, etc.)

[0017] Each of the search results is preferably associated with one or several controls for continuous search operations. For example, the user can store a reference to a web page using store control 311 (which is preferably a “check-box” or “radio” control). The user can also cause a particular page to be excluded from subsequent search results using control 312. In alternative embodiments, a particular page can be

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automatically excluded by merely being included in reviewed results associated with a prior search query in the continuous search process. Control 313 enables the user to indicate that the respective document is the type of document that the user wishes to review during the continuous search. Similarly, control 314 enables the user to indicate that the respective document is not the type of document that the user wishes to review during the continuous search.

[0018] In a preferred embodiment, controls 311 - 314 do not operate to transfer information immediately upon selection. Instead, the selections associated with controls 311 - 314 are communicated when one of the page controls 321, 322, or 323 or continuous search buttons 324 - 328. Specifically, when one of these buttons or controls are activated by the user, the page information is communicated to a server of the search engine via conventional HTTP operations. The search engine then updates the continuous search file(s).

[0019] If the user has selected any search results using a “stored” control 311, an identifier of the particular document (e.g., the URL, the date associated with the time that the web crawler indexed the URL, etc.) is stored in one of the search file(s). In some embodiments, each identified document (e.g., the HTML page, the associated object/image files, etc.) is also stored. The benefit of storing the identified documents is the search can be reviewed at substantially later dates (e.g., after the original documents have been removed from the Internet or otherwise modified).

[0020] When the user selects the exclude control 322 for one or several search results, the identifier(s) of the “excluded” document(s) is/are stored. These stored URLs are preferably used to filter these documents from the results generated from subsequent queries. In alternative embodiments, all of the documents identified in a result page are stored in an “exclude” file for filtering results from subsequent search queries within the continuous search.

[0021] When the user selects one or several of controls 313 and 314, the URL(s) is/are stored in a search file(s). When subsequent results are sorted, a similarity metric is calculated for each search result against each of the documents identified using

controls 313 and 314. The similarity metric can be calculated using any suitable known or later developed document comparison algorithm. If a search result document is similar to one or several “this type” previously identified documents, the search result document is given a higher weight for the sorting algorithm. If a search result document is similar to one or several “not this type” previously identified documents, the search result document is given a lower weight for the sorting algorithm.

[0022] The user can re-sort the current search results using re-sort control 327 as affected by the selection of any of controls 313 and 314. The user can alternatively decide to change the current search terms or enter an entirely new set of search terms using control 326. Upon selection of control 326, the user can be presented web page 400 as shown in FIGURE 4. Additionally, the user could review the previously presented search terms by selecting control 325. Web page 600 (as shown in FIGURE 6) with various prior search terms 611 could be presented in a pop-up window in response to the selection of control 325. If the user wishes to end or temporarily suspend the continuous search, the user can depress control 328. The user can be taken to a predefined web page (e.g., a “portal page”) upon selection of control 328. Also, when the user selects control 328, the state information at the server(s) of the search engine and/or within a cookie on the user system can be modified to reflect the end/suspension of the continuous search.

[0023] If the user wishes to review the stored search results, the user may select control 324. Upon selection, web page 500 as shown in FIGURE 5 can be generated to display stored search results 521. If the user wishes to review the actual document, the user can click on one of the titles and, preferably, the actual document is displayed in a pop-up window. If user can “unstore” the document using control 511 which causes the identifier of the document to be removed from the search file(s). Alternatively, the user could choose to “exclude” the document using control 312. Right kind and wrong kind controls 313 and 314 could also be included within web page 500. Depending upon the number of stored results, controls 321, 322, and 323 could be provided to navigate between multiple pages of stored results. The user could return to the current results generated by the most recent search terms using control 531. Also, in one embodiment,

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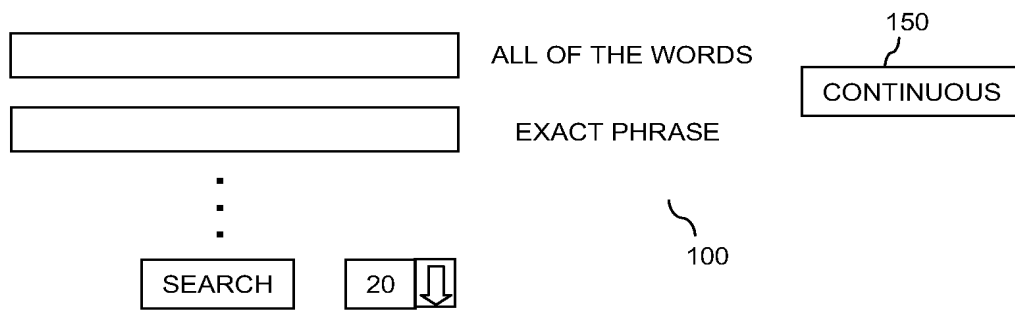
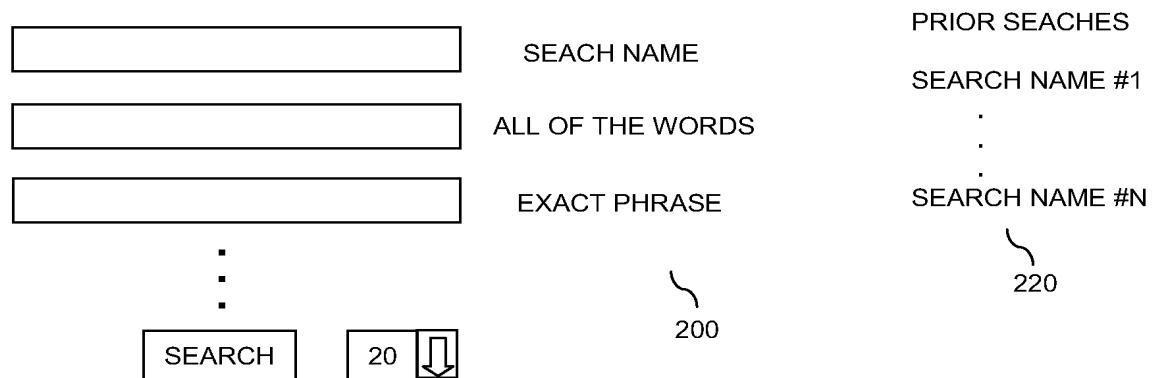
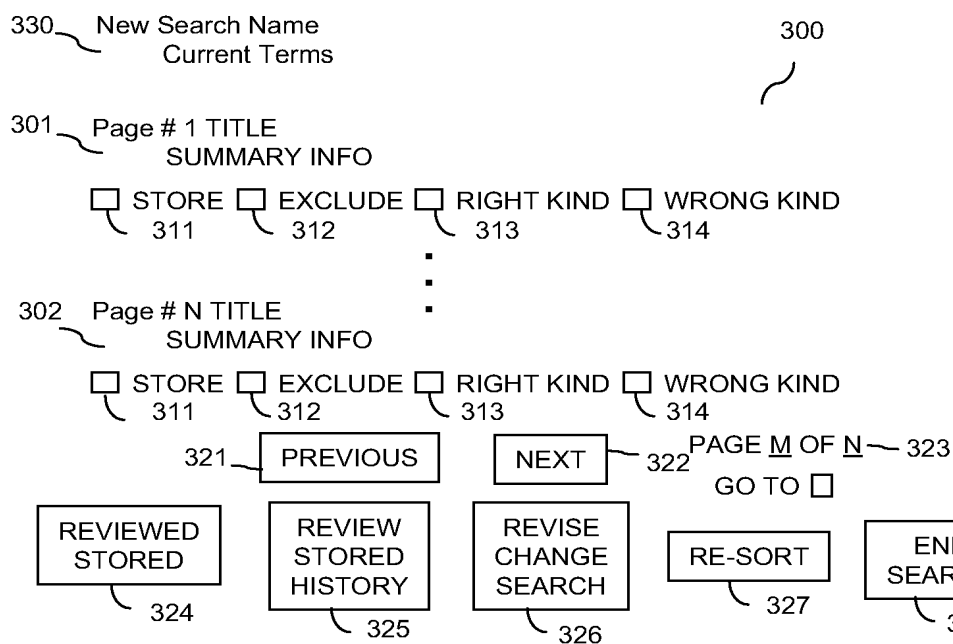
the search term(s) 551 associated with each stored result could be shown adjacent to the respective stored search result.

[0024] Some representative embodiments enable a user to conduct an Internet or other search in a substantially efficient manner. A user can quickly review a number of hits, identifying potentially relevant hits, and store the potentially relevant hits for further review. The user can quickly revise the search without losing the stored hits. Also, the user need not repetitively review information that the user has already seen. Specifically, when additional search results are presented in response to revised search terms or new search terms, hits that were deemed irrelevant need not be re-reviewed by the user. The user can also suspend the search at any point and resume the search at a later time if desired. Also, the stored documents can be cached by the search engine to ensure that the user can retrieve the documents at a later time even if the documents become modified or are removed from their original web servers.

[0025] When implemented in software, the various elements or components of representative embodiments are the code or software segments adapted to perform the respective tasks. In some embodiments, some of the software is implemented using a freely available web server (such as the APACHE web server) and custom PERL scripts for implementing the continuous search functionality. In some embodiments, some of the software may be executed on a search user's computing platform and may include machine code, compiled software, interpreted software, browser executable code via a "plug-in" or otherwise (e.g., HTML, JAVA script, FLASH code, etc), and/or the like. The program or code segments can be stored in a machine readable medium, such as a processor readable medium, or transmitted by a computer data signal embodied in a carrier wave, or a signal modulated by a carrier, over a transmission medium. The "computer readable medium" may include any medium that can store or transfer information. Examples of the computer readable medium include an electronic circuit, a semiconductor memory device, a ROM, a flash memory, an erasable programmable ROM (EPROM), a floppy diskette, a compact disk CD-ROM, an optical disk, a hard disk, a fiber optic medium, a radio frequency (RF) link, etc. The computer data signal may include any signal that can propagate over a transmission medium such as electronic

network channels, optical fibers, air, electromagnetic, RF links, etc. The code segments may be downloaded via computer networks such as the Internet, Intranet, etc.

[0026] Although representative embodiments and advantages have been described in detail, it should be understood that various changes, substitutions and alterations can be made herein without departing from the spirit and scope of the appended claims. Moreover, the scope of the present application is not intended to be limited to the particular embodiments of the process, machine, manufacture, composition of matter, means, methods and steps described in the specification. As one of ordinary skill in the art will readily appreciate from the disclosure that processes, machines, manufacture, compositions of matter, means, methods, or steps, presently existing or later to be developed that perform substantially the same function or achieve substantially the same result as the corresponding embodiments described herein may be utilized. Accordingly, the appended claims are intended to include within their scope such processes, machines, manufacture, compositions of matter, means, methods, or steps.



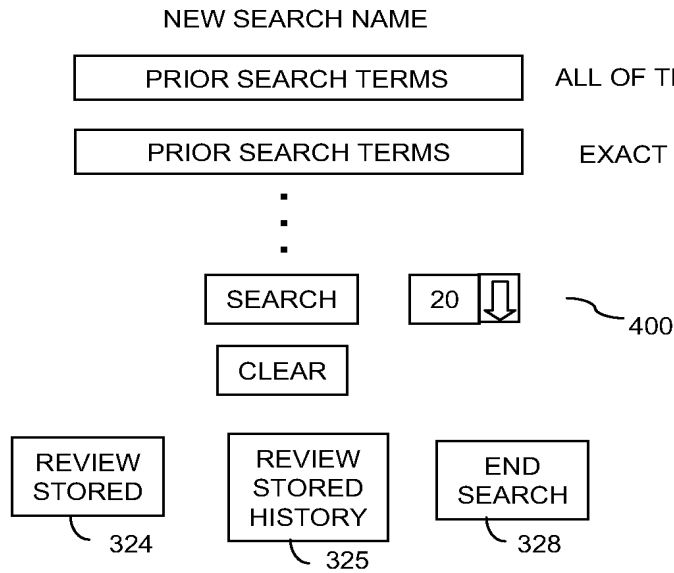


FIG. 4

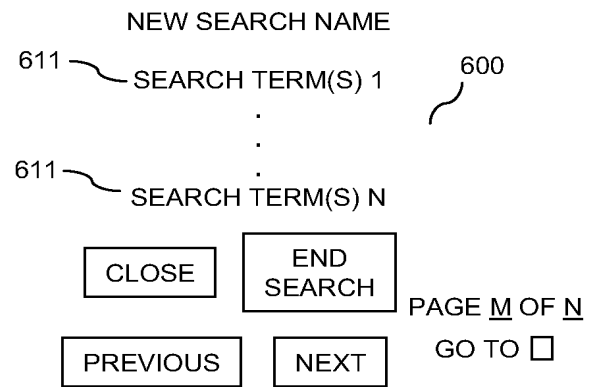


FIG. 6

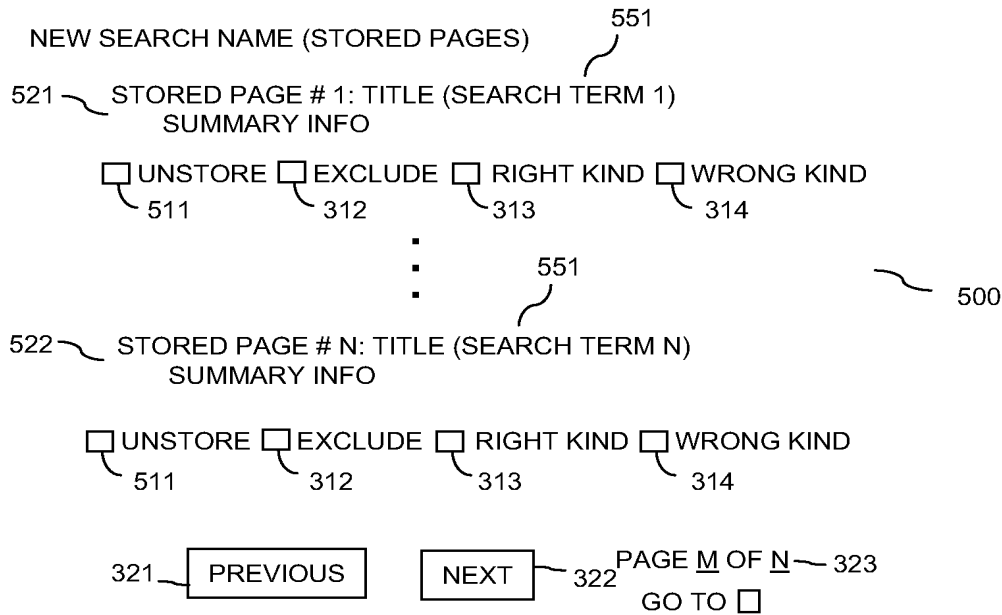


FIG. 5



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CLAIMS

1. A method of providing a location based service (LBS), comprising:
 - receiving location information by one or more software programs from a plurality of wireless devices belonging to a plurality of subscribers of one or more location based services;
 - processing the location information, by one or more software programs, to identify specific activities of subscribers at merchant locations from a plurality of predefined set of activities;
 - storing identified activities in a respective activity log for each of the plurality of subscribers;
 - comparing ad parameters against subscriber data, including data stored in the activity logs, to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by determining whether respective subscribers have already completed one or more activities as identified in the respective subscribers' activity logs; and
 - communicating selected ads to wireless devices of the subscribers.
2. The method of claim 1 wherein the predefined set of activities comprises a hierarchical arrangement of activities and sub-activities.
3. The method of claim 1 wherein the storing comprises:
 - identifying times when respective subscribers have completed respective activities.
4. The method of claim 3 wherein the storing comprises:
 - identifying times when respective subscribers have begun respective activities.
5. The method of claim 1 wherein the storing comprises:
 - identifying specific types of merchants that respective subscribers have visited.

6. The method of claim 1 further comprising:
 - monitoring one or more financial accounts to identify transactions made by subscribers; and
 - storing information in activity logs of subscribers that transactions have been completed.
7. A method of providing a location based service (LBS), comprising:
 - receiving location information by one or more software programs from a plurality of wireless devices belonging to a plurality of subscribers of one or more location based services;
 - processing the location information, by one or more software programs, to identify activity of subscribers at merchant locations;
 - storing the processed location information in a log for each of the plurality of subscribers;
 - receiving or defining ad parameters for selecting subscribers for receipt of ads, wherein at least some of the ad parameters define or identify one or more activities from a predefined set of specific activities;
 - comparing ad parameters against subscriber data, including data stored in the logs, to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by determining whether respective subscribers have already completed one or more activities associated with the ad parameters; and
 - communicating selected ads to wireless devices of the subscribers.
8. The method of claim 7 wherein the predefined set of activities comprises a hierarchical arrangement of activities and sub-activities.
9. The method of claim 7 wherein the storing comprises:
 - identifying times when respective subscribers have completed respective activities.

10. The method of claim 7 wherein the storing comprises:
identifying times when respective subscribers have begun respective activities.

11. The method of claim 7 wherein the storing comprises:
identifying specific types of merchants that respective subscribers have visited.

12. The method of claim 7 wherein the processing comprises:
comparing location information to information in one or more databases that
associate a plurality of activities with sub-store locations within specific merchant stores.

13. A system for providing one or more location based services, comprising:
one or more first software programs executed on one or more wireless devices,
the one or more software programs operable to communicate location information
indicative of the location of the one or more wireless devices;

one or more servers for receiving location information generated by the one or
more software programs, the one or more servers executing one or more second software
programs, the one or more second software programs being operable to:

(i) receive location information by one or more software programs from a
plurality of wireless devices belonging to a plurality of subscribers of one or more
location based services;

(ii) process the location information, by one or more software programs,
to identify specific activities of subscribers at merchant locations from a plurality of
predefined set of activities;

(iii) store identified activities in a respective activity log for each of the
plurality of subscribers;

(iv) compare ad parameters against subscriber data, including data stored
in the activity logs, to select ads for communication to subscribers, wherein the
comparing differentiates in selection of ads for communication to subscribers by
determining whether respective subscribers have already completed one or more
activities as identified in the respective subscribers' activity logs; and

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(v) communicate selected ads to wireless devices of the subscribers.

14. The system of claim 13 wherein the predefined set of activities comprises a hierarchical arrangement of activities and sub-activities.

15. The system of claim 13 wherein (iii) comprises:
identifying times when respective subscribers have completed respective activities.

16. The system of claim 15 wherein (iii) comprises:
identifying times when respective subscribers have begun respective activities.

17. The system of claim 13 wherein (iii) comprises:
identifying specific types of merchants that respective subscribers have visited.

18. The system of claim 13 the one or more second software programs being further operable to:
monitor one or more financial accounts to identify transactions made by subscribers; and
store information in activity logs of subscribers that transactions have been completed.

19. The system of claim 13 the one or more second software programs being further operable to:
receive or define ad parameters for selecting subscribers for receipt of ads, wherein at least some of the ad parameters define or identify one or more activities from a predefined set of specific activities;
compare ad parameters against subscriber data, including data stored in the logs, to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by determining whether respective subscribers have already completed one or more activities associated with the ad

parameters.

20. The system of claim 13 wherein the processing comprises:
comparing location information to information in one or more databases that associate a plurality of activities with sub-store locations within specific merchant stores.

21. A method of providing a location based service (LBS), comprising:
(i) receiving location information by one or more software programs from a plurality of wireless devices belonging to a plurality of subscribers of one or more location based services;
(ii) processing the location information, by one or more software programs, to identify activities of subscribers at respective locations over a period of time;
(iii) detecting repeated occurrences of first activities performed by respective subscribers in relation to occurrences of second activities by the same respective subscribers;
(iv) storing data for each of the respective subscribers indicative of a propensity of each of said respective subscribers to engage in the respective subscriber's first activity in relation to the respective subscriber's second activity;
(v) detecting subscribers engaging in their respective second activities subsequent to performance of (iv) as identified using the stored data; and
(vi) communicating ads relevant to the respective subscriber's first activity in response to at least the detecting in (v).

22. The method of claim 21 wherein the communicating comprises:
communicating some of the ads while the respective subscribers are engaged in their respective first activities.

23. The method of claim 21 further comprising:
communicating some of the ads upon or after completion of some of the subscribers' first activities.

24. The method of claim 21 wherein the (iii) detecting comprises:
calculating a number of times that a respective subscriber engaged in the subscriber's first activity within a predefined amount of time after engaging in the subscriber's second activity.

25. The method of claim 24 wherein the predefined amount of time is less than three hours.

26. The method of claim 21 wherein, for some of the subscribers, the subscribers' second activities are non-shopping related activities.

27. The method of claim 26 wherein, for some of the subscribers, the subscribers' second activities are traveling-related activities.

28. The method of claim 26 wherein, for some of the subscribers, the subscribers' second activities are sports-related activities.

29. The method of claim 21 further comprising:
storing norm transaction amounts for some subscribers that occur for the respective second activities of some subscribers.

30. The method of claim 29 wherein ads selected for the communicating (vi) are selected using at least the norm transaction amounts.

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31. A system for providing one or more location based services, comprising:
one or more first software programs executed on one or more wireless devices,
the one or more software programs operable to communicate location information
indicative of the location of the one or more wireless devices;

one or more servers for receiving location information generated by the one or
more software programs, the one or more servers executing one or more second software
programs, the one or more second software programs being operable to:

(i) receive location information by one or more software programs from a
plurality of wireless devices belonging to a plurality of subscribers of one or more
location based services;

(ii) process the location information, by one or more software programs,
to identify activities of subscribers at respective locations over a period of time;

(iii) detect repeated occurrences of first activities performed by respective
subscribers in relation to occurrences of second activities by the same respective
subscribers;

(iv) store data for each of the respective subscribers indicative of a
propensity of each of said respective subscribers to engage in the respective subscriber's
first activity in relation to the respective subscriber's second activity;

(v) detect subscribers engaging in their respective second activities
subsequent to performance of (iv) as identified using the stored data; and

(vi) communicate ads relevant to the respective subscriber's first activity
in response to at least the detecting in (v).

32. The system of claim 31 wherein (vi):
communicates some of the ads while the respective subscribers are engaged in
their respective first activities.

33. The system of claim 32 wherein (vi):
communicates some of the ads upon or after completion of some of the
subscribers' first activities.

34. The system of claim 31 wherein (iii) comprises:
calculating a number of times that a respective subscriber engaged in the subscriber's first activity within a predefined amount of time after engaging in the subscriber's second activity.
35. The system of claim 34 wherein the predefined amount of time is less than three hours.
36. The system of claim 31 wherein, for some of the subscribers, the subscribers' second activities are non-shopping related activities.
37. The system of claim 36 wherein, for some of the subscribers, the subscribers' second activities are traveling-related activities.
38. The system of claim 36 wherein, for some of the subscribers, the subscribers' second activities are sports-related activities.
39. The system of claim 31 wherein the one or more second software programs are further operable to:
store norm transaction amounts for some subscribers that occur for the respective second activities of some subscribers.
40. The system of claim 39 wherein ads selected in (vi) are selected using at least the norm transaction amounts.

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41. A method of providing a location based service (LBS), comprising:
- receiving location information by one or more software programs from a plurality of wireless devices belonging to a plurality of subscribers of one or more location based services;
 - processing the location information over a period of time, by one or more software programs, to generate norm data for the plurality of subscribers, the norm data including data indicative of typical amounts of time spent by respective subscribers at merchant locations or merchant-type locations;
 - processing recent location information for at least some of the subscribers to track activity across multiple merchants or merchant-types;
 - comparing the processed recent location information for the plurality of subscribers against the norm data to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by determining whether respective subscribers have spent more or less time than time associated with the respective subscribers' norm data; and
 - communicating selected ads to wireless devices of the subscribers.
42. The method of claim 41 wherein the norm data stores data indicative of typical amounts of time spent at a plurality of merchant-types for each subscriber.
43. The method of claim 42 wherein the processing adds time spent at multiple specific merchants for subscribers for merchants of a particular merchant-type.
44. The method of claim 43 wherein the comparing differentiates by omitting selection of some ads for certain merchant-types for subscribers that have spent an amount of time more than indicated in those subscribers' norm data for those merchant-types.

