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(54) **SYSTEMS AND METHODS FOR
FACILITATING TRANSMISSION OF
CONTENT FROM A SOURCE TO A USER
DEVICE**

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24, 2010, provisional application No. 61/350,709,
filed on Jun. 2, 2010, provisional application No.
61/390,703, filed on Oct. 7, 2010.

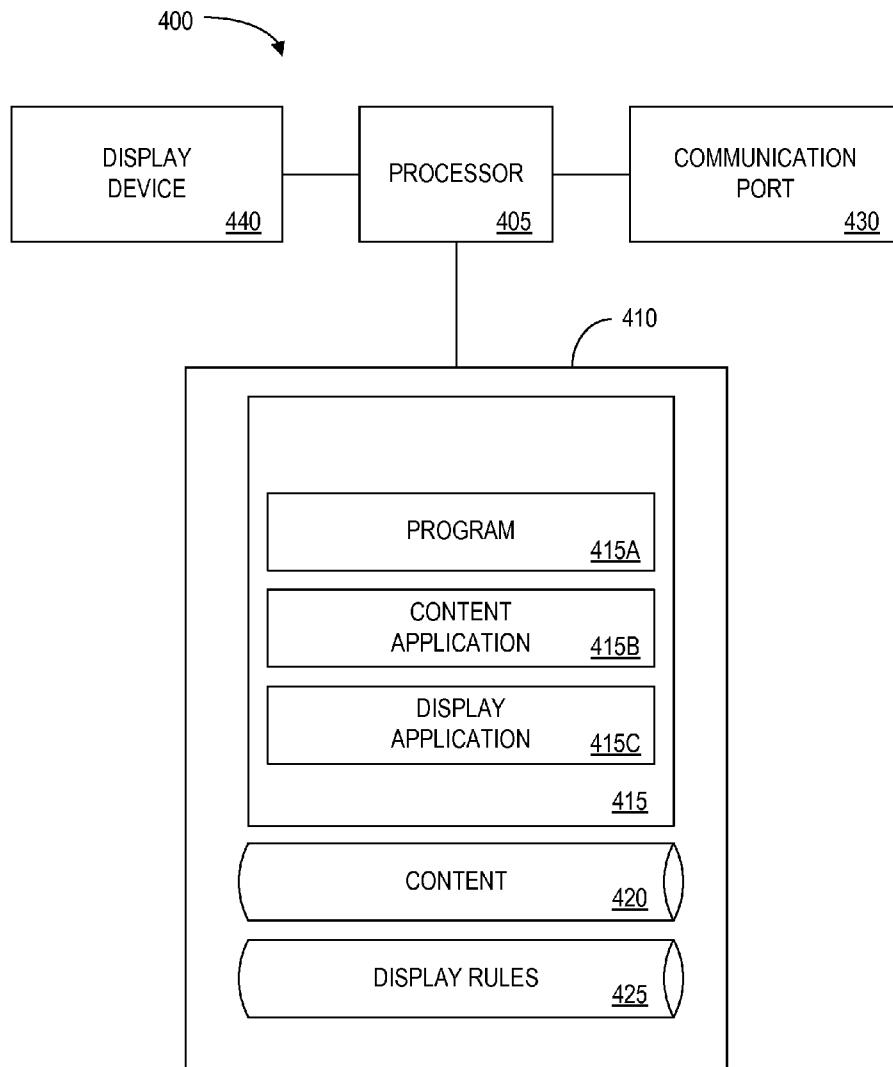
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ABSTRACT

In one embodiment, a method provides for registering a user device with a service, associating one or more selected sources of content with the user device and obtaining content from the one or more selected sources in accordance with one or more content rules. Qualifying content comprising content satisfying the one or more content rules is then transmitted to the user device for viewing by an associated viewing user.



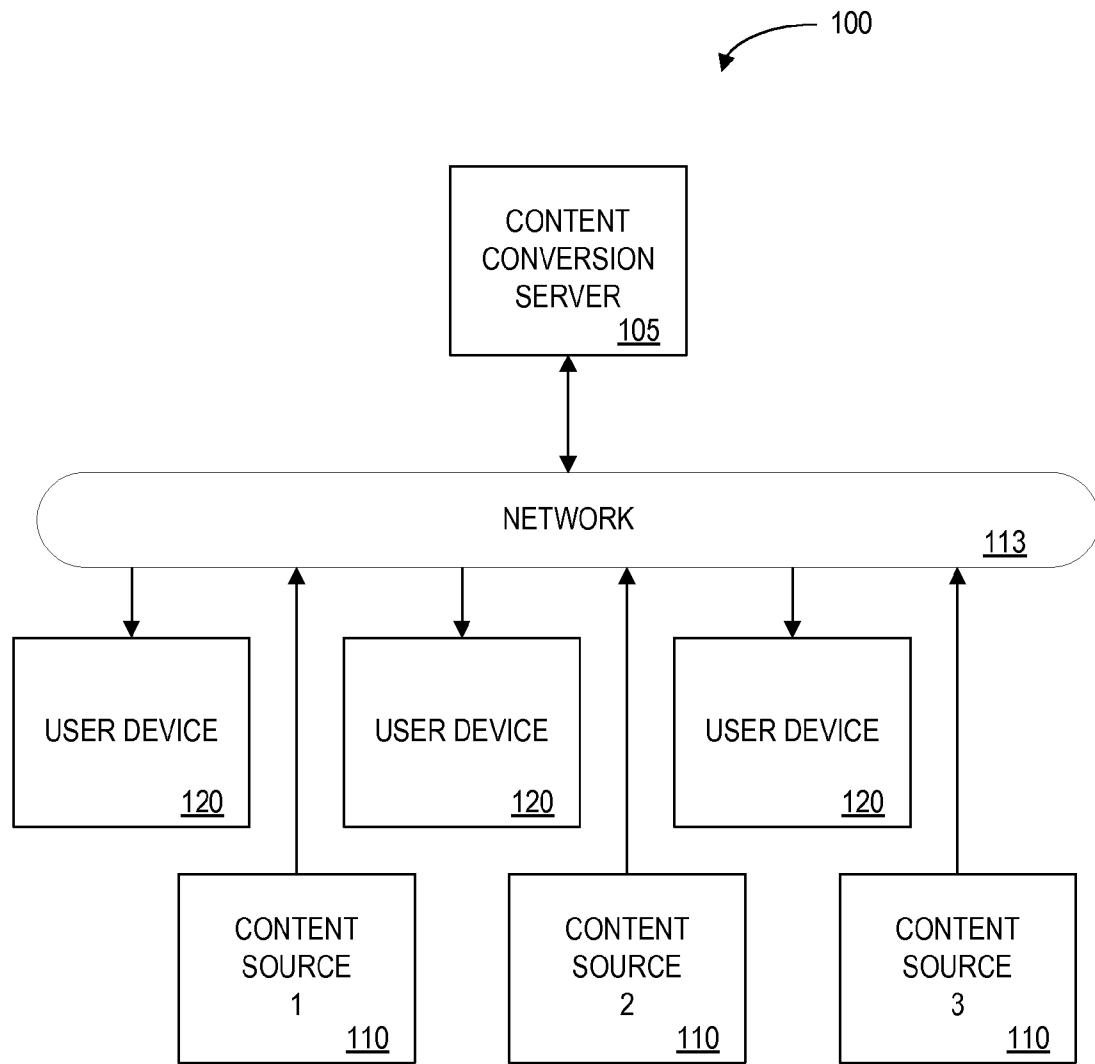


FIG. 1