45. The method of claim 41 wherein the norm data stores standard deviation information related to amounts of time spent by subscribers at various merchant locations or merchant-type locations, the comparing analyzing processed recent location information against the standard deviation information.

46. The method of claim 41 wherein the recent location information is limited to location information for a current day.

47. The method of claim 41 wherein the recent location information is limited to location information for respective shopping trips for each subscriber.

48. A method of providing a location based service (LBS), comprising:
receiving location information by one or more software programs from a plurality of wireless devices belonging to a plurality of subscribers of one or more location based services;

processing recent location information for at least some of the subscribers to track activity at merchant locations;

receiving or defining ad parameters for selecting subscribers for receipt of ads, wherein at least some of the ad parameters define or identify timing parameters that identify amounts of time at respective merchant locations for delivery of ads;

comparing the processed recent location information for the plurality of subscribers against the ad parameters to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by determining whether respective subscribers have spent more or less time than time at respective merchant locations compared to times defined in the ad parameters; and

communicating selected ads to wireless devices of the subscribers.

49. The method of claim 48 wherein some of the ad parameters define amounts of time relative to norm parameters that reflect average or typical amounts of time spent by respective subscriber at respective merchants.

50. The method of claim 48 wherein some of the ad parameters define amounts of time relative to norm parameters that reflect average or typical amounts of time spent by respective subscriber at respective merchant types.

51. The method of claim 48 wherein some of the ad parameters define amounts of time relative to norm parameters that reflect average or typical amounts of time spent by respective subscriber at respective merchant types.

52. The method of claim 48 wherein some of the ad parameters define amounts of time relative to norm parameters that reflect average or typical amounts of time spent by respective subscriber at a retail location that comprises a plurality of merchants.

53. The method of claim 48 wherein some of the ads parameters pay for placement according to timing parameters that identify amounts of time at respective merchant locations.

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54. A system for providing one or more location based services, comprising:
one or more first software programs executed on one or more wireless devices,
the one or more software programs operable to communicate location information
indicative of the location of the one or more wireless devices;

one or more servers for receiving location information generated by the one or
more software programs, the one or more servers executing one or more second software
programs, the one or more second software programs being operable to:

(i) receive location information by one or more software programs from a
plurality of wireless devices belonging to a plurality of subscribers of one or more
location based services;

(ii) process the location information over a period of time, by one or more
software programs, to generate norm data for the plurality of subscribers, the norm data
including data indicative of typical amounts of time spent by respective subscribers at
merchant locations or merchant-type locations;

(iii) process recent location information for at least some of the
subscribers to track activity across multiple merchants or merchant-types;

(iv) compare the processed recent location information for the plurality of
subscribers against the norm data to select ads for communication to subscribers, wherein
the comparing differentiates in selection of ads for communication to subscribers by
determining whether respective subscribers have spent more or less time across multiple
merchants or merchant-types than time associated with the respective subscribers' norm
data; and

(v) communicate selected ads to wireless devices of the subscribers.

55. The system of claim 54 wherein the one or more second software programs
are further operable to:

receive or define ad parameters for selecting subscribers for receipt of ads,
wherein at least some of the ad parameters define or identify timing parameters that
identify amounts of time at respective merchant locations for delivery of ads;

the comparing further selecting ads in relation to the ad parameters.

56. The system of claim 55 wherein some of the ads parameters pay for placement according to timing parameters that identify amounts of time at respective merchant locations.

57. The system of claim 54 wherein some of the ad parameters define amounts of time relative to norm parameters that reflect average or typical amounts of time spent by respective subscriber at respective merchants.

58. The system of claim 54 wherein some of the ad parameters define amounts of time relative to norm parameters that reflect average or typical amounts of time spent by respective subscriber at respective merchant types.

59. The system of claim 54 wherein some of the ad parameters define amounts of time relative to norm parameters that reflect average or typical amounts of time spent by respective subscriber at respective merchant types.

60. The system of claim 54 wherein some of the ad parameters define amounts of time relative to norm parameters that reflect average or typical amounts of time spent by respective subscriber at a retail location that comprises a plurality of merchants.

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61. A method of providing a location based service (LBS), comprising:

- receiving information pertaining to financial transactions completed by a plurality of subscribers;
- processing the information over a period of time, by one or more software programs, to generate norm data for the plurality of subscribers, the norm data including data indicative of typical amounts of funds spent by respective subscribers at merchants or merchant-types;
- receiving location information from wireless devices of the plurality of subscribers;
- processing recent transaction information for at least some of the subscribers to track multiple purchases of each subscriber at respective merchants or merchant types;
- comparing the processed recent transaction information for the plurality of subscribers against the norm data to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by comparing amounts determined by the processed recent transaction information is greater or less than funds associated with the respective subscribers' norm data, the selection of ads further occurring in relation to the received location information; and
- communicating selected ads to wireless devices of the subscribers.

62. The method of claim 61 wherein the norm data relates typical amounts of funds spent by subscribers using a plurality of hierarchical categories.

63. The method of claim 61 wherein the comparing compares processed recent transaction information for a month-long period of time against the norm data.

64. The method of claim 61 wherein the comparing compares processed recent transaction information for current recent shopping trips.

65. The method of claim 1 wherein the comparing compares processed recent transaction information for a current day.

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66. The method of claim 61 wherein the processing the information further comprises:

calculating standard deviations for typical amounts of funds spent by respective subscribers at merchants or merchant-types for inclusion within the norm data, wherein the comparing further differentiates in relation to the standard deviation norm data in comparison against the processed recent transaction information.

67. A system for providing one or more location based services, comprising:
one or more first software programs executed on one or more wireless devices, the one or more software programs operable to communicate location information indicative of the location of the one or more wireless devices;

one or more servers for receiving location information generated by the one or more software programs, the one or more servers executing one or more second software programs, the one or more second software programs being operable to:

(i) receive information pertaining to financial transactions completed by a plurality of subscribers;

(ii) process the information over a period of time, by one or more software programs, to generate norm data for the plurality of subscribers, the norm data including data indicative of typical amounts of funds spent by respective subscribers at merchants or merchant-types;

(iii) receive location information from wireless devices of the plurality of subscribers;

(iv) process recent transaction information for at least some of the subscribers to track multiple purchases of each subscriber at respective merchants or merchant types;

(v) compare the processed recent transaction information for the plurality of subscribers against the norm data to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by comparing amounts determined by the processed recent transaction information is greater or less than funds associated with the respective subscribers' norm data, the selection of ads further occurring in relation to the received location information; and

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(vi) communicate selected ads to wireless devices of the subscribers.

68. The system of claim 66 wherein the norm data relates typical amounts of funds spent by subscribers using a plurality of hierarchical categories.

69. The system of claim 66 wherein (v) compares processed recent transaction information for a month-long period of time against the norm data.

70. The system of claim 6 wherein (v) compares processed recent transaction information for current recent shopping trips.

71. The system of claim 71 wherein (v) compares processed recent transaction information for a current day.

72. The system of claim 71 wherein (iv) further comprises:
calculating standard deviations for typical amounts of funds spent by respective subscribers at merchants or merchant-types for inclusion within the norm data, wherein the comparing further differentiates in relation to the standard deviation norm data in comparison against the processed recent transaction information.

73. The system of claim 71 further comprising:
receiving or defining ad parameters for selecting subscribers for receipt of ads, wherein at least some of the ad parameters define or identify financial parameters that select or identify a set of transactions from a plurality of sets of transaction types and identify or define amounts of funds, wherein (v) further sets subscribers by comparing subscriber data against the ad parameters.

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74. A method of providing a location based service (LBS), comprising:
receiving information pertaining to financial transactions completed by a plurality of subscribers;

processing the information over a period of time, by one or more software programs, to generate norm data for the plurality of subscribers, the norm data including data indicative of typical amounts of funds for a plurality sets of transaction types;

receiving or defining ad parameters for selecting subscribers for receipt of ads, wherein at least some of the ad parameters define or identify financial parameters that select or identify a set of transactions from the plurality of sets of transaction types and identify or define amounts of funds;

receiving location information from wireless devices of the plurality of subscribers;

comparing ad parameters against subscriber data, including data stored in the norm data, to select ads for communication to subscribers, wherein the comparing further selects ads in relation to recent location information from subscribers; and

communicating selected ads to wireless devices of the subscribers.

75. The method of claim 74 wherein the plurality of sets of transaction types are organized into hierarchical categories of transaction types.

76. The method of claim 74 wherein the processing the information further comprises:

calculating standard deviations for typical amounts of funds spent by respective subscribers at merchants or merchant-types for inclusion within the norm data, wherein the comparing further differentiates in relation to the standard deviation norm data in comparison against processed recent transaction information.

77. The method of claim 74 wherein selection of ads for subscribers further comprises:

determining whether subscribers have recently made completed transactions pertaining to the selected set of transactions as identified in the ad parameters.

78. The method of claim 74 wherein norm data defines a typical transaction amount for the selected set of transactions.

79. The method of claim 74 wherein the norm data defines a typical amount spent over a predefined period of time for the selected set of transactions.

80. The method of claim 74 wherein the period of time is a single shopping trip.

81. A method of providing a location based service (LBS), comprising:
receiving information pertaining to financial transactions completed by a plurality of subscribers;

processing the information over time, by one or more software programs, to generate norm data for the plurality of subscribers, the norm data including data indicative of typical numbers of transaction completed by respective subscribers at multiple merchants, merchant-types, or merchant locations;

receiving location information from wireless devices of the plurality of subscribers;

processing recent transaction information for at least some of the subscribers to track multiple purchases of each subscriber at merchants, merchant-types, or merchant locations;

comparing the processed recent transaction information for the plurality of subscribers against the norm data to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by determining whether respective subscribers have completed more or less transactions than transactions associated with the respective subscribers' norm data, the selection of ads further occurring in relation to the received location information; and

communicating selected ads to wireless devices of the subscribers.

82. The method of claim 81 wherein the norm data relates numbers of purchases made by subscribers using a plurality of hierarchical categories.

83. The method of claim 81 wherein (v) compares processed recent transaction information for a month-long period of time against the norm data.

84. The method of claim 81 wherein (v) compares processed recent transaction information for current recent shopping trips.

85. The method of claim 81 wherein (v) compares processed recent transaction information for a current day.

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86. A system for providing one or more location based services, comprising:
one or more first software programs executed on one or more wireless devices,
the one or more software programs operable to communicate location information
indicative of the location of the one or more wireless devices;

one or more servers for receiving location information generated by the one or
more software programs, the one or more servers executing one or more second software
programs, the one or more second software programs being operable to:

(i) receive information pertaining to financial transactions completed by a
plurality of subscribers;

(ii) process the information over time, by one or more software programs,
to generate norm data for the plurality of subscribers, the norm data including data
indicative of typical numbers of transaction completed by respective subscribers at
multiple merchants, merchant-types, or merchant locations;

(iii) receive location information from wireless devices of the plurality of
subscribers;

(iv) process recent transaction information for at least some of the
subscribers to track multiple purchases of each subscriber at merchants, merchant-types,
or merchant locations;

(v) compare the processed recent transaction information for the plurality
of subscribers against the norm data to select ads for communication to subscribers,
wherein the comparing differentiates in selection of ads for communication to subscribers
by determining whether respective subscribers have completed more or less transactions
than transactions associated with the respective subscribers' norm data, the selection of
ads further occurring in relation to the received location information; and

(vi) communicate selected ads to wireless devices of the subscribers.

87. The system of claim 85 wherein the norm data relates numbers of purchases
made by subscribers using a plurality of hierarchical categories.

88. The system of claim 85 wherein (v) compares processed recent transaction
information for a month-long period of time against the norm data.

89. The system of claim 85 wherein (v) compares processed recent transaction information for current recent shopping trips.

90. The system of claim 85 wherein (v) compares processed recent transaction information for a current day.

91. A method of providing a location based service (LBS), comprising:

(i) receiving location information over a period of time by one or more software programs from a plurality of wireless devices belonging to a plurality of subscribers of one or more location based services;

(ii) processing the location information to detect that respective subscribers tend to spend time at one or more locations with one or more other specific subscribers;

(iii) storing data indicative of a tendency of each such subscriber to spend time with the subscriber's one or more other specific subscribers;

(iv) detecting whether subscribers are present at locations with one or more specific subscribers identified in the stored data subsequent to performance of (ii) and (iii); and

(v) comparing ad parameters against subscriber data, to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers in response to (iv); and

(vi) communicating selected ads to wireless devices of the subscribers.

92. The method of claim 91 wherein the comparing comprises:

determining whether a respective subscriber is present with peer subscribers at a given location.

93. The method of claim 91 wherein the comparing comprises:

determining whether a respective subscriber is present with family members at a given location.

94. The method of claim 91 wherein the comparing comprises:
determining whether a respective subscriber is present with business associates at a given location.

95. The method of claim 91 further comprising:
monitoring financial transactions and storing data pertaining thereto for at least some of the subscribers, the stored data pertaining to financial transactions being used for selection of ads.

96. The method of claim 95 wherein the processing further comprises:
identifying a subscriber of a group of subscribers that is more likely to pay for selected types of transactions when the group of subscribers are present at a location together.

97. The method of claim 95 wherein the processing further comprises:
identifying changes in purchase probabilities for certain goods or services when respective subscribers are present together in respective groups of subscribers.

98. The method of claim 95 wherein the identifying examines changes in probability in relation to specific groups of other subscribers with which a respective subscriber tends to spend time.

99. The method of claim 91 wherein the processing further comprises:
identifying types of goods, services, or merchants that are frequented by a respective subscriber when the subscriber is present with a group of other subscribers.

100. The method of claim 91 wherein the ad parameters identify target subscribers in relation to whether the target subscribers are clustering with other subscribers.

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101. A system for providing one or more location based services, comprising:
one or more first software programs executed on one or more wireless devices,
the one or more software programs operable to communicate location information
indicative of the location of the one or more wireless devices;

one or more servers for receiving location information generated by the one or
more software programs, the one or more servers executing one or more second software
programs, the one or more second software programs being operable to:

(i) receive location information over a period of time by one or more
software programs from a plurality of wireless devices belonging to a plurality of
subscribers of one or more location based services;

(ii) process the location information to detect that respective subscribers
tend to spend time at one or more locations with one or more other specific subscribers;

(iii) store data indicative of a tendency of each such subscriber to spend
time with the subscriber's one or more other specific subscribers;

(iv) detect whether subscribers are present at locations with one or more
specific subscribers identified in the stored data subsequent to performance of (ii) and
(iii); and

(v) compare ad parameters against subscriber data, to select ads for
communication to subscribers, wherein the comparing differentiates in selection of ads
for communication to subscribers in response to (iv); and

(vi) communicate selected ads to wireless devices of the subscribers.

102. The system of claim 101 wherein (v) comprises:

determining whether a respective subscriber is present with peer subscribers at a
given location.

103. The system of claim 101 wherein (v) comprises:

determining whether a respective subscriber is present with family members at a
given location.

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104. The system of claim 101 wherein (v) comprises:

determining whether a respective subscriber is present with business associates at a given location.

105. The system of claim 101 wherein the one or more second software programs being further operable to:

monitoring financial transactions and storing data pertaining thereto for at least some of the subscribers, the stored data pertaining to financial transactions being used for selection of ads.

106. The system of claim 105 wherein (ii) comprises:

identifying a subscriber of a group of subscribers that is more likely to pay for selected types of transactions when the group of subscribers are present at a location together.

107. The system of claim 105 wherein (ii) comprises:

identifying changes in purchase probabilities for certain goods or services when respective subscribers are present together in respective groups of subscribers.

108. The system of claim 105 wherein the identifying examines changes in probability in relation to specific groups of other subscribers with which a respective subscriber tends to spend time.

109. The system of claim 101 wherein (ii) comprises:

identifying types of goods, services, or merchants that are frequented by a respective subscriber when the subscriber is present with a group of other subscribers.

110. The system of claim 101 wherein the ad parameters identify target subscribers in relation to whether the target subscribers are clustering with other subscribers.

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111. A method for providing and using a customized user interface on a wireless device for controlling transactions using a financial account, comprising:

accessing a web server by a subscriber;

interacting, by the subscriber, with the web server to define or select one or more transaction categories, the defined or selected one or more transaction categories being used to generate a customized user interface for the subscriber, the customized user interface being installed or configured to execute on a wireless device of the subscriber, wherein the customized user interface provides one or more selection options for each of the defined or selected transaction categories;

selecting, by the subscriber, one or more of the selection options to authorize one or more transactions, using one or more respective defined or selected transaction categories, to be completed using the financial account; and

using the financial account after the selecting to pay for one or more transactions according to the selected one or more of the selection options.

112. The method of claim 111 wherein the subscriber is required to initiate a transaction within a predefined period of time after selection of an option from the selection options of the customized user interface.

113. The method of claim 111 wherein the using the financial account comprises providing a payment card identifying the financial account to a merchant.

114. The method of claim 111 wherein the customized user interface is installed on the wireless device as an executable script.

115. The method of claim 111 wherein the selecting causes the customized user interface to securely communicate with one or more servers of a financial institution to active one or more defined or selected transaction categories for completion of transactions.

116. The method of claim 115 wherein the customized user interface communicates data pertaining to a current location of the wireless device of the subscriber and immediate subsequent transactions are limited to be originated in an area relative to the current location for the defined or selected transaction categories.

117. The method of claim 111 wherein the interacting further comprises:
defining one or more rules for the defined or selected transaction categories.

118. The method of claim 117 wherein the one or more rules define respective budget limits for the defined or selected transaction categories.

119. The method of claim 118 wherein the customized user interface display unspent funds for the defined or selected transaction categories.

120. The method of claim 111 further comprising:
receiving, after the selecting is performed, one or more advertisements by the wireless device of the subscriber that are relevant to the selected one or more of the selection options.

121. A method of operating search engine software on one or more servers,
comprises:
initiating a continuous search state from a user;
receiving, in succession, multiple search queries from the user during the continuous search state; and
providing search results to the user in succession for the multiple search queries,
wherein the providing filters search results previously presented to the user in response to prior search queries during the continuous search state.

122. The method of claim 121 wherein the providing filters results identified by the user for exclusion.

123. The method of claim 121 wherein the providing filters results identified for storage by the user.

124. The method of claim 121 further comprising:
receiving identification of one or more specific search results from one or more of the search queries that identifies the one or more specific search results as being relevant to the multiple search queries.

125. The method of claim 121 further comprising:
receiving identification of one or more specific search results from one or more of the search queries that identifies the one or more specific search results as being irrelevant to the multiple search queries.

126. The method of claim 125 further comprising:
re-sorting search results for presentation to the user, wherein the resorting weights search results differently in response to the received identification of the one or more specific results.

127. The method of claim 121 further comprising:
providing a display of terms of the multiple search queries to the user.

128. The method of claim 121 further comprising:
storing the multiple search queries;
temporarily halting the continuous search state.

129. The method of claim 128 further comprising:
providing a list of previously saved continuous state searches.

130. The method of claim 129 further comprising:
receiving selection of one of the listed continuous state searches by the user; and
resuming the selected continuous state search.

131. A method of conducting search operations, the method being performed by browser-executable code on a user's computing system, the method comprising:

- receiving first input from the user to initiate a continuous search state;
- receiving second input, in succession, from the user to define multiple search queries during the continuous search state;
- displaying search results to the user in succession for the multiple search queries, wherein at some of the displayed sets of search results for respective search queries are filtered to exclude search results previously presented to the user in response to other search queries during the continuous search state.

132. The method of claim 131 further comprising:

- receiving third input from the user to exclude one or more results for exclusion from results of subsequent search queries.

133. The method of claim 131 further comprising:

- receiving third input from the user to identify one or more search results for storage, the identified one or more search results being excluded from search results of subsequent search queries.

134. The method of claim 131 further comprising:

- receiving identification of one or more specific search results from one or more of the search queries that identifies the one or more specific search results as being relevant to the multiple search queries.

135. The method of claim 131 further comprising:

- receiving identification of one or more specific search results from one or more of the search queries that identifies the one or more specific search results as being irrelevant to the multiple search queries.

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136. The method of claim 135 further comprising:
display re-sorted search results to the user in response to the receiving
identification of one or more specific search results.

137. The method of claim 131 further comprising:
displaying of search terms of the multiple search queries to the user.

138. The method of claim 131 further comprising:
communicating a message to temporarily halt the continuous search state.

139. The method of claim 138 further comprising:
displaying a list of previously saved continuous state searches.

140. The method of claim 139 further comprising:
receiving selection of one of the listed continuous state searches by the user; and
communicating a message to resume the selected continuous state search.

141. A method for operating a social network application, comprising:
capturing an image or video using a wireless device by a user of the social
network application;
communicating the image or video from the wireless device of the user to a social
network application server;
storing the image or video by the social network application server;
identifying a user account by the social network application server in response to
communication of the image or video; and
modifying data, by the social network application server, associated with the
account of the user to automatically post the image or video to a web page of the user to
make the image or video available for viewing by other users of the social network
application.

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142. The method of claim 141 wherein the user enters a text description to accompany the image or video and the social network server posts the text description along with the image or video to a web page of the user.

143. The method of claim 142 further comprising:
communicating ads to one or more users using keyword analysis of a text description associated with an image or video communicated to or from the user.

144. The method of claim 141 further comprising:
in response to receiving communication of the image or video from the wireless device of the user, communicating the image or video to wireless devices of other users of the social network application.

145. The method of claim 144 wherein the other users of the social network application are selected friends of the user within the social network application.

146. A method for operating a location based service (LBS) in conjunction with a social network application, comprising:

receiving digital images or videos from users of the social network application from wireless devices of the users of the social network application;
storing the digital images or videos in accounts associated with respective users of the social network application;
receiving location information indicative of a current location of respective users of the social network application;
comparing the received location information to location information associated with the stored digital images or video to select digital images or video for communication to respective users of the social network application; and
delivering selected images or videos to wireless devices of respective users of the social network application.

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147. The method of claim 146 further comprising:

receiving, from a given user of the social network application, identification of friends of the given user within the social network application in conjunction with receiving one or more digital images or videos from the given user; and

immediately communicating one or more corresponding digital images or videos to wireless devices of the identified friends of the given user of the social network application.

148. The method of claim 146 further comprising:

selecting ads for users of the social network application from an ad database using the metadata associated with respective digital images or videos communicating by the users.

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149. The method of claim 148 wherein the selecting ads comprises:
performing keyword matching of text descriptions supplied by the users to
perform the selecting.

150. A system for operating a social network application, comprising:
first software code executed on one or more wireless devices of users of the social
network application, the first software code on each wireless device being operable to
communicate image or video from the respective wireless device of the user to a social
network application server;

second software code executed on one or more servers, the second software code
being operable to: (i) store image or video from wireless devices of users of the social
network application; (ii) identify user accounts in response to communication of images
or videos; and (iii) modify data associated with the accounts of users of the social
network application to automatically post the images or videos to web pages of the users
of the social network application to make the images or videos available for viewing by
other users of the social network application.

151. The system of claim 150 wherein text descriptions accompany the images or
videos and the second software code posts the text description along with the images or
videos to web pages of the users.

152. The system of claim 150 wherein the second software code is further
operable to communicate ads to one or more users using keyword analysis of text
descriptions associated with images or videos communicated to or from the users.

153. The system of claim 150 wherein the second software code is operable to: in
response to receiving communication of an image or video from the wireless device of a
respective user, communicate the image or video to wireless devices of other users of the
social network application.

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154. The system of claim 153 wherein the other users of the social network application are selected friends of the user within the social network application.

155. A method of facilitating substantially real-time communication between users of a social network application, comprising:

- receiving messages from wireless devices of selected users of the social network application for communication to wireless devices of other users of the social network application, each received message comprising image or video data and text data;

- receiving location information indicative of the current location of wireless devices of users of the social network application;

- analyzing text data in the messages to estimate or predict current activities or future activities of users of the social network application;

- selecting ads for communication to users of the social network application using at least the location information and the estimated or predicted activities; and

- communicating the received messages to the wireless devices of the other users along with the selected ads.

156. The method of claim 155 further comprising:

- detecting references to specific products or product types in the text data, wherein the selecting ads occurs in relation to detection of the specific products or product types.

157. The method of claim 155 further comprising:

- correlating text data to specific merchants or merchant types, wherein the selecting ads occurs in relation to correlation to the specific merchants or merchant types.

158. The method of claim 155 wherein the estimated or predicted activities are selected from a plurality of activities that are defined hierarchical arrangement.

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159. A method of providing a location based service (LBS), comprising:

- receiving information pertaining to financial transactions completed by a plurality of subscribers;
- processing the information over a period of time, by one or more software programs, to generate norm data for the plurality of subscribers, the norm data including data indicative of typical amounts of time between purchases of one or more specific types;
- receiving location information from wireless devices of the plurality of subscribers;
- processing recent transaction information for at least some of the subscribers to track multiple purchases of each subscriber at respective merchants or merchant types;
- comparing the processed recent transaction information for the plurality of subscribers against the norm data to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by determining amounts of time since recent purchases for specific types against the norm data of the subscribers, the selection of ads further occurring in relation to the received location information; and
- communicating selected ads to wireless devices of the subscribers.

160. The method of claim 159 further comprising:

- processing the information to identify one or more days having a higher probability of a respective subscribers completing a purchase of a specific type.

161. The method of claim 159 further comprising:

- processing the information to identify a typical transaction amount by a respective subscriber for a purchase of a specific type.

162. The method of claim 159 wherein the norm data stores data indicative of an amount of time between purchases at a specific merchant or merchant type.

163. The method of claim 159 wherein the norm data stores data indicative of an amount of time between purchases of a specific product or product type.

164. A method of providing a location based service (LBS), comprising:
monitoring one or more financial accounts of a plurality of subscribers;
detecting deposits into the one or more financial accounts;
identifying information pertaining to financial transactions completed by a plurality of subscribers;
processing the identified information over a period of time, by one or more software programs, to generate norm data for the plurality of subscribers, the norm data including data indicative of deviations in purchasing behavior relative to variations in the detected deposits;
receiving location information from wireless devices of the plurality of subscribers;
processing recent deposit information for at least some of the subscribers to quantify recent deposits against typical deposit amounts;
comparing the processed deposit information against the norm data to select ads for communication to subscribers, wherein the comparing differentiates in selection of ads for communication to subscribers by determining whether recent deposits are greater or lesser than typical deposit amounts as reflected in the norm data of the subscribers, the selection of ads further occurring in relation to the received location information; and
communicating selected ads to wireless devices of the subscribers.

165. The method of claim 164 wherein the processing the identified information comprises:

determining changes in probabilities of purchases of one or more specific types in relation to deviations in variations in deposit amounts.

166. The method of claim 164 wherein the processing the identified information comprises:

determining changes in average transaction amounts for purchases of one or more specific types in relation to deviations in variations in deposit amounts.

167. The method of claim 164 wherein the processing the identified information comprises:

detecting changes in merchant types for purchases in relation to deviations in variations in deposit amounts.

168. A method of processing a financial transaction using an account, wherein the account is managed in conjunction with multiple budget categories set by an account holder of the account, wherein a respective budget limit is set for each of multiple budget categories, the method comprising:

receiving transaction information from a merchant that requests funds for a transaction by a card holder associated with the account;

identifying a budget category from a plurality of budget categories for the transaction in response to receiving the transaction information;

retrieving or determining a current amount of available funds for the identified budget category;

comparing a transaction amount from the transaction information against the current amount of available funds; and

communicating a transaction approval or denial depending upon at least the comparing;

wherein the method is completed in real-time during processing of a payment within a payment system.

169. The method of claim 168 wherein the identifying a budget category occurs by, at least, examining a merchant identification information in the transaction information.

170. The method of claim 168 wherein the identifying a budget category occurs by, at least, examining a time of day associated with the transaction.

171. The method of claim 168 wherein the identifying a budget category occurs by, at least, retrieving category information provided by the card holder when the card holder activates the budget category for one or more transactions.

172. The method of claim 168 wherein the card holder and the account holder are different individuals.

173. The method of claim 172 wherein further comprising:
managing the budget limits associated with the multiple budget categories by the account holder.

174. The method of claim 173 wherein the account holder manages the budget limits from a cellular phone of the account holder.

175. The method of claim 173 further comprising:
receiving authorization from the account holder permitting the card holder to exceed a budget limit for a budget category for one or more transactions.

176. The method of claim 175 wherein the account holder communicates the authorization from a cellular device of the account holder.

177. The method of claim 172 further comprising:
communicating information to a cellular device of the account holder that details amounts applied against said multiple budget categories.

178. The method of claim 172 wherein the communicating information occurs substantially when transactions are processed.

179. The method of claim 177 further comprising:
communicating information to a cellular device of the card holder that details amounts applied against said multiple budget categories.

180. The method of claim 177 wherein the communicating information to a cellular device communicates the information in a SMS formatted message.

181. The method of claim 168 further comprising:

when sufficient currently available funds are not available within the identified budget category, determining whether sufficient currently available funds are present in another budget category;

wherein the transaction is approved if the second budget category contains sufficient currently available funds.

182. The method of claim 181 wherein the determining sufficient currently available funds determines whether the sum of the currently available funds for the identified budget category and the other budget category are greater than or equal to the transaction amount.

183. The method of claim 168 further comprising:

debiting the transaction amount from the amount of currently available funds for the identified budget category upon communication of a transaction approval.

184. The method of claim 168 wherein budget limits define respective maximum amounts of funds that may be spent over one or more budget periods.

185. The method of claim 184 wherein different budget periods are defined for different budget categories of the multiple budget categories.

186. The method of claim 168 wherein the account is a credit card account or a debit card account.

187. The method of claim 186 wherein the account is a stored value account.

188. The method of claim 168 further comprising:
examining products or services being purchased in the transaction to identified the budget category.

189. A system for completing a financial transaction using an account, wherein the account is managed in conjunction with multiple budget categories set by an account holder of the account, wherein a respective budget limit is set for each of multiple budget categories, the system comprising:

a point-of-sale system for obtaining or receiving account information from a financial card of cardholder, the point-of-sale system communicating transaction information for payment of a transaction;

at least one payment server for processing payment transactions from point of sale systems, wherein the at least one payment server being operable to: (i) receive transaction information that requests funds for a transaction, the transaction information comprising financial account information and transaction amount information; (ii) identify a budget category for the transaction in response to receiving the transaction information; (iii) retrieve or determine a current amount of available funds for the identified budget limit of the account; (iv) compare a transaction amount from the transaction information against the current amount of available funds; and (v) communicate a transaction approval or denial depending upon at least the comparing.

190. The system of claim 189 wherein the code for identifying a budget category examines a merchant identification information in the transaction information.

191. The system of claim 189 wherein the code for identifying a budget category retrieves category information provided by the card holder when the card holder activates the budget category for one or more transactions.

192. The system of claim 189 wherein the card holder and the account holder are different individuals.

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193. The system of claim 189 wherein further comprising:
code for managing the budget limits associated with the multiple budget categories by the account holder.

194. The system of claim 193 wherein the account holder manages the budget limits from a cellular phone of the account holder.

195. The system of claim 193 further comprising:
code for receiving authorization from the account holder permitting the card holder to exceed a budget limit for a budget category for one or more transactions.

196. The system of claim 195 wherein the account holder communicates the authorization from a cellular device of the account holder.

197. The system of claim 192 further comprising:
code for communicating information to a cellular device of the account holder that details amounts applied against said multiple budget categories.

198. The system of claim 192 wherein the communicating information occurs substantially when transactions are processed.

199. The system of claim 192 further comprising:
code for communicating information to a cellular device of the card holder that details amounts applied against said multiple budget categories.

200. The system of claim 199 wherein the code for communicating information to a cellular device communicates the information in a SMS formatted message.

PAGE 122

201. The system of claim 189 further comprising:
code for determining whether sufficient currently available funds are present in another budget category, when sufficient currently available funds are not available within the identified budget category;
wherein the transaction is approved if the second budget category contains sufficient currently available funds.

202. A method for facilitating communication between users of a social network application, comprising:
capturing data indicative of user purchases, selection, or approval of products or services;
receiving identification of other users having relationship with respective users within the social network application for communication of the captured data;
communicating the captured data to the identified users;
selecting ads based upon the captured data for communication to the other users;
and
communicating the selected ads to the other users.

203. The method of claim 202 wherein the selected ads are communicated concurrently with communication of the captured data.

204. The method of claim 202 wherein the captured data identified specific products.

205. The method of claim 202 wherein the captured data identifies specific manufacturers.

206. The method of claim 202 wherein the captured data identifies specific vendors.

PAGE 123

207. The method of claim 202 wherein the communicating the captured data comprises communicating digital images of goods identified by the users.

208. The method of claim 207 wherein the digital images are previously uploaded or posted to user pages of the social network application.

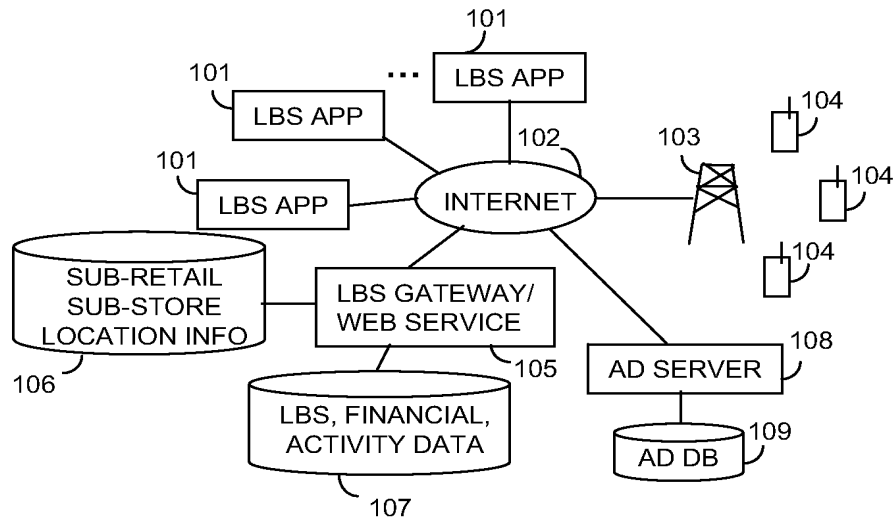


FIGURE 1

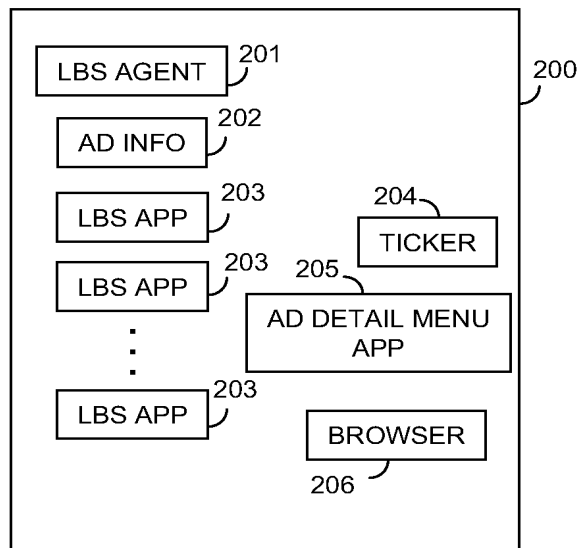
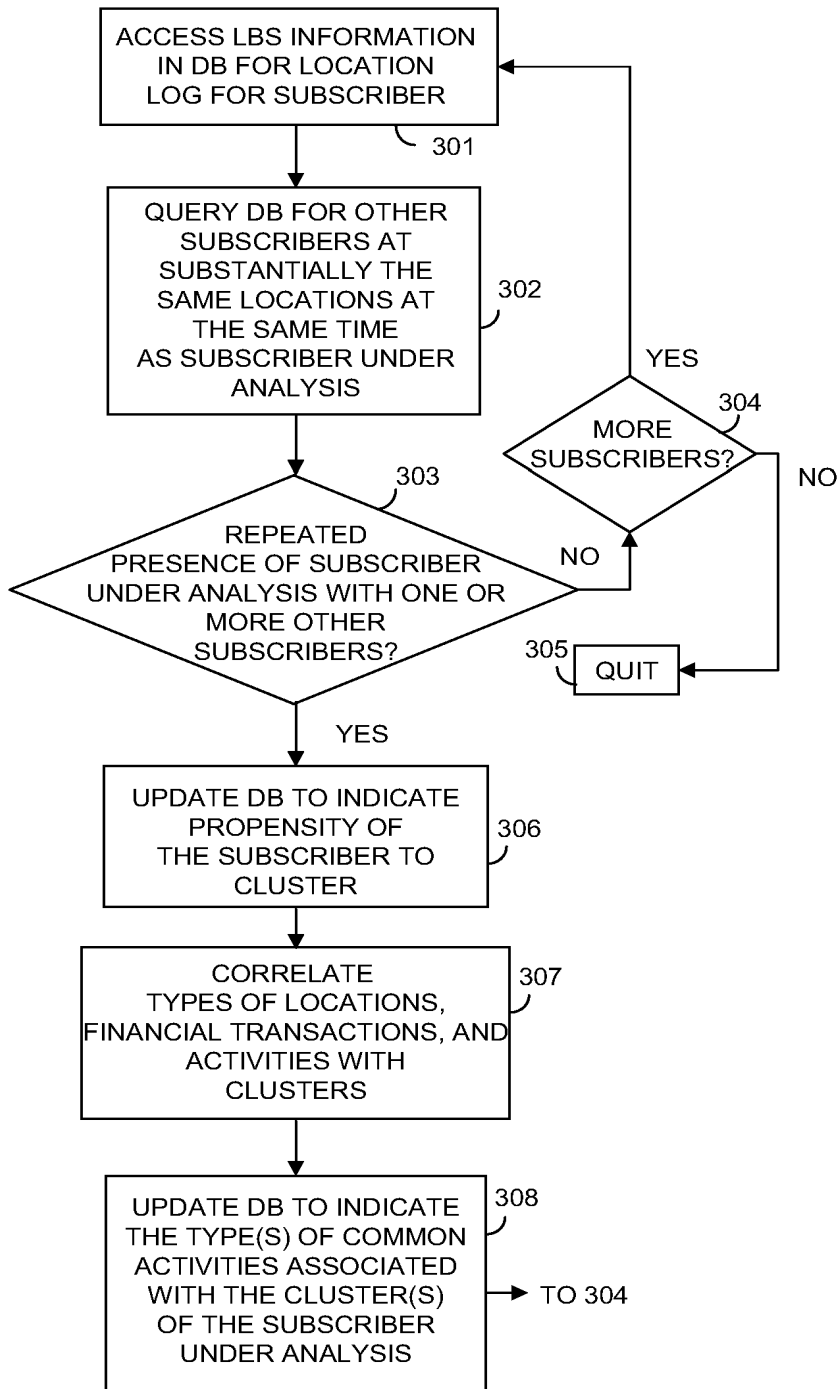


FIGURE 2

**FIGURE 3**

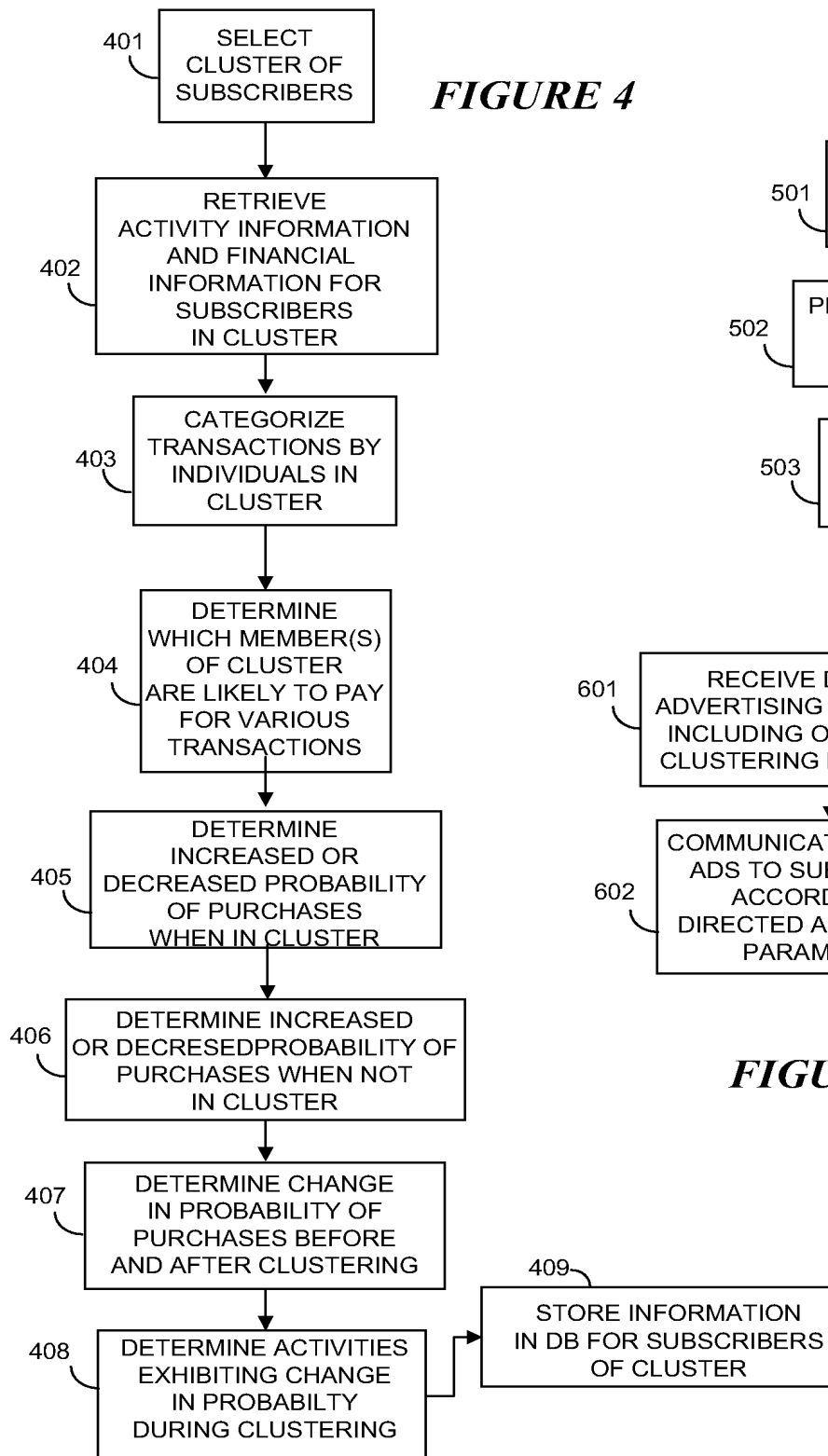
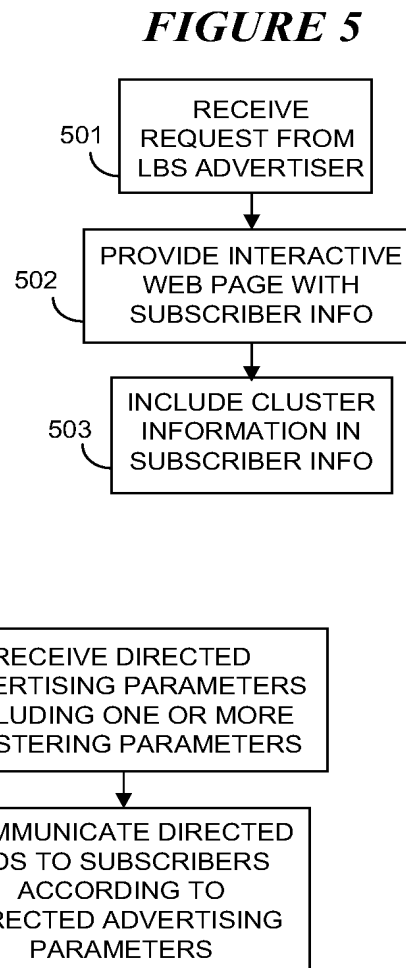
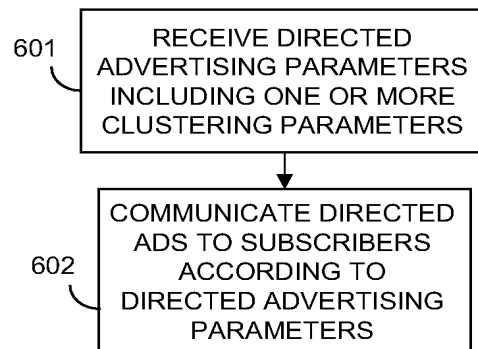


FIGURE 6

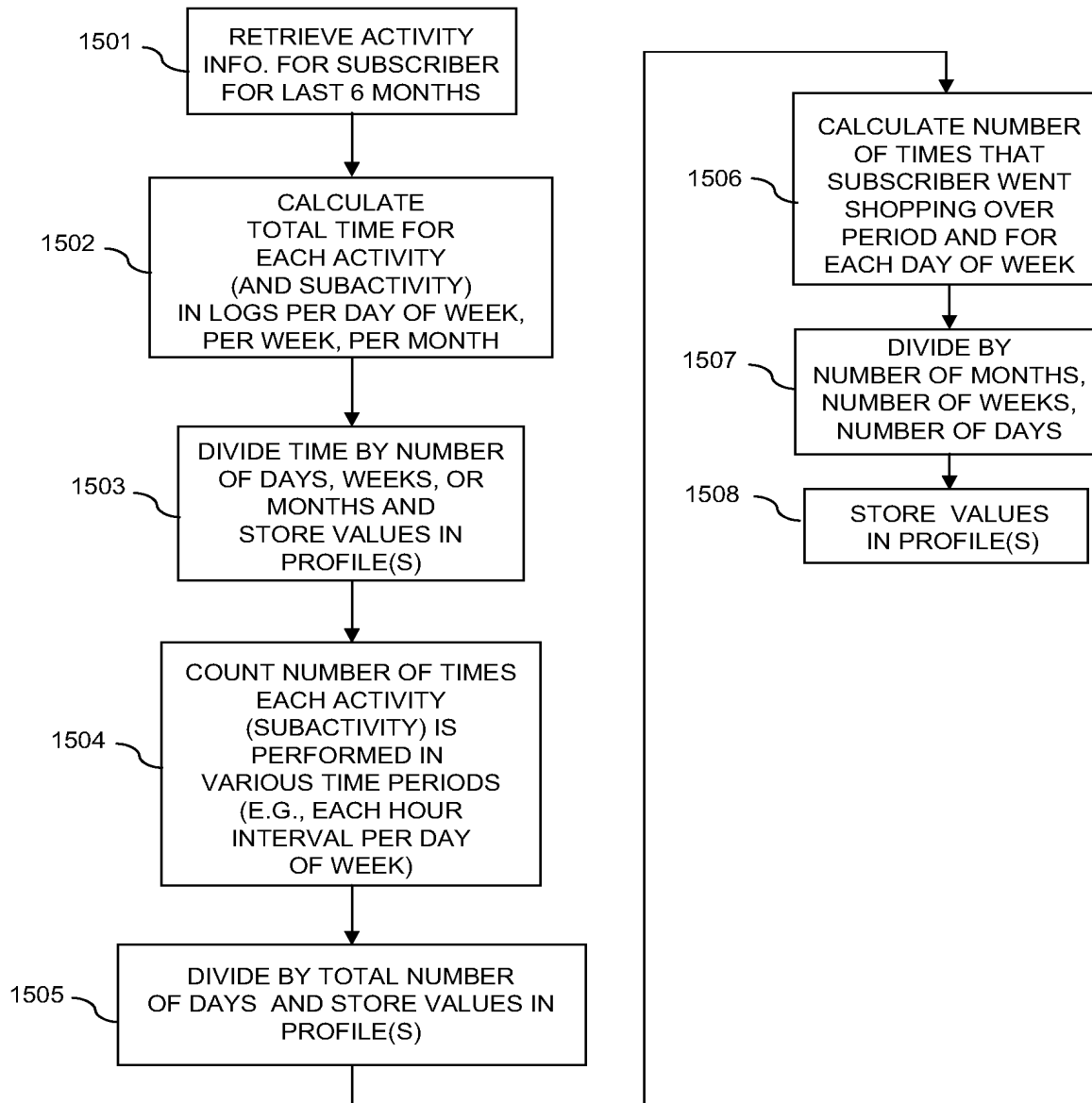
FIGURE 15

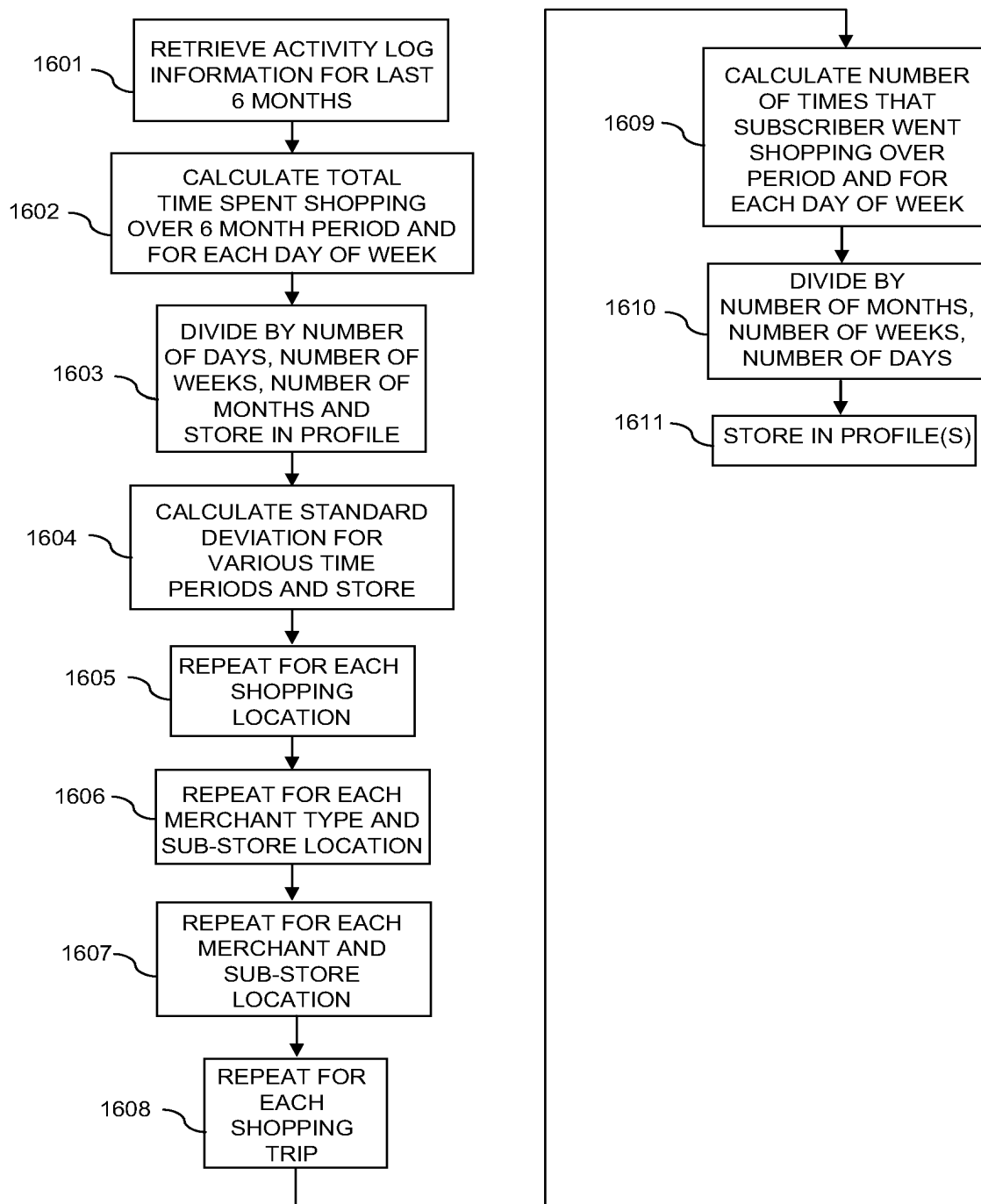
FIGURE 16

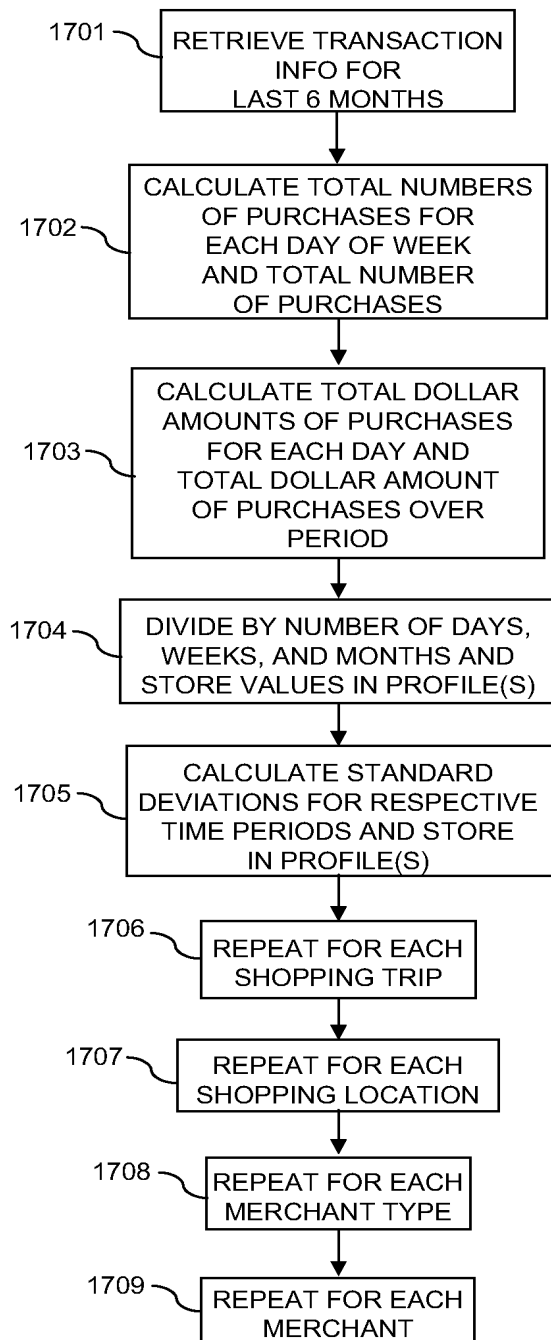
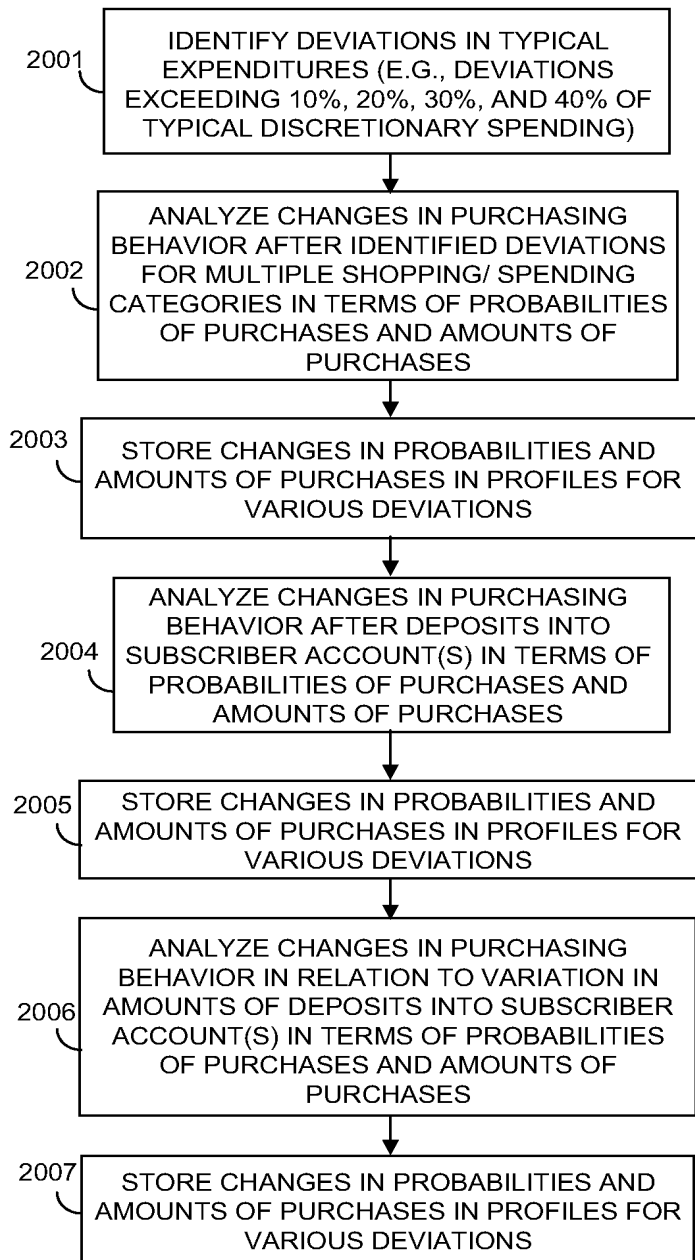
FIGURE 17**FIGURE 20**

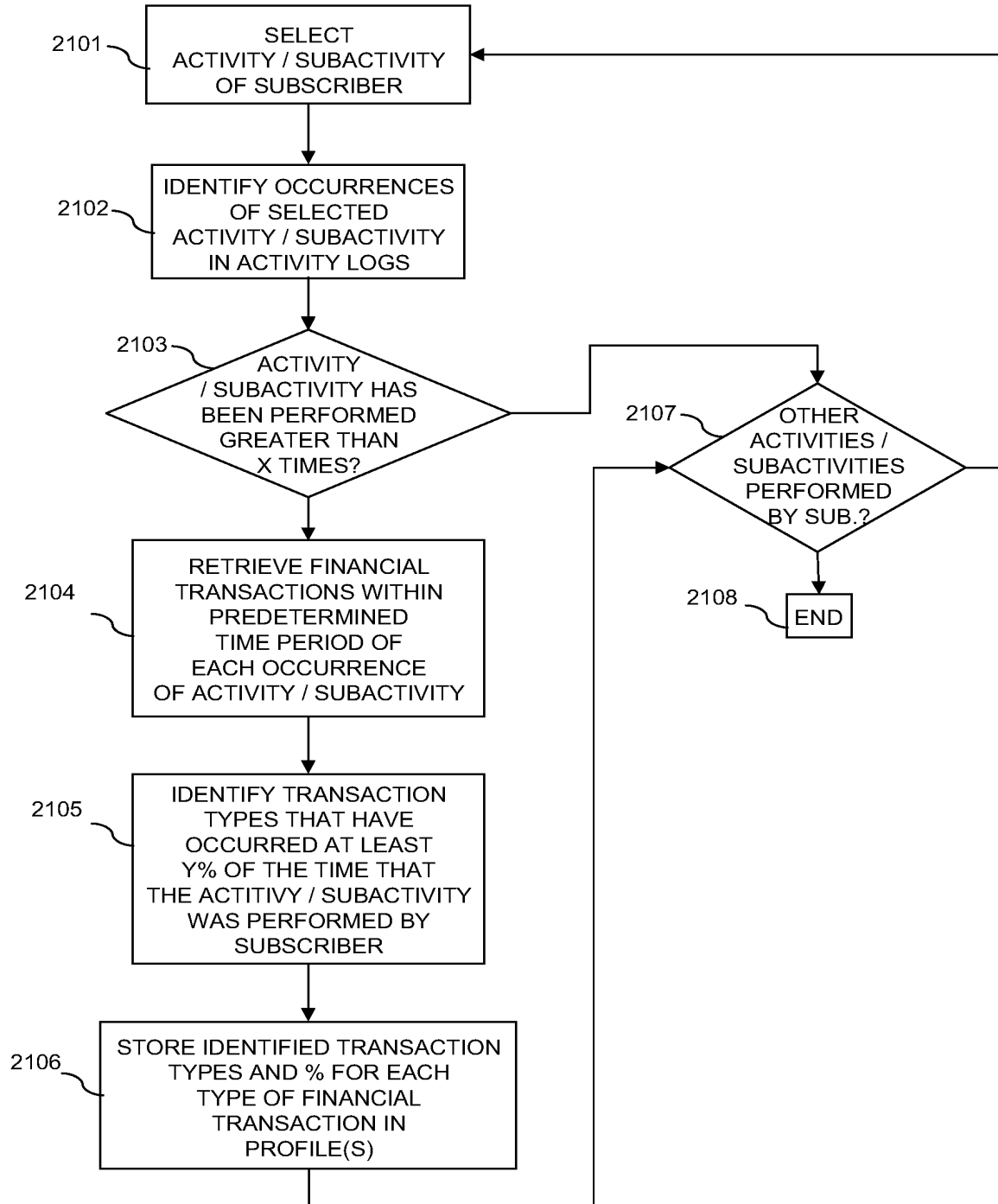
FIGURE 21

FIGURE 7

700

SUBSCRIBER # 123456789

ACTIVITY PROFILE

	S	M	T	W	T	F	S	AVG. TIME PER DAY (STD. DEVIATION)	AVG. PER WEEK (STD. DEVIATION)	AVG. PER MONTH (STD. DEVIATION)
ACTIVITY #1	V1(s1)	V2(s2)	V3(s3)	V4(s4)	V5(s5)	V6(s6)	V7(s7)		V8(s8)	V9(s9)
SUBACTIVITY	V'1(s'1)	V'2(s'2)	V'3(s'3)	V''4(s'4)	V'5(s'5)	V'6(s'6)	V'7(s'7)		V'8(s'8)	V'9(s'9)
SUBACTIVITY	V'''1(s''1)	V'''2(s''2)	V'''3(s''3)	V'''4(s'''4)	V'''5(s''5)	V''6(s''6)	V''7(s''7)		V'8(s''8)	V''9(s''9)
ACTIVITY #N	N1(M1)	N2(M2)	N3(M3)	N4(M4)	N5(M5)	N6(M6)	N7(M7)		N8(8)	N9(M9)
SUBACTIVITY	N'1(M'1)	N'2(M'2)	N'3(M'3)	N''4(M''4)	N'5(M'5)	N'6(M'6)	N'7(M'7)		N'8(M'8)	N'9(M'9)
SUBACTIVITY	N'''1(M''1)	N'''2(M''2)	N'''3(M''3)	N'''4(M'''4)	N''5(M''5)	N''6(M''6)	N''7(M''7)		N''8(M''8)	N''9(M''9)

FIGURE 8

800

SUBSCRIBER # 123456789

DAILY ACTIVITY PROBABILITY BY TIME OF DAY

SUNDAY

5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4

ACTIVITY #1

SUBACTIVITY

SUBACTIVITY

P1 P2 P3 P4 P5 P6 P7 P8 P8 P10 P11 P12 P13 P14 P15 P16 P17 P18 P19 P20 P21 P22 P23 P24
P25 P26 P27 P28 P29 P30 P31 P32 P33 P34 P35 P36 P37 P38 P39 P40 P41 P42 P43 P44 P45 P46 P47 P48
P49 P50 P51 P52 P53 P54 P55 P56 P57 P58 P59 P60 P61 P62 P63 P64 P65 P66 P67 P68 P69 P70 P71 P72

.
.
.

ACTIVITY #N

SUBACTIVITY

SUBACTIVITY

N1 N2 N3 N4 N5 N6 N7 N8 N8 N10 N11 N12 N13 N14 N15 N16 N17 N18 N19 N20 N21 N22 N23 N24
N25 N26 N27 N28 N29 N30 N31 N32 N33 N34 N35 N36 N37 N38 N39 N40 N41 N42 N43 N44 N45 N46 N47 N48
N49 N50 N51 N52 N53 N54 N55 N56 N57 N58 N59 N60 N61 N62 N63 N64 N65 N66 N67 N68 N69 N70 N71 N72

FIGURE 9

900

SUBSCRIBER # 123456789									
TOTAL TIME SPENT SHOPPING	S	M	T	W	T	F	S	PER WEEK	PER MONTH
	X1(x1)	X2(x2)	X3(x3)	X4(x4)	X5(x5)	X6(x6)	X7(x7)	X8(x8)	X9(x9)
SHOPPING FREQUENCY	F1(f1)	F2(f2)	F3(f3)	F4(f4)	F5(f5)	F6(f6)	F7(f7)	F8(f8)	F9(f9)
	T1(t1)	T2(t2)	T3(t3)	T4(t4)	T5(t5)	T6(t6)	T7(t7)	T8(t8)	T9(t9)
<u>TIME PER SHOPPING TRIP</u>									
<u>TIME SPENT SHOPPING BY LOCATION</u>									
LOCATION 1:									
TIME AT LOCATION:									
# OF STORES AT LOCATION:									
L1(l1) L2(l2) L3(l3) L4(l4) L5(l5) L6(l6) L7(l7)									
SL1(s1) SL2(s2) SL3(s3) SL4(s4) SL5(s5) SL6(s6) SL7(s7)									
.									
.									
LOCATION #Z:									
TIME AT LOCATION:									
# OF STORES AT LOCATION:									
LZ(lz1) LZ2(lz2) LZ3(lz3) LZ4(lz4) LZ5(lz5) LZ6(lz6) LZ7(lz7)									
SLZ(slz1) SLZ2(slz2) SLZ3(slz3) SLZ4(slz4) SLZ5(slz5) SLZ6(slz6) SLZ7(slz7)									
SLZ8(slz8) SLZ9(slz9)									

FIGURE 10

1000

SUBSCRIBER # 123456789

TIME SPENT SHOPPING BY MERCHANT TYPES							
S	M	T	W	T	F	S	PER MONTH
PER WEEK							
MERCHANT TYPE 1: TMT1-1 TMT1-2 TMT1-3 TMT1-4 TMT1-5 TMT1-6 TMT1-7							TMT1-9
sTMT1-1 sTMT1-2 sTMT1-3 sTMT1-4 sTMT1-5 sTMT1-6 sTMT1-7							sTMT1-9
SUB-STORE DEPT./TYPE 1							
TMT1-S1-1 TMT1-S1-2 TMT1-S1-3 TMT1-S1-4 TMT1-S1-5 TMT1-S1-6 TMT1-S1-7							TMT1-S1-9
sTMT1-S1-1 sTMT1-S1-2 sTMT1-S1-3 sTMT1-S1-4 sTMT1-S1-5 sTMT1-S1-6 sTMT1-S1-7							sTMT1-S1-9
.							
.							
SUB-STORE DEPT./TYPE Y)							
TMT1-SY-1 TMT1-SY-2 TMT1-SY-3 TMT1-SY-4 TMT1-SY-5 TMTY-SY-6 TMT1-SY-7							TMT1-SY-9
sTMT1-SY-1 sTMT1-SY-2 sTMT1-SY-3 sTMT1-SY-4 sTMT1-SY-5 sTMTY-SY-6 sTMT1-SY-7							sTMT1-SY-9
.							
.							
MERCHANT TYPE X: TMTX-1 TMTX-2 TMTX-3 TMTX-4 TMTX-5 TMTX-6 TMTX-7							TMTX-9
sTMTX-1 sTMTX-2 sTMTX-3 sTMTX-4 sTMTX-5 sTMTX-6 sTMTX-7							sTMTX-9
SUB-STORE DEPT./TYPE 1							
TMTX-S1-1 TMTX-S1-2 TMTX-S1-3 TMTX-S1-4 TMTX-S1-5 TMTX-S1-6 TMTX-S1-7							TMTX-S1-9
sTMTX-S1-1 sTMTX-S1-2 sTMTX-S1-3 sTMTX-S1-4 sTMTX-S1-5 sTMTX-S1-6 sTMTX-S1-7							sTMTX-S1-9
.							
.							
SUB-STORE DEPT./TYPE Y)							
TMTX-SY-1 TMTX-SY-2 TMTX-SY-3 TMTX-SY-4 TMTX-SY-5 TMTY-SY-6 TMTX-SY-7							TMT1-SY-9
sTMT1-SY-1 sTMT1-SY-2 sTMT1-SY-3 sTMT1-SY-4 sTMT1-SY-5 sTMTY-SY-6 sTMT1-SY-7							sTMT1-SY-9

FIGURE 11

1100

SUBSCRIBER # 123456789									
	S	M	T	W	T	F	S	PER WEEK	PER MONTH
<u>TIME SPENT SHOPPING</u>									
<u>BY MERCHANTS</u>									
MERCHANT 1:	TM1-1	TM1-2	TM1-3	TM1-4	TM1-5	TM1-6	TM1-7	TM1-8	TM1-9
	sTM1-1	sTM1-2	sTM1-3	sTM1-4	sTM1-5	sTM1-6	sTM1-7	sTM1-8	sTM1-9
SUB-STORE DEPT./TYPE 1	TM1-S1-1	TM1-S1-2	TM1-S1-3	TM1-S1-4	TM1-S1-5	TM1-S1-6	TM1-S1-7	TM1-S1-8	TM1-S1-9
	sTM1-S1-1	sTM1-S1-2	sTM1-S1-3	sTM1-S1-4	sTM1-S1-5	sTM1-S1-6	sTM1-S1-7	sTM1-S1-8	sTM1-S1-9
:									
:									
SUB-STORE DEPT./TYPE Y)	TM1-SY-1	TM1-SY-2	TM1-SY-3	TM1-SY-4	TM1-SY-5	TM1-SY-6	TM1-SY-7	TM1-SY-8	TM1-SY-9
	sTM1-SY-1	sTM1-SY-2	sTM1-SY-3	sTM1-SY-4	sTM1-SY-5	sTM1-SY-6	sTM1-SY-7	sTM1-SY-8	sTM1-SY-9
:									
:									
MERCHANT X:	TMX-1	TMX-2	TMX-3	TMX-4	TMX-5	TMX-6	TMX-7	TMX-8	TMX-9
	sTMX-1	sTMX-2	sTMX-3	sTMX-4	sTMX-5	sTMX-6	sTMX-7	sTMX-8	sTMX-9
SUB-STORE DEPT./TYPE 1	TMX-S1-1	TMX-S1-2	TMX-S1-3	TMX-S1-4	TMX-S1-5	TMX-S1-6	TMX-S1-7	TMX-S1-8	TMX-S1-9
	sTMX-S1-1	sTMX-S1-2	sTMX-S1-3	sTMX-S1-4	sTMX-S1-5	sTMX-S1-6	sTMX-S1-7	sTMX-S1-8	sTMX-S1-9
:									
:									
SUB-STORE DEPT./TYPE Y	TMX-SY-1	TMX-SY-2	TMX-SY-3	TMX-SY-4	TMX-SY-5	TMX-SY-6	TMX-SY-7	TMX-SY-8	TMX-SY-9
	sTMX-SY-1	sTMX-SY-2	sTMX-SY-3	sTMX-SY-4	sTMX-SY-5	sTMX-SY-6	sTMX-SY-7	sTMX-SY-8	sTMX-SY-9

WO 2008/082794

12/17

PCT/US2007/083987

FIGURE 12

1200

SUBSCRIBER # 123456789									
PURCHASES									
	S	M	T	W	T	F	S	PER WEEK	PER MONTH
PER TRIP:									
# OF PURCHASES:	NP1-1	NP1-2	NP1-3	NP1-4	NP1-5	NP1-6	NP1-7	NP1-8	NP1-9
	sNP1-1	sNP1-2	sNP1-3	sNP1-4	sNP1-5	sNP1-6	sNP1-7	sNP1-8	sNP1-9
\$ OF PURCHASES:	DP1-1	DP1-2	DP1-3	DP1-4	DP1-5	DP1-6	DP1-7	DP1-8	DP1-9
	sDP1-1	sDP1-2	sDP1-3	sDP1-4	sDP1-5	sDP1-6	sDP1-7	sDP1-8	sDP1-9
PER LOCATION:									
LOCATION 1	NP-L1-1	NP-L1-2	NP-L1-3	NP-L1-4	NP-L1-5	NP-L1-6	NP-L1-7	NP-L1-8	NP-L1-9
# OF PURCHASES:	sNP-L1-1	sNP-L1-2	sNP-L1-3	sNP-L1-4	sNP-L1-5	sNP-L1-6	sNP-L1-7	sNP-L1-8	sNP-L1-9
\$ OF PURCHASES:	DP-L1-1	DP-L1-2	DP-L1-3	DP-L1-4	DP-L1-5	DP-L1-6	DP-L1-7	DP-L1-8	DP-L1-9
	sDP-L1-1	sDP-L1-2	sDP-L1-3	sDP-L1-4	sDP-L1-5	sDP-L1-6	sDP-L1-7	sDP-L1-8	sDP-L1-9
.									
.									
.									
LOCATION N	NP-LN-1	NP-LN-2	NP-LN-3	NP-LN-4	NP-LN-5	NP-LN-6	NP-LN-7	NP-LN-8	NP-LN-9
# OF PURCHASES:	sNP-LN-1	sNP-LN-2	sNP-LN-3	sNP-LN-4	sNP-LN-5	sNP-LN-6	sNP-LN-7	sNP-LN-8	sNP-LN-9
\$ OF PURCHASES:	DP-LN-1	DP-LN-2	DP-LN-3	DP-LN-4	DP-LN-5	DP-LN-6	DP-LN-7	DP-LN-8	DP-LN-9
	sDP-LN-1	sDP-LN-2	sDP-LN-3	sDP-LN-4	sDP-LN-5	sDP-LN-6	sDP-LN-7	sDP-LN-8	sDP-LN-9

FIGURE 13

1300

SUBSCRIBER # 123456789									
PURCHASES									
MERCHANT TYPE 1									
# OF PURCHASES:									
	S	M	T	W	T	F	S	PER WEEK	PER MONTH
NP-MT1-1	NP-MT1-2	NP-MT1-3	NP-MT1-4	NP-MT1-5	NP-MT1-6	NP-MT1-7	NP-MT1-8	NP-MT1-9	NP-MT1-9
sNP-MT1-1	sNP-MT1-2	sNP-MT1-3	sNP-MT1-4	sNP-MT1-5	sNP-MT1-6	sNP-MT1-7	sNP-MT1-8	sNP-MT1-9	sNP-MT1-9
\$ OF PURCHASES:									
DP-MT1-1	DP-MT1-2	DP-MT1-3	DP-MT1-4	DP-MT1-5	DP-MT1-6	DP-MT1-7	DP-MT1-8	DP-MT1-9	DP-MT1-9
sDP-MT1-1	sDP-MT1-2	sDP-MT1-3	sDP-MT1-4	sDP-MT1-5	sDP-MT1-6	sDP-MT1-7	sDP-MT1-8	sDP-MT1-9	sDP-MT1-9
.	.	.	.	.	.	.	.	.	.
MERCHANT TYPE N									
# OF PURCHASES:									
NP-MTN-1	NP-MTN-2	NP-MTN-3	NP-MTN-4	NP-MTN-5	NP-MTN-6	NP-MTN-7	NP-MTN-8	NP-MTN-9	NP-MTN-9
sNP-MTN-1	sNP-MTN-2	sNP-MTN-3	sNP-MTN-4	sNP-MTN-5	sNP-MTN-6	sNP-MTN-7	sNP-MTN-8	sNP-MTN-9	sNP-MTN-9
\$ OF PURCHASES:									
DP-MTN-1	DP-MTN-2	DP-MTN-3	DP-MTN-4	DP-MTN-5	DP-MTN-6	DP-MTN-7	DP-MTN-8	DP-MTN-9	DP-MTN-9
sDP-MTN-1	sDP-MTN-2	sDP-MTN-3	sDP-MTN-4	sDP-MTN-5	sDP-MTN-6	sDP-MTN-7	sDP-MTN-8	sDP-MTN-9	sDP-MTN-9

FIGURE 14

1400

SUBSCRIBER # 123456789										
PURCHASES										
MERCHANT 1										
# OF PURCHASES:										
NP-M1-1 NP-M1-2 NP-M1-3 NP-M1-4 NP-M1-5 NP-M1-6 NP-M1-7 NP-M1-8										
sNP-M1-1 sNP-M1-2 sNP-M1-3 sNP-M1-4 sNP-M1-5 sNP-M1-6 sNP-M1-7 sNP-M1-8										
\$ OF PURCHASES:										
DP-M1-1 DP-M1-2 DP-M1-3 DP-M1-4 DP-M1-5 DP-M1-6 DP-M1-7 DP-M1-8										
sDP-M1-1 sDP-M1-2 sDP-M1-3 sDP-M1-4 sDP-M1-5 sDP-M1-6 sDP-M1-7 sDP-M1-8										
.										
.										
.										
MERCHANT N										
# OF PURCHASES:										
NP-MN-1 NP-MN-2 NP-MN-3 NP-MN-4 NP-MN-5 NP-MN-6 NP-MN-7 NP-MN-8										
sNP-MN-1 sNP-MN-2 sNP-MN-3 sNP-MN-4 sNP-MN-5 sNP-MN-6 sNP-MN-7 sNP-MN-8										
\$ OF PURCHASES:										
DP-MN-1 DP-MN-2 DP-MN-3 DP-MN-4 DP-MN-5 DP-MN-6 DP-MN-7 DP-MN-8										
sDP-MN-1 sDP-MN-2 sDP-MN-3 sDP-MN-4 sDP-MN-5 sDP-MN-6 sDP-MN-7 sDP-MN-8										
PER MONTH										
PER WEEK										
S M T W T F S										
NP-M1-9										
sNP-M1-9										
DP-M1-9										
sDP-M1-9										
NP-MN-9										
sNP-MN-9										
DP-MN-9										
sDP-MN-9										

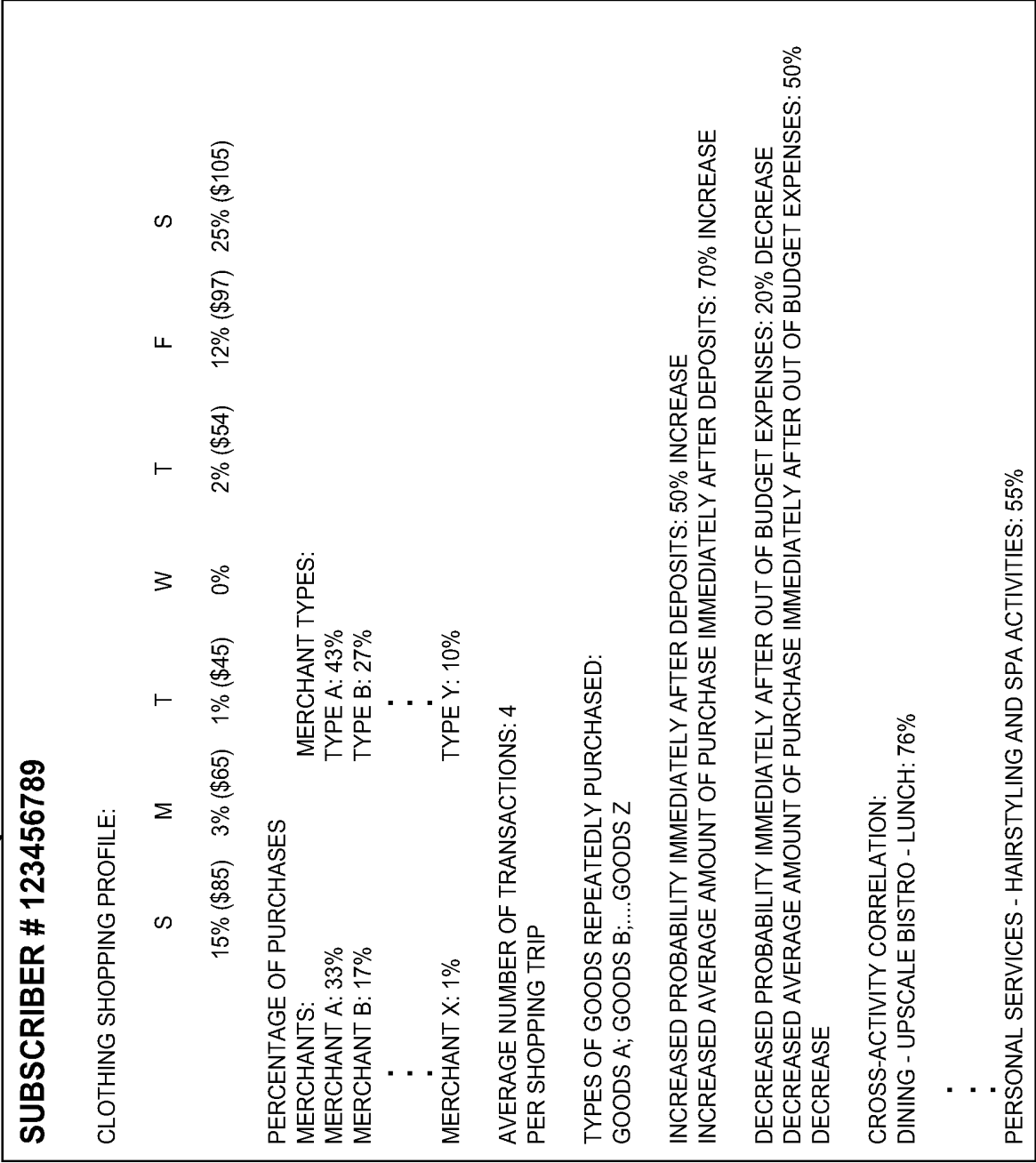
FIGURE 18

1800

SUBSCRIBER # 123456789							
FAST FOOD DINING PROFILE:							
	S	M	T	W	T	F	S
BREAKFAST	5% (\$32)	1% (\$4)	0%	1% (\$3)	1% (\$4)	1% (\$5)	8% (\$18)
LUNCH	3% (\$5)	65% (\$5)	60% (\$5)	75% (\$6)	60% (\$6)	45% (\$5)	25% (\$33)
DINNER	0%	1% (\$22)	4% (\$21)	3% (\$23)	4% (\$24)	2% (\$30)	0%
MERCHANTS:							
RESTAURANT A:	35%						
RESTAURANT B:	25%						
RESTAURANT C:	10%						
	.						
	.						
RESTAURANT X:	1%						
FAST FOOD TYPE A: 45%							
FAST FOOD TYPE B: 30%							
	.						
	.						
FAST FOOD TYPE Y: 10%							
CROSS-ACTIVITY CORRELATION:							
WORK - TRAVELING: 76%							
SHOPPING - MALL: 44%							
	.						
	.						
RECREATION - SPORTS COMPLEX: 55%							

FIGURE 19

1900



Electronic Acknowledgement Receipt

EFS ID:	46238050
Application Number:	17863208
International Application Number:	
Confirmation Number:	2712
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas
First Named Inventor/Applicant Name:	Ryan Hardin
Customer Number:	118653
Filer:	Ryan J Hardin
Filer Authorized By:	
Attorney Docket Number:	0075652.00009
Receipt Date:	20-JUL-2022
Filing Date:	
Time Stamp:	23:49:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	updated_IDS_print.pdf	1259786	no	9
			56b8bef4276849c917dc18f428e93a85aa090cc7		

Warnings:

Information:					
This is not an USPTO supplied IDS fillable form					
2	Foreign Reference	Crawford_WO_2008082794_A2.pdf	5525307 c589f6c2a93bf4a3850a3f3afb2dfa3984be62d7	no	141
Warnings:					
Information:					
Total Files Size (in bytes):			6785093		
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					

**CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION
UNDER 37 CFR 1.102(e) (Page 1 of 1)**

First Named Inventor:	Hardin, Ryan	Nonprovisional Application Number (if known):	
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i), the prioritized examination fee set forth in 37 CFR 1.17(c), and if not already paid, the publication fee set forth in 37 CFR 1.18(d) have been filed with the request. The basic filing fee, search fee, examination fee, and any required excess claims and application size fees are filed with the request or have been already been paid.
2. The application contains or is amended to contain no more than four independent claims and no more than thirty total claims, and no multiple dependent claims.
3. The applicable box is checked below:

I. ☒ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

- i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.
---OR---
(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.
- ii. An executed oath or declaration under 37 CFR 1.63 is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

- i. A request for continued examination has been filed with, or prior to, this form.
- ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
- iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
- iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
- v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /Andrew Hill/	Date 12-July-2022
Name (Print/Typed) Andrew Hill	Practitioner Registration Number
Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required in accordance with 37 CFR 1.33 and 11.18. Please see 37 CFR 1.4(d) for the form of the signature. If necessary, submit multiple forms for more than one signature, see below*.	
☒ *Total of <u>2</u> forms are submitted.	

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.
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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.
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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.

**CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION
UNDER 37 CFR 1.102(e) (Page 1 of 1)**

First Named Inventor:	Hardin, Ryan	Nonprovisional Application Number (if known):	
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

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---OR---
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- v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /Ryan Hardin/	Date 12-July-2022
Name (Print/Typed) Ryan Hardin	Practitioner Registration Number
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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).
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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.

Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas			
First Named Inventor/Applicant Name:	Ryan Hardin			
Filer:	Ryan J Hardin			
Attorney Docket Number:	0075652.00009			
Filed as Small Entity				
Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	80	80
UTILITY SEARCH FEE	2111	1	350	350
UTILITY EXAMINATION FEE	2311	1	400	400
REQUEST FOR PRIORITIZED EXAMINATION	2817	1	2100	2100
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	10	50	500
INDEPENDENT CLAIMS IN EXCESS OF 3	2201	1	240	240

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous-Filing:				
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				3740

Electronic Acknowledgement Receipt

EFS ID:	46173392
Application Number:	17863208
International Application Number:	
Confirmation Number:	2712
Title of Invention:	Exclusive Delivery of Content Within Geographic Areas
First Named Inventor/Applicant Name:	Ryan Hardin
Customer Number:	118653
Filer:	Ryan J Hardin
Filer Authorized By:	
Attorney Docket Number:	0075652.00009
Receipt Date:	12-JUL-2022
Filing Date:	
Time Stamp:	18:17:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$3740
RAM confirmation Number	E20227BI28551783
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	Oath or Declaration filed	aia0001-andrew.pdf	396633	no	2
			270db5ffa73043be9de47595fad3634d9d5a1426		
Warnings:					
Information:					
2	Oath or Declaration filed	aia0001-ryan.pdf	1215555	no	2
			de90741ff5c0afc645dcac267b5d0ba90ccc4e0f		
Warnings:					
Information:					
3	Application Data Sheet	aia0014.pdf	2268371	no	9
			d7fce6afb703ac527035db6b1582ab790fa2f55e		
Warnings:					
Information:					
4	Power of Attorney	aia00081-andrew.pdf	326798	no	2
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Warnings:					
Information:					
5	Power of Attorney	aia00081-ryan.pdf	327249	no	2
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Warnings:					
Information:					
6		application.pdf	327310	yes	38
			773b0ddc7306d8bb077c7e2a4ea9507ab4f1b7da		
	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		
Home Depot - Exhibit 1026 - Page 1059					

	Specification		1	27	
	Claims		28	37	
	Abstract		38	38	
Warnings:					
Information:					
7	Drawings-only black and white line drawings	drawings.pdf	121685	no	7
			3c9d97cf711af347788290f9e4d749090d424f18		
Warnings:					
Information:					
8	Track One Request	sb0424-andrew.pdf	132211	no	2
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Warnings:					
Information:					
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Warnings:					
Information:					
10	Fee Worksheet (SB06)	fee-info.pdf	55686	no	2
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Warnings:					
Information:					
Total Files Size (in bytes):			5302541		

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.

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.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

**Title of
Invention**

Exclusive Delivery of Content Within Geographic Areas

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 _____
filed on _____.

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.

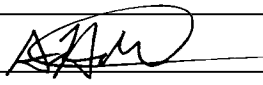
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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: Andrew Hill Date (Optional): 12-July-2022

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.

Privacy Act Statement

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☐ United States application or PCT international application number _____
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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.

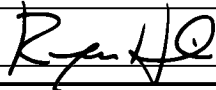
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LEGAL NAME OF INVENTOR

Inventor: Ryan Hardin Date (Optional): 12-July-2022

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.

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.

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	0075652.00009
		Application Number	
Title of Invention	Exclusive Delivery of Content Within Geographic Areas		
<p>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.</p> <p>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.</p>			

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		
	Ryan		Hardin			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Henderson	State/Province	TX	Country of Residence	US	

Mailing Address of Inventor:

Address 1	P.O. Box 271861					
Address 2						
City	Houston	State/Province	TX			
Postal Code	77277	Country	US			

Inventor	2				Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Andrew		Hill			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Houston	State/Province	TX	Country of Residence	US	

Mailing Address of Inventor:

Address 1	P.O. Box 271861					
Address 2						
City	Houston	State/Province	TX			
Postal Code	77277	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).

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0075652.00009
		Application Number	
Title of Invention	Exclusive Delivery of Content Within Geographic Areas		

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

Customer Number	118653		
Email Address	patent.matters@pronetcorp.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	Exclusive Delivery of Content Within Geographic Areas		
Attorney Docket Number	0075652.00009	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	7	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	118653		

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0075652.00009
		Application Number	
Title of Invention	Exclusive Delivery of Content Within Geographic Areas		

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 benefit claim 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" field blank.

Prior Application Status	Pending	Remove			
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
	Continuation of	17182809	2021-02-23		
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
17182809	Continuation of	16019285	2018-06-26	10984447	2021-04-20
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16019285	Continuation of	15694786	2017-09-02	10049387	2018-08-14
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15694786	Continuation of	15009961	2016-01-29	9779418	2017-10-03
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15009961	Continuation of	14608285	2015-01-29	9286625	2016-03-15
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14608285	Continuation of	13856392	2013-04-03	8977247	2015-03-10
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13856392	Continuation of	12434094	2009-05-01	8433296	2013-04-30
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.					Add

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0075652.00009
		Application Number	
Title of Invention	Exclusive Delivery of Content Within Geographic Areas		

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).

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.

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0075652.00009
		Application Number	
Title of Invention	Exclusive Delivery of Content Within Geographic Areas		

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is 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 State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0075652.00009
		Application Number	
Title of Invention	Exclusive Delivery of Content Within Geographic Areas		

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
<p>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.</p>				
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:				
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>				
Name of the Deceased or Legally Incapacitated Inventor: <div style="border: 1px solid black; width: 450px; height: 25px;"></div>				
If the Applicant is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>
Mailing Address Information For Applicant:				
Address 1	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>			
Address 2	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>			
City	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	State/Province	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
Country	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	Postal Code	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
Phone Number	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	Fax Number	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
Email Address	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>			
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 substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0075652.00009
		Application Number	
Title of Invention	Exclusive Delivery of Content Within Geographic Areas		

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.				
				<input type="button" value="Remove"/>
If the Assignee or Non-Applicant Assignee is an Organization check here.				☐
Prefix	Given Name	Middle Name	Family Name	Suffix
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1		<input type="text"/>		
Address 2		<input type="text"/>		
City	<input type="text"/>	State/Province	<input type="text"/>	
Country ⁱ	<input type="text"/>	Postal Code	<input type="text"/>	
Phone Number	<input type="text"/>	Fax Number	<input type="text"/>	
Email Address	<input type="text"/>			
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.				<input type="button" value="Add"/>

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Ryan Hardin/		Date (YYYY-MM-DD)	2022-07-12
First Name	Ryan	Last Name	Hardin	Registration Number
Additional Signature may be generated within this form by selecting the Add button.				<input type="button" value="Add"/>

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	0075652.00009
		Application Number	
Title of Invention	Exclusive Delivery of Content Within Geographic Areas		

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is **not** checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Andrew Hill/			Date (YYYY-MM-DD)	2022-07-12
First Name	Andrew	Last Name	Hill	Registration Number	
Additional Signature may be generated within this form by selecting the Add button.					

Add

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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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 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.

POWER OF ATTORNEY TO ONE OR MORE OF THE JOINT INVENTORS AND CHANGE OF CORRESPONDENCE ADDRESS	Application Number	
	Filing Date	12-July-2022
	First Named Inventor	Hardin, Ryan
	Art Unit	
	Examiner Name	
	Title	Exclusive Delivery of Content Within Geographic Areas

NOTE: This form may be filed by *pro se* inventors (*i.e.*, prosecuting the application without a registered patent practitioner) who are identified as the Applicant in the above-identified application. For a Power of Attorney to one or more registered patent practitioners, see form PTO/AIA/82.

I hereby revoke all previous powers of attorney given in the above-identified application.

☒ I hereby appoint the following joint inventor(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith:

Ryan J. Hardin

Please recognize or change the correspondence address for the above-identified application to:

☐ The address associated with Customer Number. (if applicable):
-To Request A Customer Number see form PTO/SB/124

118653

OR

Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

I am the Inventor.

SIGNATURE of Inventor

Signature /Andrew Hill/

Date 12-July-2022

Name Andrew Hill

Telephone

NOTE: Signatures of all the inventors are required. Submit multiple forms if more than one signature is required, see below*. See 37 CFR 1.4 for signature requirements and certifications.

☒ *Total of 2 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 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: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Privacy Act Statement

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	Filing Date	12-July-2022
	First Named Inventor	Hardin, Ryan
	Art Unit	
	Examiner Name	
	Title	Exclusive Delivery of Content Within Geographic Areas

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EXCLUSIVE DELIVERY OF CONTENT WITHIN GEOGRAPHIC AREAS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This continuation patent application claims priority from co-pending United States Non-provisional Patent Application having Serial No. 17/182,809, filed 23-February-2021, entitled

5 “EXCLUSIVE DELIVERY OF CONTENT WITHIN GEOGRAPHIC AREAS”, which claims priority from co-pending United States Non-provisional Patent Application having Serial No. 16/019,285, filed 26-June-2018, entitled “EXCLUSIVE DELIVERY OF CONTENT WITHIN GEOGRAPHIC AREAS”, now U.S. Patent No. 10,984,447 issued on 20-April-2021, which claims priority from co-pending United States Non-provisional Patent Application having Serial

10 No. 15/694,786, filed 02-September-2017, entitled “EXCLUSIVE DELIVERY OF CONTENT WITHIN GEOGRAPHIC AREAS”, now U.S. Patent No. 10,049,387 issued on 14-August-2018, which claims priority from co-pending United States Non-provisional Patent Application having Serial No. 15/009,961, filed 29-January-2016, entitled “EXCLUSIVE DELIVERY OF CONTENT WITHIN GEOGRAPHIC AREAS”, now U.S. Patent No. 9,779,418 issued on 03-

15 October-2017, which claims priority from co-pending United States Non-provisional Patent Application having Serial No. 14/608,285, filed 29-January-2015, entitled “EXCLUSIVE DELIVERY OF CONTENT WITHIN GEOGRAPHIC AREAS”, now U.S. Patent No. 9,286,625 issued on 15-March-2016, which claims priority from co-pending United States Non-provisional Patent Application having Serial No. 13/856,392, filed 03-April-2013, entitled “EXCLUSIVE

20 DELIVERY OF CONTENT WITHIN GEOGRAPHIC AREAS”, now U.S. Patent No. 8,977,247 issued on 10-March-2015, which claims priority from co-pending United States Non-provisional

Patent Application having Serial No. 12/434,094, filed 01-May-2009, entitled “EXCLUSIVE DELIVERY OF CONTENT WITHIN GEOGRAPHIC AREAS”, now U.S. Patent No. 8,433,296 issued on 30-April-2013, all having a common applicant herewith and being incorporated herein in their entirety by reference.

5 FIELD

[0002] This disclosure relates generally to delivery of content, and more particularly to delivery of content within reserved geographic areas.

BACKGROUND

10 [0003] Advertisements can be delivered to various devices, including mobile devices, within communications range of areas transmitters or other information providers. For example, advertisements can be delivered to cellular phones within range of a particular cellular phone provider’s network area. Furthermore, advertisements can be delivered using digital billboards, or via the Internet, based on user interactions and preferences.

15 [0004] When delivering advertisements and other content to some mobile devices, currently available technologies can broadcast the content to all devices equipped to receive them. In some cases, advertisements are broadcast to any mobile device within a city, or a similar area. When delivering non-broadcast content, for example via the Internet, it is common to deliver the content in response to a request, received from the receiving device. In some cases, push technology can be used to deliver content to multiple users concurrently.

[0005] In each of these cases, a mobile device can usually receive content from multiple different content providers. Current technologies are, therefore, less than perfect.

SUMMARY

[0006] Various embodiments disclosed herein include registering an application program for use
5 with a content delivery platform, establishing multiple perimeters defining respective geographic areas, and maintaining records associating sponsors with particular geographic areas. The content delivery platform can receive a request from a registered application program for content to be displayed on a mobile device, and the request can be used to determine a target location. In some
10 embodiments, a sponsor is selected based on a relationship between the target location and one or more reserved geographic areas. Content is then provided to the application program.

[0007] In some embodiments, the content delivery platform can record a request identifier associated with a received request, and provide the request identifier to the mobile device to assist
15 in tracking future actions relating to the request for content. The content delivery platform can also receive information related to user interaction with the provided content, including the request identifier, and provide additional content in response to the received information.

[0008] Content can be delivered to a mobile device running a registered application if a target location is at least partially within a predetermined radial distance of a geographical area associated
20 with a sponsor; if the mobile device is not located within the predetermined radial distance, the radial distance can be increased. In some embodiments, content is delivered if the target location, e.g. the location of the mobile device or another location of interest, is located entirely within a geographic area exclusively reserved by a particular sponsor. In some embodiments, the content

delivery platform can select from among several sponsors in deciding which content to deliver to a mobile device.

[0009] In at least one embodiment, the content delivery system reserves exclusive interests in geographic areas for particular sponsors based on the sponsors' requests, and store a record of that interest. In some embodiments, the content delivery system receives, from a sponsor, content to be delivered to mobile devices based on a target location being positioned within particular geographic areas. The content delivery system can also reserve an interest in geographic areas that remain unreserved by other sponsors. Furthermore, some embodiments include time based restrictions.

[0010] Various embodiments can be implemented as a system that includes memory, a communications interface, and a processor that cooperate to store and execute a program of instructions implementing various methods and techniques described herein. Furthermore, some embodiments can be implemented as a computer readable medium tangibly embodying a program of instructions.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is an abstract representation of exclusive content delivery to particular reserved areas according to various embodiments of the present disclosure;

[0012] FIG. 2 is a diagram illustrating a target location other than the location of the mobile device executing a registered application, according to embodiments of the present disclosure;

[0013] FIG. 3 is a graph representing expanded search areas to determine which content is delivered according to various embodiments of the present disclosure;

[0014] FIG. 4 is a flowchart illustrating a method of reserving a geographic area according to embodiments of the present disclosure;

[0015] FIG. 5 is a flowchart illustrating registration of an application for content delivery according to embodiments of the present disclosure;

5 **[0016]** FIG. 6 is a flowchart illustrating delivery of content to particular applications in a reserved area according to embodiments of the present disclosure;

[0017] FIG. 7 is a diagram illustrating a processing system according to embodiments of the present disclosure.

DETAILED DESCRIPTION

10 **[0018]** Various embodiments of the present disclosure provide for delivering content, such as advertising, to registered applications being run on any of various mobile electronic devices configured to be readily moved, carried, or otherwise transported between different various geographic areas defined by perimeters. Sponsors can reserve an exclusive interest, or in some
15 embodiments a semi-exclusive interest, in a geographic area, so that other sponsors' advertisements are excluded from being broadcast or otherwise provided to a registered program being executed on a mobile device located within a reserved geographic area.

[0019] Referring first to Figure 1, system 100, is illustrated. System 100 can provide for exclusive delivery of advertising or other content to registered applications running on mobile devices located within a particular proximity to a reserved geographic area. System 100, as
20 illustrated, includes content delivery platform 112, which is in communication with developer

platform 108, and systems or individuals operating under control of sponsor A 121, sponsor C 123, and sponsor B 125. Content delivery platform 112 receives a request from developer platform 108 to register a program or other application for use on mobile devices. Content delivery platform 112 can use the registered application program to provide selected content to mobile devices.

5 **[0020]** In some embodiments, a registered application program is provided to mobile devices by developer platform 108, content delivery platform 112, one of sponsor A 121, sponsor C 123, or sponsor B 125, or by another desired delivery mechanism. In some embodiments, registering the application program with content delivery platform 112 allows developer 108 to receive revenue from sponsor A 121, sponsor C 123, or sponsor B 125 for content displayed on a mobile device
10 located within, or in proximity to, a geographical area reserved by one or more of the sponsors.

[0021] Sponsor A 121, sponsor C 123, or sponsor B 125 can reserve an exclusive interest in a particular geographic area by sending a request to content delivery platform 112. In some embodiments, the request can be for exclusive delivery of content to mobile devices running any registered application within given geographic areas, or for content to be delivered to particular
15 registered applications based on a target location. The request can also include time limitations, limitations based on the length of time a mobile device remains within a given geographic area, or other desired limitations. Furthermore, the reserved interest can be either completely exclusive, or semi-exclusive.

[0022] System 100 can include a network, for example Internet 131, through which content
20 delivery platform 112, can communicate to other networked devices; and communication towers 144, which can include AM or FM broadcast towers, mobile telephone stations, or other suitable

communication infrastructure, including satellites (not illustrated) that might be useful in providing content based on a target location. Content delivery platform 112 can use this communication infrastructure to communicate with various computing devices, including portable computer 179, which may include laptop computers, desktop computers, palmtop computers, 5 tablet computers, digital video recorders (DVRs), television set-top boxes, or any of various general or dedicated purpose computers that can be carried or transported; wireless device 177, which can include personal digital assistants (PDAs), cellular telephones, personal communication system (PCS) devices, music players, video players, gaming consoles, or portable televisions; or any of various devices that may be included in, or carried by, motor vehicles 171, 173, or 175, 10 including navigation systems, satellite radios, or the like. It should be noted that the term "mobile device" can include all computing devices as listed above that can communicate with content delivery platform 112, that the above listing of devices is not exhaustive, and that a device that qualifies as one type of device may also be considered to be of another type. For example, a mobile phone may also be a general purpose computing device, a radio, a television, and a navigation 15 system.

[0023] Still referring to Figure 1, consider first motor vehicle 171, which is located within sponsor A's reserved geographic area 143. A driver of first motor vehicle 171 can receive advertisements or other content from Sponsor A via a registered application running on a radio, a PDA, a cellular telephone, a laptop, or a global positioning navigation device (none of which are 20 specifically illustrated). In this example, because first motor vehicle 171 is located within sponsor A's reserved geographic area 143, content delivery platform 121 provides content exclusively

related to sponsor A 121; advertisements or other content from sponsor C 123 and sponsor B 125 can be excluded.

[0024] Portable computer 179 can be connected to Internet 131 via a hardwired network connection, a Wi-Fi connection or other suitable communication connection. In some
5 embodiments, if portable computer 179 is running a registered program application, the user of portable computer 179 will receive content related exclusively to sponsor A as long as he is within sponsor A's reserved geographic area 143. In some embodiments, the driver of first motor vehicle 171 and the user of laptop 179 will still be able to receive advertisements from other sponsors through devices not running a program that has been registered on content delivery platform 112,
10 or through non-registered programs running on the same device.

[0025] In some embodiments, the location of mobile devices, or another target location, can be determined using various suitable methods. For example, a mobile device running a registered application can provide location information to content delivery platform 112 in the form of latitude or longitude coordinates, raw or processed GPS data, or other location information
15 received and recorded by either the device itself or another device. In some embodiments, a target location, e.g. the location of a mobile device, can be determined based on signals received from cellular transmission towers, satellites, or methods such as triangulation or dead reckoning, or by IP address. Content delivery platform 112 can receive the location of mobile devices from a third source, for example a location provider, a cellular telephone network provider, or a third party
20 tracking source, rather than from the mobile device itself. Thus, the location of a mobile device can be received from the mobile device, determined by content delivery platform 112, received from a third-party source, or determined based on a combination of these or other methods.

[0026] Sponsor A's reserved geographic area 143 illustrates an embodiment in which a perimeter can be defined by streets, county boundaries, city boundaries, landmarks, or other features commonly found on maps. In contrast, sponsor B's reserved geographic area 145 can be an ellipse, circle, oval, or other geometric shape that can be determined, at least in part, based on a radius.

[0027] In this example, both second motor vehicle 173 and wireless device 177 are located within sponsor B's reserved geographic area 145. The driver of second motor vehicle 173 and the user of wireless device 177 can receive advertisements or other content via towers 144. For example, if the driver of second motor vehicle 173 is operating a navigation device executing an application program registered by developer 108, advertisements and other content received on the navigation device can be determined based on the location within sponsor B's reserved geographic area 145. Likewise, the user of wireless device 177 will receive advertisements related to sponsor B from within a registered application. In some embodiments, content delivery platform 112 can prevent content from sponsor A 121 and sponsor C 123 from being delivered to a mobile device carried by second motor vehicle 173 and wireless device 177, because both motor vehicle 173 and wireless device 177 are located in sponsor B's reserved geographic area 145.

[0028] Turning next to sponsor A and sponsor C's reserved geographic area 147, note that the perimeter is a square, rectangle or similarly shaped. In some embodiments, the perimeter may be defined entirely by longitude and latitude lines and/or coordinates that constitute an area. In other embodiments, sponsor A and sponsor C's reserved geographic area 147 can be partially bounded by a longitude or latitude line, a road, river, railway, county, state, parish, city, locality, or other desired boundary. In some embodiments, the perimeter of a sponsor A and sponsor C's reserved

geographic area 147 can be defined by a combination of longitude or latitude lines, with one or more remaining boundaries defined based on radius or diameter.

[0029] Because third motor vehicle 175 is within sponsor A and sponsor C's reserved geographic area 147, a mobile device carried by third motor vehicle 175 can receive advertising content from either or both sponsor A and sponsor C. In some embodiments, the interest in sponsor A and sponsor C's reserved geographic area 147 can be equally divided between sponsor A 121 and sponsor C 123, while in other embodiments one of sponsor A 121 and sponsor C 123 can have an interest superior to that of the other. In some embodiments, content delivery platform 112 can deliver advertisements or other content related to Sponsor A at selected times, while content related to Sponsor C is delivered at other times. Additionally, content related to sponsor A may be delivered via a first registered application, while content related to sponsor C can be delivered via a second registered application. Thus, sponsors can advertise or provide other content to members of particular demographics based on a type of application a particular demographic is more likely to use.

[0030] Referring next to Figure 2, a target location other than a mobile device in a system 200 is illustrated according to embodiments of the present disclosure. As shown in Figure 2, a user of registered application 231 is located within the perimeter defining first sponsor's reserved area 207. Object of interest 233 is located in second sponsor's reserved area 205. In some embodiments, object of interest 233 can be any type of object of interest to the user of registered application 231. For example, object of interest 233 could be a friend of the user of registered application 231, and this friend may be employing a mobile phone, a laptop, a kiosk computer, a PDA, or any other device capable of sending location information 216 directly or indirectly to

registered application 231. In some embodiments, target location information 216 can be any type of information that can be used to determine the location of the object of interest 233. In at least one embodiment, target location information 216 may be a geocoded twitter message. In another example, object of interest 233 could be an end destination on a map, and the location information 216 of this end destination can be sent to registered application 231.

[0031] In response to receiving the target location information 216 from object of interest 233, registered application 231 can send a request 213 to content delivery platform 212. The request can include, but is not limited to, information indicating the location of object of interest 233, a request for content, information indicating the location of registered application 231, information indicating the identity of the registered application 231, and a previously received request identifier.

[0032] Content delivery platform 212 can receive and process request 213 to identify the location of registered application 231 and the location of object of interest 233. In some embodiments, both locations need not be identified. Furthermore, in some embodiments the specific location need not be identified, as long as a determination that object of interest 233 is located within a given proximity of second sponsor's reserved area 205, or that registered application 231 is located within first sponsor's reserved area 207.

[0033] Content delivery platform 212 can provide registered application information 217 to second sponsor 225 to allow second sponsor 225 to deliver second sponsor's content 214 to registered application 231. The registered application information 217 can be an application identifier, a request identifier, a target location, a communications address, or other information

that can be utilized by second sponsor 225. In some embodiments, application information 217 need not be provided to second sponsor 225, but instead can be processed internally by content delivery platform 212, and a determination can be made for second sponsor's content 214 to be delivered directly to application 231 from content delivery platform 212, or a third party (not illustrated).

[0034] Note that in the illustrated embodiment, despite the fact that registered application 231 is located within first sponsor's reserved area 207, the information delivered to registered application 231 can be content related exclusively to second sponsor's reserved area 205, in which object of interest 233 is located. This is because, in the illustrated embodiment, the target location is the location of object of interest 233, rather than the location of a mobile device executing registered application 231.

[0035] In some embodiments, information from the first sponsor can also be delivered to registered application 231, because the locations of the device running registered application 231 and object of interest 233 are both considered target locations. Furthermore, in some embodiments content need not be delivered directly from second sponsor 225, but instead can be provided by content delivery platform 212, or a third party (not illustrated).

[0036] Referring next to Figure 3, a graph showing various geographic areas with reference to longitude and latitude is illustrated according to some embodiments of the present disclosure. The geographic areas in Figure 3 are for illustration only and carry no particular significance with respect to their geometric shapes. Graph 300 includes a triangular area 320, reserved for sponsor A; pentagonal area 371, reserved for sponsor G; and octagonal area 330, also reserved for sponsor

G. In the illustrated example, sponsor G has two physical addresses: G1 327, which lies within sponsor G's reserved octagonal area 330, and G2 328 which, lies within sponsor A's reserved triangular area 320. Furthermore, in the illustrated embodiment, sponsor A does not have a physical location within sponsor A's reserved triangular area 320. These examples help illustrate that there is not necessarily a correlation between a sponsor's physical address and a reserved geographic area, although in some embodiments there may be such a correlation.

[0037] As illustrated by Figure 3, a single target location F 333 is located within sponsor G's reserved octagonal area 330, and target location F 333 can be a mobile device running a registered application, or target location F 333 can represent a target location other than the location of a mobile device, as illustrated in Figure 2. In some embodiments, the mobile device with target location F 333 receives advertising exclusively from advertiser G.

[0038] As further illustrated by Figure 3, there are four target locations: target location A 321, target location B 323, target location C 325, and target location G 392 within advertiser A's reserved triangular area 320. Note also, however, that target location G 392 also lies within one of sponsor G's reserved geographic areas, pentagonal area 371. Consider the following example in which target location A 321 and target location B 323 each are mobile devices executing a first application registered with a content delivery platform, such as content delivery platform 112, of Figure 1. Further assume, for purposes of this example, that target location C 325 is a mobile device executing a second, different application, which is also registered with the content delivery platform. Because both the first and second applications are registered with the content delivery platform, each of the three devices, with target location A 321 target location B 323 and target location C 325 can receive advertisements or other content from within their respective

applications. In this example, the content delivered to all three devices can be related exclusively to sponsor A, regardless of which registered application is being executed, because sponsor A has the only reserved interest in the portions of triangular area 320 occupied by mobile devices having target locations A 321 B 323 and C 325.

5 **[0039]** In some embodiments, target location G 392 can be a mobile device running two or more registered applications, and can receive content related to sponsor A, because the mobile device lies within triangular area 320. But, target location G 392 also lies within pentagonal area 371, and the mobile device can therefore receive content associated with sponsor G. In some embodiments, content related to sponsor A can be delivered via one of the registered applications, 10 while another registered application receives and displays content related to sponsor G. In other embodiments, one of sponsor A or sponsor G can have a superior interest to the other, and a preference can be given to that sponsor's content for delivery. For example, sponsor G may have a superior interest in pentagonal area 371, which also forms part of triangular area 320. In such a case, if content related to sponsor G is available for delivery to the application on the mobile device 15 with target location G 392, that content will be delivered in preference to content related to sponsor A. However, if there is no high priority content related to sponsor G to be delivered, content related to sponsor A may be provided in its stead. Various other priority and time sharing mechanisms and methods can be implemented according to the teachings set forth herein. Note that in some embodiments, multiple registered applications are not required to implement priority 20 and time sharing mechanisms.

[0040] In some instances, a mobile device can have target locations, such as target location D 324 or target location E 356, located outside of areas reserved by sponsors. In such a case, a check

can be made to determine if either target location D 340 or target location E 356 are located within a given proximity of a sponsor-reserved area such as triangular area 320 or octagonal area 330. So, for example, a check can be made to determine whether any reserved areas lie within a given radius of target location D 340, defining a search area 341, or within a given radius of target location E 356, defining a search area 351. In some embodiments, if no sponsor reserved area intersects an area within an initially small radius, further checks can be performed by incrementally increasing the radius. So, for example, after a first check finds no advertiser reserved areas within search areas 341 or 351, the search areas can be increased to encompass areas 343 and 353, respectively.

[0041] In the illustrated example, there is no reserved area intersecting search area 353, but sponsor H 357 has a physical address within area 353. In some embodiments, once it is determined that a registered sponsor has a physical address location within a search radius, but there are no sponsor reserved geographic areas in proximity to or encompassing a target location, an advertisement or other content can be delivered to a mobile device, such as the device with target location 356.

[0042] Another situation arises when there are no sponsor reserved geographic areas intersecting a search area, but there are multiple sponsor physical locations within a given radius. Consider area 343, which contains sponsor E's location 349, and sponsor F's location 347. Because neither sponsor E nor sponsor F has established a reserved area that intersects with search area 343, a random choice can be made between these two sponsors to determine which sponsor's content to provide to the registered application on the device with target location D 340. In other embodiments, preference may be given to one of sponsor E's location 349 and sponsor F's location

347 based on each physical locations' proximity to target location D 340, based on a travel time between the device with target location D 340 and the sponsors' locations, or based on some other desired parameter. In further embodiments, if no sponsor's reserved geographic area intersects any portion of area 343, no content is sent to mobile device D with target location 340, despite the fact that location sponsor E's location 359, and sponsor F's location 347 are both within the perimeter defining search area 343.

[0043] In some embodiments, the search radius can continue to be expanded until a search area 345 intersects with a sponsor reserved geographic area. In the illustrated embodiment, search area 345 intersects sponsor A's reserved triangular area 320. Note that sponsor G2's physical location 328 is also located within search area 345. In some embodiments, content from either sponsor A or sponsor G can be selected using any of various processes, because target location D 340 is not located entirely within triangular area 320. In some embodiments, however, because the expanded search area 345 encompasses even a portion of sponsor A's reserved triangular area 320, content related to sponsor G will be excluded, and content related to sponsor A will be exclusively provided to mobile device with target location D 340. In some embodiments, because target location D 340 is not located within sponsor A's reserved triangular area 320, content related to sponsor A will be excluded, and content related to sponsor G will be exclusively provided to mobile device with target location D 340.

[0044] Additional techniques accounting for the proximity of exclusively reserved advertising areas and sponsor's physical locations with respect to mobile device locations can be implemented according to the teaching set forth herein. For example, in some embodiments, sponsors may obtain an interest in all otherwise unreserved geographic areas. For example, a content delivery

system can deliver content from a “default” sponsor, if it is determined that no other content is to be delivered to a mobile device.

[0045] Referring next to Figure 4, a method 400 for allowing sponsors to reserve particular geographic areas will be discussed according to embodiments of the present disclosure. Method 400 begins, as illustrated by block 401. As illustrated by block 403, a content delivery platform, for example content delivery platform 112 as illustrated in Figure 1, can receive a request for sponsor registration, which can also include receiving physical address location from the sponsor. As illustrated by block 405, the sponsor can establish perimeters defining geographic areas of exclusive or semi-exclusive control. These geographic areas are areas the sponsor wishes to reserve for delivery of his own advertisements or other content controlled by the sponsor.

[0046] The perimeters established can be based on map features, such as streets, rivers, landmarks, or any of the other various map features. The perimeters can also be defined by latitude and longitude, or various geometric constructs having a given relative position to either a point location, a map location, a physical address, or otherwise. Some embodiments allow for establishing perimeters defining areas based on a combination of the various types of constructs. So, for example, latitude, longitude and map features may be used to establish the reserved area, or a combination of coordinates and geometric constructs can be used in conjunction with other suitable boundary identifiers to establish an area that may be reserved specifically for content related to a particular advertiser or sponsor.

[0047] In some embodiments, the perimeters may be generated interactively, using sponsor established perimeter definitions, or other unique sponsor requests. Some embodiments employ

pre-defined areas, or allow selection of areas based on predetermined factors, and present sponsors a choice from among previously established options.

[0048] As illustrated by block 407, a sponsor's request for a selected area is received. As illustrated by block 409, a check is made to determine if the selected area, or a portion of the selected area, has already been reserved by another sponsor. If the area selected by the sponsor is already owned or is otherwise unavailable, method 400 may return to block 407, and the sponsor can choose another area. In some embodiments, overlap of various sponsor areas may be allowed based on type of business, type of application used to deliver the content, or otherwise.

[0049] As illustrated by block 411, if an area selected for exclusive or semi-exclusive content delivery is available, the selected geographic area can be reserved for the sponsor. And as illustrated by block 413, the sponsor can be notified that an interest in the geographic area has been reserved for him.

[0050] A sponsor can provide content for delivery to mobile devices having target locations contained within its reserved area, as illustrated by block 415. This content can include advertisements, still image content, animated content, video content, audio content, alphanumeric identifiers, or other content suitable for delivery to mobile devices via registered applications. As illustrated by block 417, the content received from the sponsor can be stored for later delivery to registered applications running on mobile devices having target locations that exist within the sponsor's reserved area, which such target locations may include, but are not limited to, when the mobile device or target location physically enters or remains within the sponsor's reserved area for a desired length of time. In some embodiments, content can be delivered to a mobile device

by the sponsor or another party in response to a notification that the mobile device or target location has entered or is contained within the sponsor's reserved area. Method 400 ends, as illustrated at block 419.

[0051] Referring next to Figure 5, a method 500 of registering an application program for use in conjunction with a content delivery platform is illustrated according to various embodiments of the present disclosure. Method 500 begins as illustrated by block 501. As illustrated by block 503, an application can be registered on a content delivery platform in response to a request by a developer, for example developer 108 as illustrated in Figure 1. As illustrated by block 505, a request for content can be received from a device running a registered application. In some embodiments, the same registered application may be executed on any of various mobile devices, including mobile telephones, personal digital assistants, laptops, and the like. Furthermore, multiple devices may execute copies of the same registered application, multiple different registered applications may be executed on a single mobile device, and multiple different registered applications may be executed on multiple devices.

[0052] As illustrated by block 507 a determination is made as to whether the application sending the request for content has a target location that is located within a sponsor's reserved geographic area. In some embodiments, the target location may be the location of the device. In some embodiments, the target location may be a location other than the location of the device, as illustrated in Figure 2. As illustrated by block 509, if the target location is located within a sponsor's reserved area, content from the corresponding sponsor can be chosen for delivery to the mobile device. The content can be chosen based on a number of different parameters or combinations of parameters. In some embodiments, different sponsors may designate particular

content to be provided on different days of the week or at different times of day. Some such embodiments allow a single geographic area to be shared by different advertisers or sponsors. For example, content associated with a first sponsor may be selected for delivery in a particular geographic area during the lunch hour, while content related to a second sponsor is selected for delivery in that same geographic area between the hours of midnight and 2 am.

[0053] In some embodiments, content from one sponsor can be selected for delivery in a particular geographic area in specific situations, even though a different sponsor has generally reserved that same geographic area. For example, content from a first sponsor can be delivered during a football game to mobile devices located in a geographic area normally reserved by a second sponsor, effectively trumping content related to the second sponsor that would otherwise be delivered. In some embodiments, additional criteria can be applied to determine which sponsors' content will be provided to mobile devices in a particular geographic area.

[0054] As illustrated by block 511, selected content can be provided to an application for display on a mobile device. In at least one embodiment, different content from the same sponsor can be provided to the same device for display within different applications, or the same content from the same sponsor can be displayed for all mobile devices running all registered applications that have target locations within the delivery area for the content. For example, a first program run on a mobile device may display a first advertisement within that program while a second program running on the same device may display a second advertisement, which is different from the first advertisement. In some embodiments in which an interest in a particular geographic area is shared between multiple sponsors, a primary sponsor's content can be exclusively displayed via a first

registered application running on a particular mobile device, while content from other sponsors can be displayed via a second and subsequent applications running on the same mobile device.

[0055] As illustrated by block 513, if the target location is not within a sponsor's reserved area, a determination can be made regarding whether at least one sponsor's presence is within a first predetermined radius of the target location. In some embodiments, a determination is made regarding whether a sponsor's physical location is within a predetermined radius of the target location. In some embodiments, a determination is made regarding whether a sponsor's geographic area, or a portion of a sponsor's geographic area, is contained within a predetermined radius of the target location. If at least one sponsor's presence is within a predetermined radius of the target location, a sponsor is chosen from a random or pseudo-random process, as illustrated by block 519. Content is then selected for delivery, as illustrated by block 509. As illustrated by block 515, if a sponsor's presence is not within a predetermined radius of the target location, the search radius can be increased. As illustrated by block 517, a check can be made to determine whether any more increases should be made. In some embodiments, the search radius can continue to be increased incrementally, in a logarithmic manner, or otherwise, until at least a portion of a sponsor's reserved area intersects the search area defined by the search radius. In some embodiments, the search radius can be increased a predetermined number of times, or can be limited based on system resources, time constraints, or other desired parameters. The processes illustrated by blocks 513, 515, and 517 can be repeated until a positive indication is produced by the process at block 517.

[0056] As illustrated by block 519, content from a randomly or pseudo-randomly selected sponsor can be delivered to a mobile device if the target location is not within a desired proximity to a sponsor's reserved area. In some embodiments, rather than delivering content randomly,

content selections can be made based on desired criteria. Content related to a sponsor that reserved all otherwise unallocated space can be delivered to a mobile device executing a registered application. In some such embodiments, if any particular geographic areas have not yet been reserved, or if any device requesting content does not have a target location contained within a reserved geographic area, the default sponsor's content can be delivered to the mobile device. Method 500 ends as illustrated by block 521.

[0057] Preferring next to Figure 6, a method of interaction between a mobile device and a content providing platform is illustrated according to various embodiments of the present disclosure. Method 600 begins as illustrated by block 601. As illustrated by block 603 an application platform key can be provided to a developer in response to the developer registering an application for use on the application platform. The developer can, in turn, provide the key to mobile devices on which the registered application is installed. As illustrated by block 605, when a mobile device requests content from the content providing platform, the mobile device can send the key along with its request. As illustrated by block 607, the content providing platform can verify that the key matches a valid key stored in its database, or elsewhere, before providing content to the application.

[0058] In some embodiments, key verification can be performed by an entity other than the content providing platform. As illustrated by block 627, if a verification check on the key fails, no content is provided to the requesting application, and the method 600 ends.

[0059] As illustrated by block 609, if the key is validated a session can be initiated between the application on the mobile device, and the content delivery platform. As illustrated by block 611

in at least one embodiment, the application running on the mobile device sends the mobile device's location, or another target location, to the content delivery platform. However, in some embodiments the actual location is not sent by the device, but may be provided to the content delivery platform from another source. Furthermore, the content delivery platform, or a subsystem
5 of a communications system employed by the content delivery platform, can determine the location of the mobile device based on raw, partially, or completely processed information received from the mobile device or from another source. For example, the mobile device can forward information associated with a target location to the content delivery platform, or the content delivery server can obtain location information from a third party application or device,
10 from a home location register (HLR), from a visiting location register (VLR), from raw, differential, processed or semi-processed GPS data, from power signals used in code-division multiple access (CDMA) or other wireless communications systems, or otherwise.

[0060] As illustrated by block 613, the content delivery platform records the request from the registered application in a request identifier in the platform database, or some other suitable storage
15 location. The request identifier can be used in some embodiments to track further interaction with the registered application, or to deliver additional content to a requesting mobile device. Thus, in some embodiments, a mobile device or other target location that is only temporarily located within a particular sponsor's reserved geographic area may continue to receive information from that sponsor after the mobile device, or the target location, exits the sponsor's reserved area. In other
20 embodiments, content related to a sponsor is discontinued in response to a mobile device exiting, or the target location losing focus within, the sponsor's reserved area.

[0061] As illustrated by block 615, the content delivery platform can deliver the request identifier to the requesting application along with the requested content. As illustrated by block 617, a user of the mobile device can interact with the provided content using any of various methods such as pressing a button, selecting a user selectable object on a graphical user interface, or otherwise. The application on the mobile device can send an indication of the interaction to the content delivery platform via the same communication channel used to send the request, or via a different communications channel.

[0062] As illustrated by block 619, a registered application running on a mobile device can send an additional information request to the platform using the previously assigned request identifier.

In some embodiments, using the previously assigned platform request identifier permits tracking of a series of interactions between a particular application and the content delivery platform. Furthermore, using the request identifier can allow individualized content to be delivered to different registered applications which may or may not be running on the same mobile device.

[0063] As illustrated by block 621, a determination is made regarding whether a request identifier sent in conjunction with a request for further information is maintained in the platform database or other suitable storage. As illustrated by block 623, if the request identifier is contained in the database or other storage area, the content delivery platform can update a request identifier record as being complete. And as illustrated by block 625, the content delivery platform can deliver more content to the requesting application. As illustrated by block 627, method 600 can proceed to end after delivering the additional content.

[0064] The methods and processes discussed previously, as well as other embodiments, may be implemented in a processing system executing a set of instructions stored in memory, or on a removable computer readable medium. An example of a system according to some embodiments is illustrated in Figure 7. Referring now to Figure 7, a high-level block diagram of a processing system is illustrated and discussed. Processing system 700 includes one or more central processing units, such as CPU A 705 and CPU B 707, which may be conventional microprocessors interconnected with various other units via at least one system bus 710. CPU A 705 and CPU B 707 may be separate cores of an individual, multi-core processor, or individual processors connected via a specialized bus 711. In some embodiments, CPU A 705 or CPU B 707 may be a specialized processor, such as a graphics processor, other co-processor, or the like.

[0065] Processing system 700 includes random access memory (RAM) 720; read-only memory (ROM) 715, wherein the ROM 715 could also be erasable programmable read-only memory (EPROM) or electrically erasable programmable read-only memory (EEPROM); and input/output (I/O) adapter 725, for connecting peripheral devices such as disk units 730, optical drive 736, or tape drive 737 to system bus 710; a user interface adapter 740 for connecting keyboard 745, mouse 750, speaker 755, microphone 760, or other user interface devices to system bus 710; communications adapter 765 for connecting processing system 700 to an information network such as the Internet or any of various local area networks, wide area networks, telephone networks, or the like; and display adapter 770 for connecting system bus 710 to a display device such as monitor 775. Mouse 750 has a series of buttons 780, 785 and may be used to control a cursor shown on monitor 775.

[0066] It will be understood that processing system 700 may include other suitable data processing systems without departing from the scope of the present disclosure. For example, processing system 700 may include bulk storage and cache memories, which provide temporary storage of at least some program code in order to reduce the number of times code must be retrieved from bulk storage during execution.

[0067] Various disclosed embodiments can be implemented in hardware, software, or a combination containing both hardware and software elements. In one or more embodiments, the invention is implemented in software, which includes but is not limited to firmware, resident software, microcode, etc. Some embodiments may be realized as a computer program product, and may be implemented as a computer-usable or computer-readable medium embodying program code for use by, or in connection with, a computer, a processor, or other suitable instruction execution system.

[0068] For the purposes of this description, a computer-usable or computer readable medium can be any apparatus that can contain, store, communicate, propagate, or transport the program for use by or in connection with the instruction execution system, apparatus, or device. By way of example, and not limitation, computer readable media may comprise any of various types of computer storage media, including volatile and non-volatile, removable and non-removable media implemented in any suitable method or technology for storage of information such as computer readable instructions, data structures, program modules, or other data. Computer storage media include, but are not limited to, RAM, ROM, EEPROM, flash memory or other memory technology, CD-ROM, digital versatile disks (DVD) or other optical storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other medium

which can be used to store the desired information and which can be accessed by a computer. Data structures and transmission of data (including wireless transmission) particular to aspects of the disclosure are also encompassed within the scope of the disclosure.

[0069] Various embodiments have been described for delivering content related to a commercial media program. Other variations and modifications of the embodiments disclosed may be made based on the description provided, without departing from the scope of the invention as set forth in the following claims.

CLAIMS

- 1 1. A system for creating and offloading location awareness for a computer program on a
2 mobile device, the system comprising:
3 at least one memory;
4 at least one processor operably coupled to the at least one memory; and
5 code configured for execution by the at least one processor, wherein the code
6 comprises at least one instruction for:
7 sending, via the computer program, to a centralized content delivery service:
8 a request to have an identifier delivered to the computer program after
9 it has been determined, by at least use of location information
10 representing at least one physical geographic location of the
11 mobile device, that the mobile device has at least entered a
12 selected geographic area of interest; and
13 geographic reservation data to have the selected geographic area of
14 interest reserved for delivery of the identifier to the computer
15 program, wherein the geographic reservation data comprises a
16 geometric construct used to establish at least one perimeter as a
17 boundary for the selected geographic area of interest; and
18 receiving, via the computer program, the identifier delivered by the
19 centralized content delivery service after it has been determined, by at
20 least use of location information representing at least one physical
21 geographic location of the mobile device, that the mobile device has at
22 least entered the selected geographic area of interest.
- 1 2. The system of claim 1, wherein the code further comprises at least one instruction for, in
2 response to receiving, via the computer program, the identifier delivered by the
3 centralized content delivery service, displaying, via a connected display device, content
4 associated with the selected geographic area of interest.

1 3. The system of claim 1, wherein:

2 the code further comprises at least one instruction for sending, via the computer
3 program, the identifier to the centralized content delivery service.

1 4. The system of claim 1, wherein:

2 the geometric construct comprises at least a latitude value, a longitude value, and a
3 radius value; and

4 the geographic reservation data further comprises information indicating an area
5 bounded by the at least one perimeter as the selected geographic area of interest.

1 5. The system of claim 4, wherein:

2 the selected geographic area of interest is a first selected geographic area of interest;
3 and

4 the code further comprises at least one instruction for sending, via the computer
5 program, to the centralized content delivery service, a second request to have an
6 identifier delivered to the computer program after it has been determined, by at
7 least use of location information representing at least one physical geographic
8 location of the mobile device, that the mobile device has at least entered a second
9 selected geographic area of interest, wherein the second selected geographic area
10 of interest is bounded by the at least one perimeter and is distinct from the first
11 selected geographic area of interest.

1 6. The system of claim 1, wherein the identifier delivered by the centralized content
2 delivery service is a boundary identifier.

1 7. The system of claim 6, wherein:

2 receiving, via the computer program, the identifier delivered by the centralized
3 content delivery service comprises receiving the identifier after it has been

determined, by at least use of location information representing at least one physical geographic location of the mobile device, that the mobile device has at least entered the selected geographic area of interest and has remained therein for at least a predetermined length of time.

8. The system of claim 7, wherein the predetermined length of time is not provided to the centralized content delivery service by the computer program but is a predetermined length of time as desired by the centralized content delivery service.

9. The system of claim 1, wherein the identifier is to be delivered exclusively to the computer program and not to be broadcast to other computer programs on the mobile device.

10. A system for creating and offloading location awareness for a computer program on a mobile device, the system comprising:

at least one memory;

at least one processor operably coupled to the at least one memory; and

code configured for execution by the at least one processor, wherein the code comprises at least one instruction for:

receiving, via a centralized content delivery service, from the computer program:

a request to have an identifier delivered to the computer program after

it has been determined, by at least use of location information

representing at least one physical geographic location of the

mobile device, that the mobile device has at least entered a selected

geographic area of interest; and

geographic reservation data to have the selected geographic area of

interest reserved for delivery of the identifier to the computer

program, wherein the geographic reservation data comprises a

17 geometric construct used to establish at least one perimeter as a
18 boundary for the selected geographic area of interest;
19 reserving, in the at least one memory, the selected geographic area of interest
20 for delivery of the identifier to the computer program;
21 obtaining location information representing at least one physical geographic
22 location of the mobile device; and
23 delivering the identifier to the computer program after it has been determined,
24 using the obtained location information, that the mobile device has at least
25 entered the selected geographic area of interest.

1 11. The system of claim 10, wherein the code further comprises at least one instruction for:
2 sending, via the computer program, to the centralized content delivery service, the
3 request and the geographic reservation data; and
4 receiving, via the computer program, the identifier in response to the delivering.

1 12. The system of claim 10, wherein:
2 the code further comprises at least one instruction for:
3 receiving the identifier via the centralized content delivery service; and
4 in response to receiving the identifier via the centralized content delivery
5 service, storing, in the at least one memory, the identifier; and
6 delivering the identifier to the computer program comprises delivering the identifier
7 from the at least one memory.

1 13. The system of claim 10, wherein delivering the identifier to the computer program
2 comprises delivering the identifier after it has been determined that the mobile device has
3 at least remained within the selected geographic area of interest for at least a
4 predetermined length of time.

1 14. The system of claim 12, wherein the code further comprises at least one instruction for:

2 preserving delivery of the identifier from the at least one memory to the computer
3 program until after it has been determined that the mobile device has remained
4 within the selected geographic area of interest for at least a predetermined length
5 of time.

1 15. The system of claim 12, wherein:

2 the code further comprises at least one instruction for sending, via the computer
3 program, to the centralized content delivery service, the identifier; and
4 receiving the identifier via the centralized content delivery service comprises
5 receiving the identifier via the centralized content delivery service from the
6 computer program.

1 16. The system of claim 10, wherein the code further comprises at least one instruction for
2 determining, using the obtained location information, that the mobile device has at least
3 entered the selected geographic area of interest.

1 17. The system of claim 10, wherein the code further comprises at least one instruction for
2 determining, using the obtained location information, that the mobile device has at least
3 entered the selected geographic area of interest and has remained therein for at least a
4 predetermined length of time.

1 18. The system of claim 10, wherein the code further comprises at least one instruction for
2 creating a notification that the mobile device has at least entered the selected geographic
3 area of interest.

1 19. The system of claim 10, wherein:

2 reserving the selected geographic area of interest for delivery of the identifier to the
3 computer program comprises reserving the selected geographic area of interest
4 only after it has been determined that the selected geographic area of interest is

5 available to be reserved; and
6 the code further comprises at least one instruction for sending a notification to the
7 computer program indicating that the selected geographic area of interest has been
8 reserved.

1 20. The system of claim 16, wherein the determining considers whether at least a
2 predetermined portion of the selected geographic area of interest intersects the mobile
3 device's location circle, wherein the location circle comprises the area contained within a
4 predetermined radius of the geographic location of the mobile device.

1 21. The system of claim 10, wherein the code further comprises at least one instruction for:
2 storing, on the mobile device, location information received from one or more mobile
3 devices, wherein the location information received from the one or more mobile
4 devices is received by the one or more mobile devices from one or more third
5 party sources and is to be used, in combination with cellular tower information
6 received via an antenna of the mobile device, for positioning the geographic
7 location of the mobile device; and
8 using the stored location information received from the one or more mobile devices,
9 in combination with cellular tower information received via an antenna of the
10 mobile device operable to communicate with a cellular network, to position the
11 geographic location of the mobile device.

1 22. The system of claim 10, wherein:
2 the code further comprises at least one instruction for:
3 receiving, via the centralized content delivery service:
4 a second request to have a second identifier delivered to a second
5 computer program after it has been determined, by at least use of
6 location information representing at least one physical geographic
7 location of the mobile device, that the mobile device has at least

8 entered a second selected geographic area of interest, wherein the
9 second request is from the second computer program; and
10 second geographic reservation data to have the second selected
11 geographic area of interest reserved for delivery of the second
12 identifier to the second computer program, wherein the second
13 geographic reservation data comprises a second geometric
14 construct used to establish at least one perimeter as a boundary for
15 the second selected geographic area of interest and wherein the
16 second geographic reservation data is from the second computer
17 program;
18 reserving, in the at least one memory, the second selected geographic area of
19 interest for delivery of the second identifier to the second computer
20 program; and
21 delivering the second identifier to the second computer program after it has
22 been determined, using the obtained location information, that the mobile
23 device has at least entered the second selected geographic area of interest.

1 23. The system of claim 10, wherein:

2 the code further comprises at least one instruction for:

3 receiving, via the centralized content delivery service, from the computer
4 program:

5 a second request to have a second identifier delivered to the computer
6 program after it has been determined, by at least use of location
7 information representing at least one physical geographic location
8 of the mobile device, that the mobile device has at least entered a
9 second selected geographic area of interest; and

10 second geographic reservation data to have the second selected
11 geographic area of interest reserved for delivery of the second
12 identifier to the computer program, wherein the second geographic

13 reservation data comprises a second geometric construct used to
14 establish at least one perimeter as a boundary for the second
15 selected geographic area of interest;
16 reserving, in the at least one memory, the second selected geographic area of
17 interest for delivery of the second identifier to the computer program; and
18 delivering the second identifier to the computer program after it has been
19 determined, using the obtained location information, that the mobile
20 device has at least entered the second selected geographic area of interest.

1 24. The system of claim 10, wherein the code further comprises at least one instruction for
2 performing a verification whether the computer program has authorization to initiate a
3 location session with the centralized content delivery service, wherein:
4 if the verification passes, the computer program is allowed to initiate a location
5 session with the centralized content delivery service; and
6 if the verification fails, the computer program is not allowed to initiate a location
7 session with the centralized content delivery service.

1 25. The system of claim 24, wherein performing the verification comprises performing, for
2 the computer program, a check on a key being previously stored in a data store that the
3 centralized content deliver services uses for validating location sessions initiated by one
4 or more computer programs installed on the mobile device.

1 26. The system of claim 10, wherein the obtained location information is determined at least
2 in part by using cellular tower information received via a cellular antenna of the mobile
3 device and not by using information received via a GPS antenna of the mobile device.

1 27. The system of claim 16, wherein determining that the mobile device has at least entered
2 the selected geographic area of interest comprises determining that the mobile device has
3 at least entered the selected geographic area of interest by at least use of a specialized

4 processor for processing whether the mobile device has at least entered the selected
5 geographic area of interest.

1 28. The system of claim 11, wherein:

2 the at least one instruction for sending, via the computer program, the request and the
3 geographic reservation data to the centralized content delivery service comprises
4 at least one instruction configured for execution by a first processor of the mobile
5 device; and

6 the code further comprises at least one instruction for determining, using the obtained
7 location information, that the mobile device has at least entered the selected
8 geographic area of interest, wherein the at least one instruction for determining is
9 configured for execution by a specialized processor of the mobile device distinct
10 from the first processor.

1 29. A non-transitory computer readable medium for creating and offloading location
2 awareness for a computer program on a mobile device, said non-transitory computer
3 readable medium causing at least one processor of the mobile device to perform the steps
4 of:

5 sending, via the computer program, to a centralized content delivery service:

6 a request to have an identifier delivered to the computer program after it has
7 been determined, by at least use of location information representing at
8 least one physical geographic location of the mobile device, that the
9 mobile device has at least entered a selected geographic area of interest;
10 and

11 geographic reservation data to have the selected geographic area of interest
12 reserved for delivery of the identifier to the computer program, wherein
13 the geographic reservation data comprises a geometric construct used to
14 establish at least one perimeter as a boundary for the selected geographic
15 area of interest; and

16 receiving, via the computer program, the identifier delivered by the centralized
17 content delivery service after it has been determined, by at least use of location
18 information representing at least one physical geographic location of the mobile
19 device, that the mobile device has at least entered the selected geographic area of
20 interest.

1 30. A non-transitory computer readable medium for creating and offloading location
2 awareness for a computer program on a mobile device, said non-transitory computer
3 readable medium causing at least one processor of the mobile device to perform the steps
4 of:

5 receiving, via a centralized content delivery service, from the computer program:

6 a request to have an identifier delivered to the computer program after it has
7 been determined, by at least use of location information representing at
8 least one physical geographic location of the mobile device, that the
9 mobile device has at least entered a selected geographic area of interest;
10 and

11 geographic reservation data to have the selected geographic area of interest
12 reserved for delivery of the identifier to the computer program, wherein
13 the geographic reservation data comprises a geometric construct used to
14 establish at least one perimeter as a boundary for the selected geographic
15 area of interest;

16 reserving, in at least one memory of the mobile device, the selected geographic area
17 of interest for delivery of the identifier to the computer program;

18 obtaining location information representing at least one physical geographic location
19 of the mobile device; and

20 delivering the identifier to the computer program after it has been determined, using
21 the obtained location information, that the mobile device has at least entered the
22 selected geographic area of interest.

ABSTRACT

Application developers can request to have their applications registered for use with a content delivery platform. The operator of the content delivery platform establishes perimeters defining geographic areas, and maintains records reserving particular areas for delivery of content associated with particular sponsors. Registered applications running on mobile devices can request content from the content delivery platform. Based at least in part on the request, the content delivery platform can identify a target location, which may be the location of the mobile device, or some other location indicated in the request. A mobile device can be provided content based on the relationship of the target location to the geographic areas, so that a registered application running on a mobile device with a target location contained within a geographic area assigned to a particular sponsor will receive content related to that sponsor.

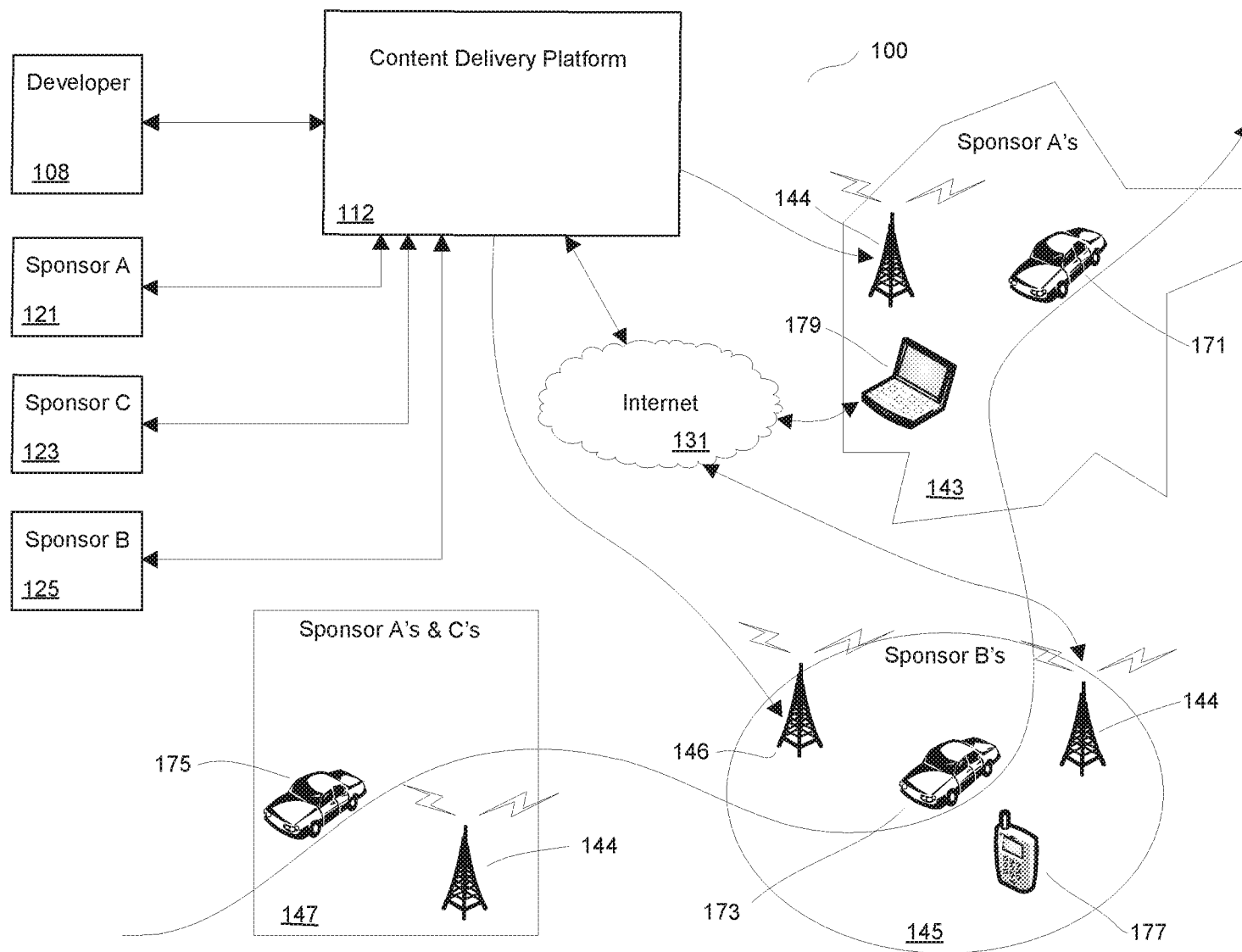


FIG. 1

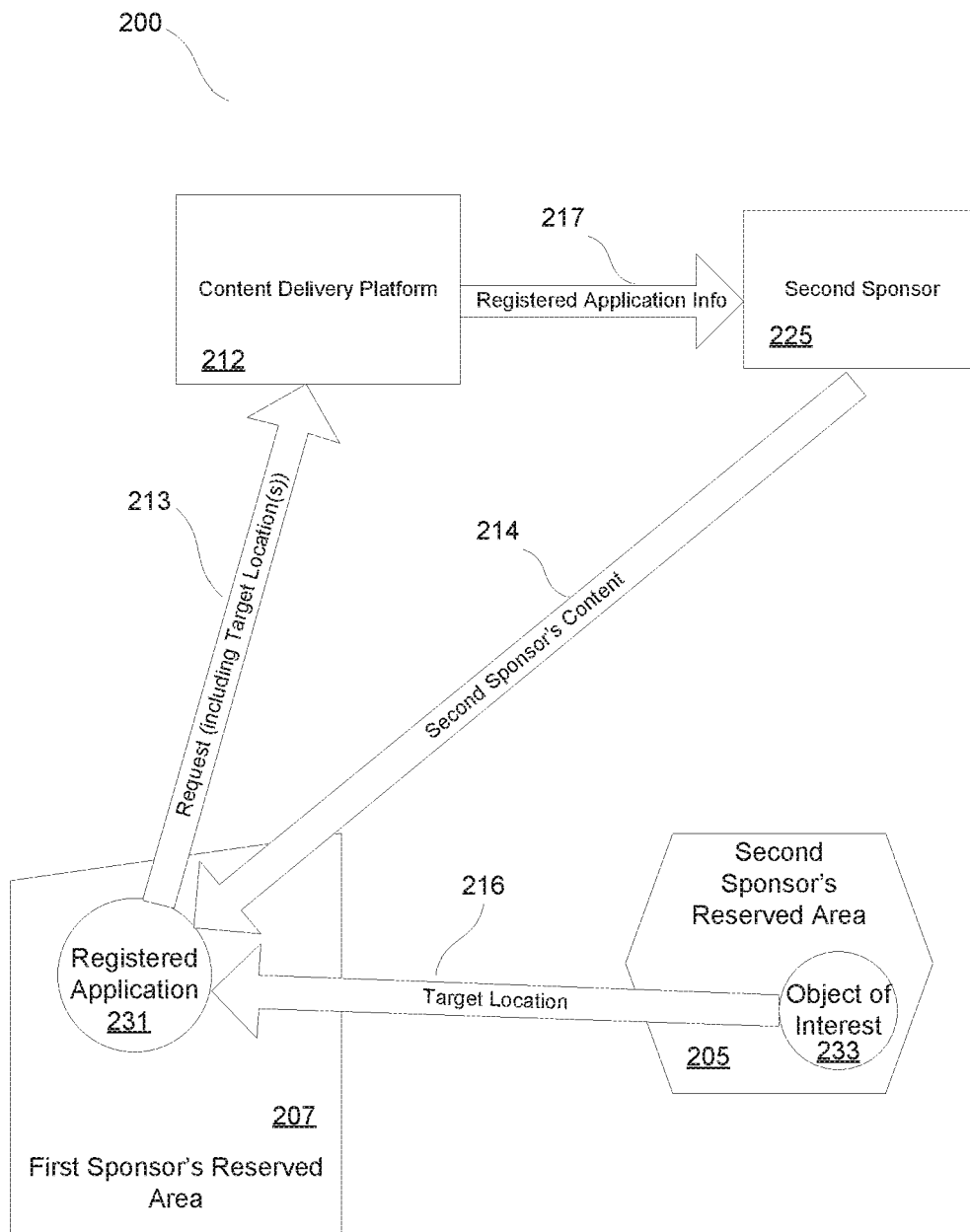


FIG. 2

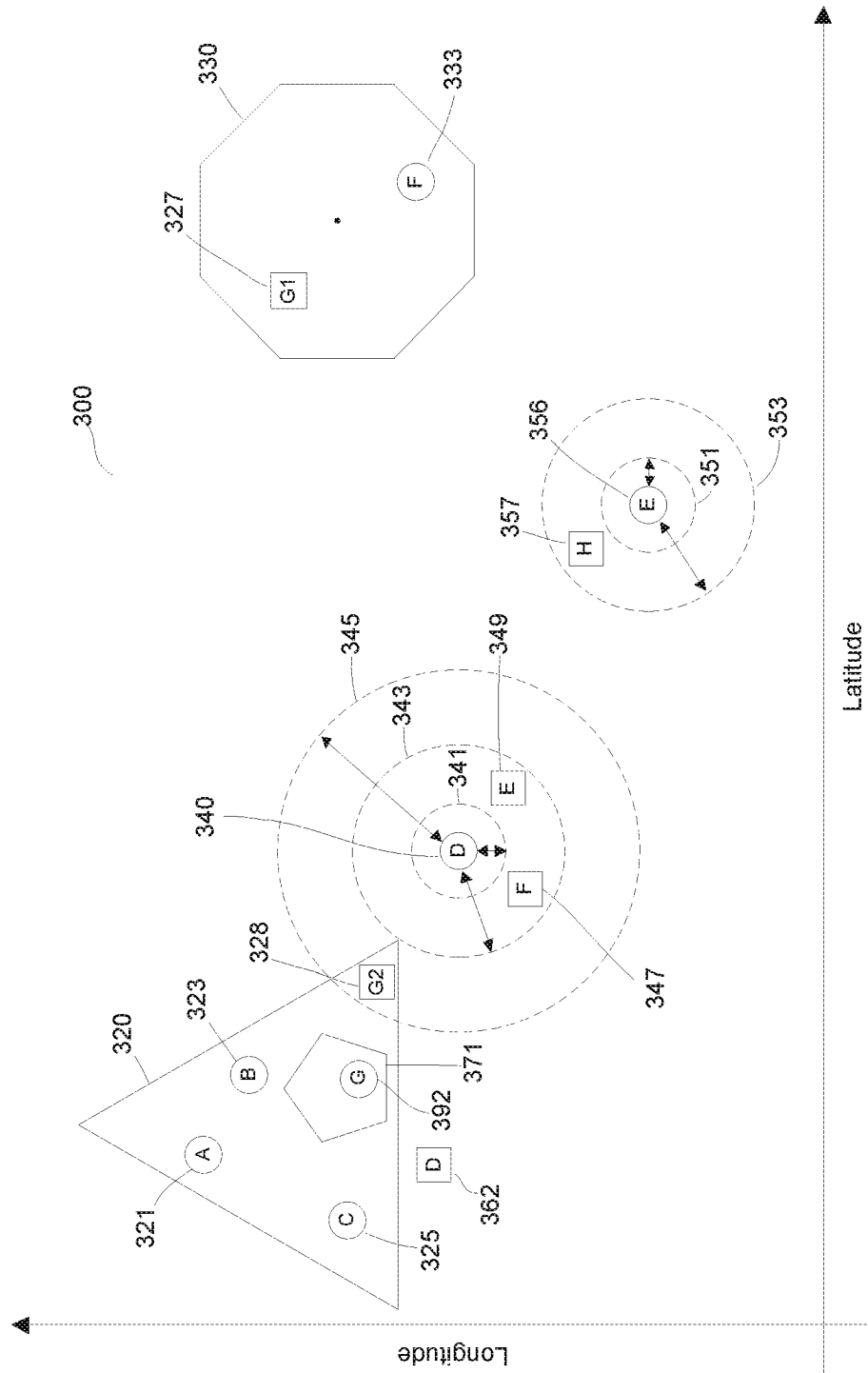


FIG. 3

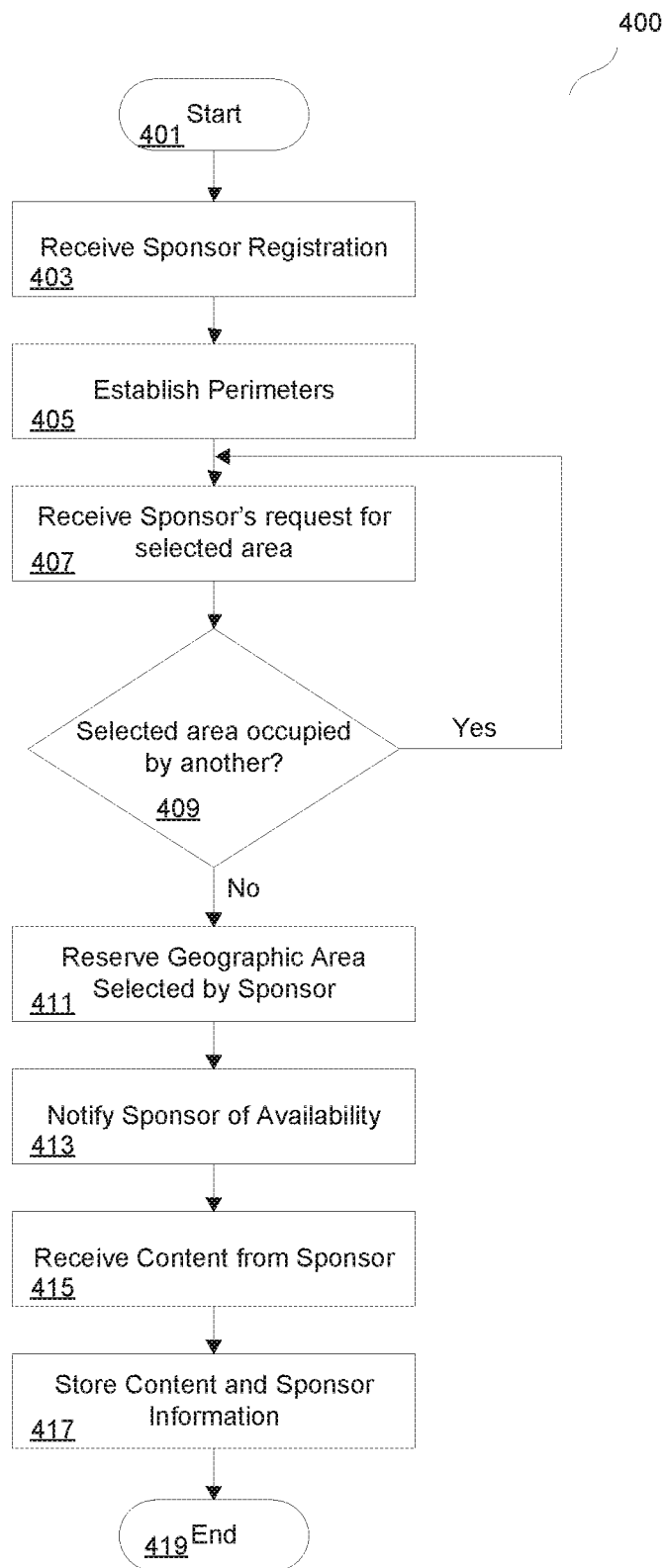


FIG. 4

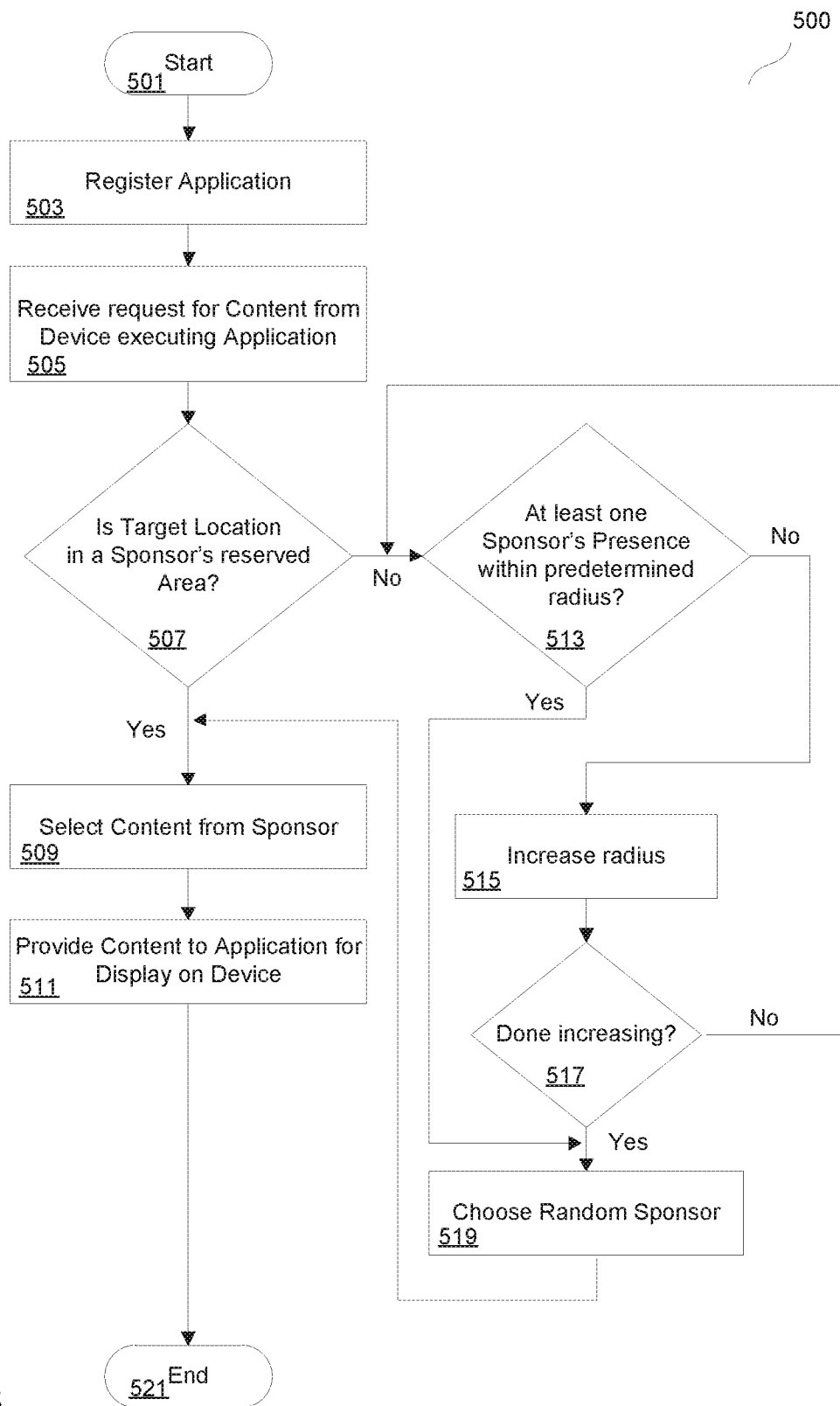


FIG. 5

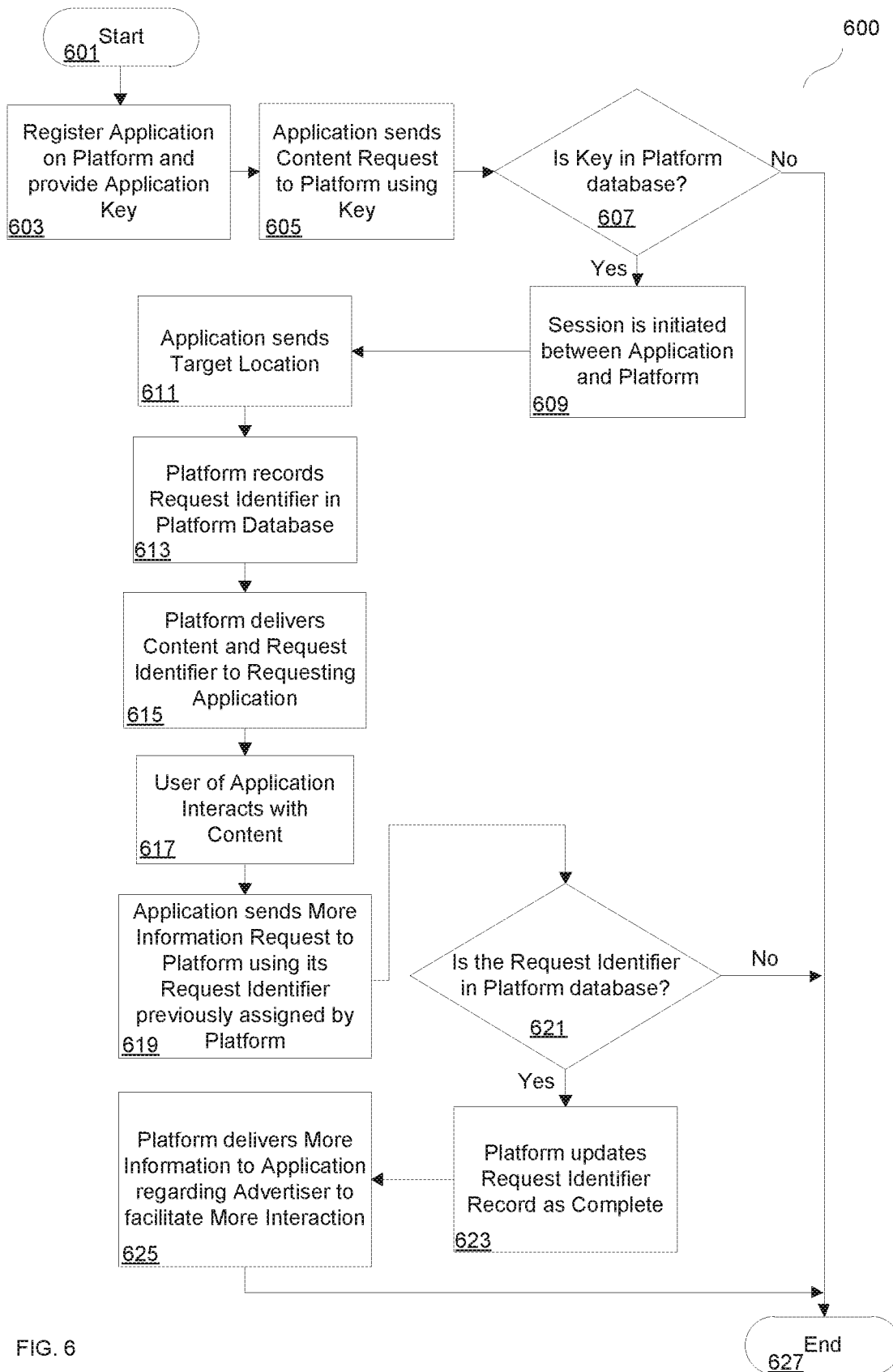


FIG. 6

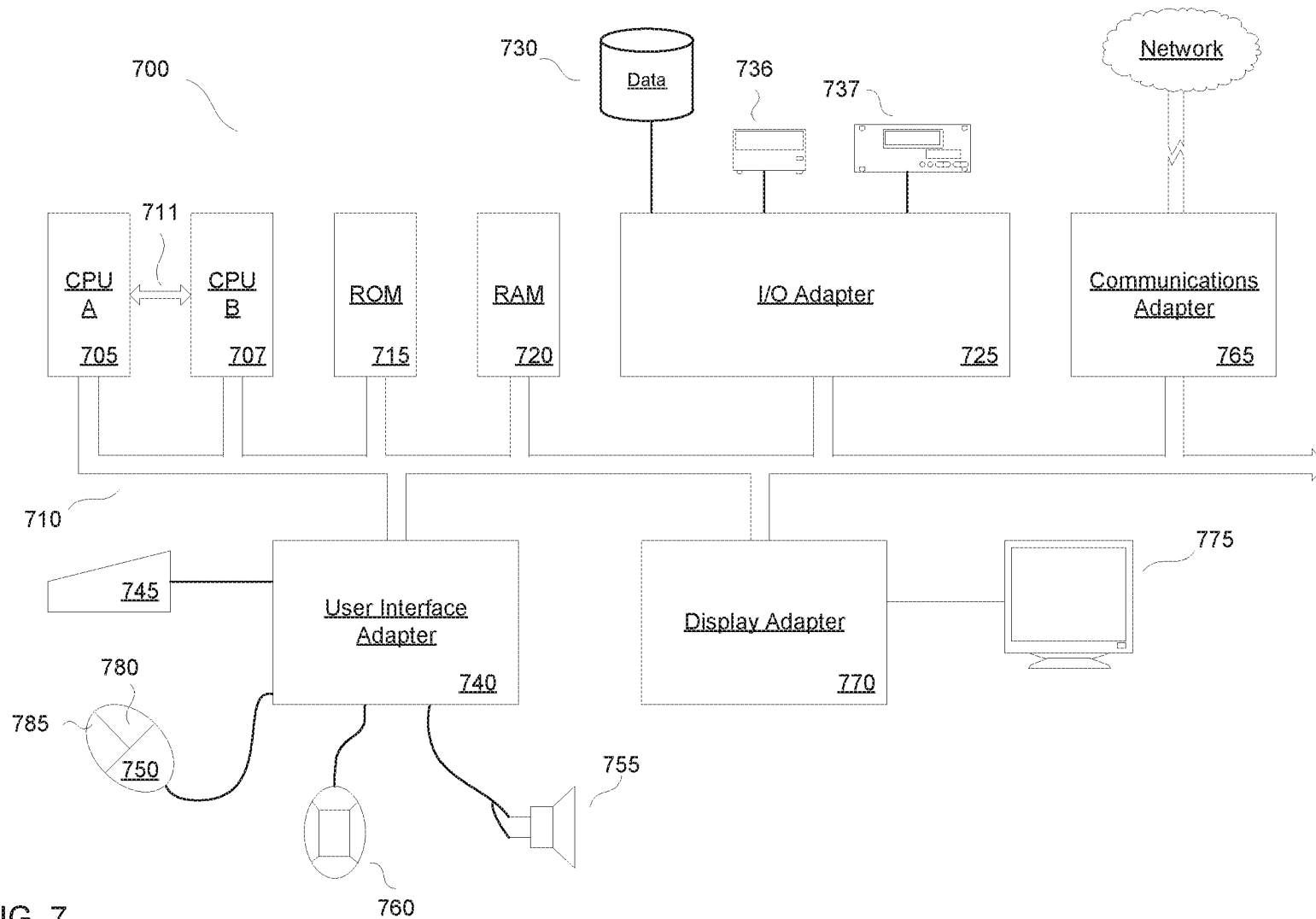


FIG. 7

SCORE Placeholder Sheet for IFW Content

Application Number: 17863208

Document Date: 07/12/2022

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):

- USPTO employees may access SCORE content via DAV or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.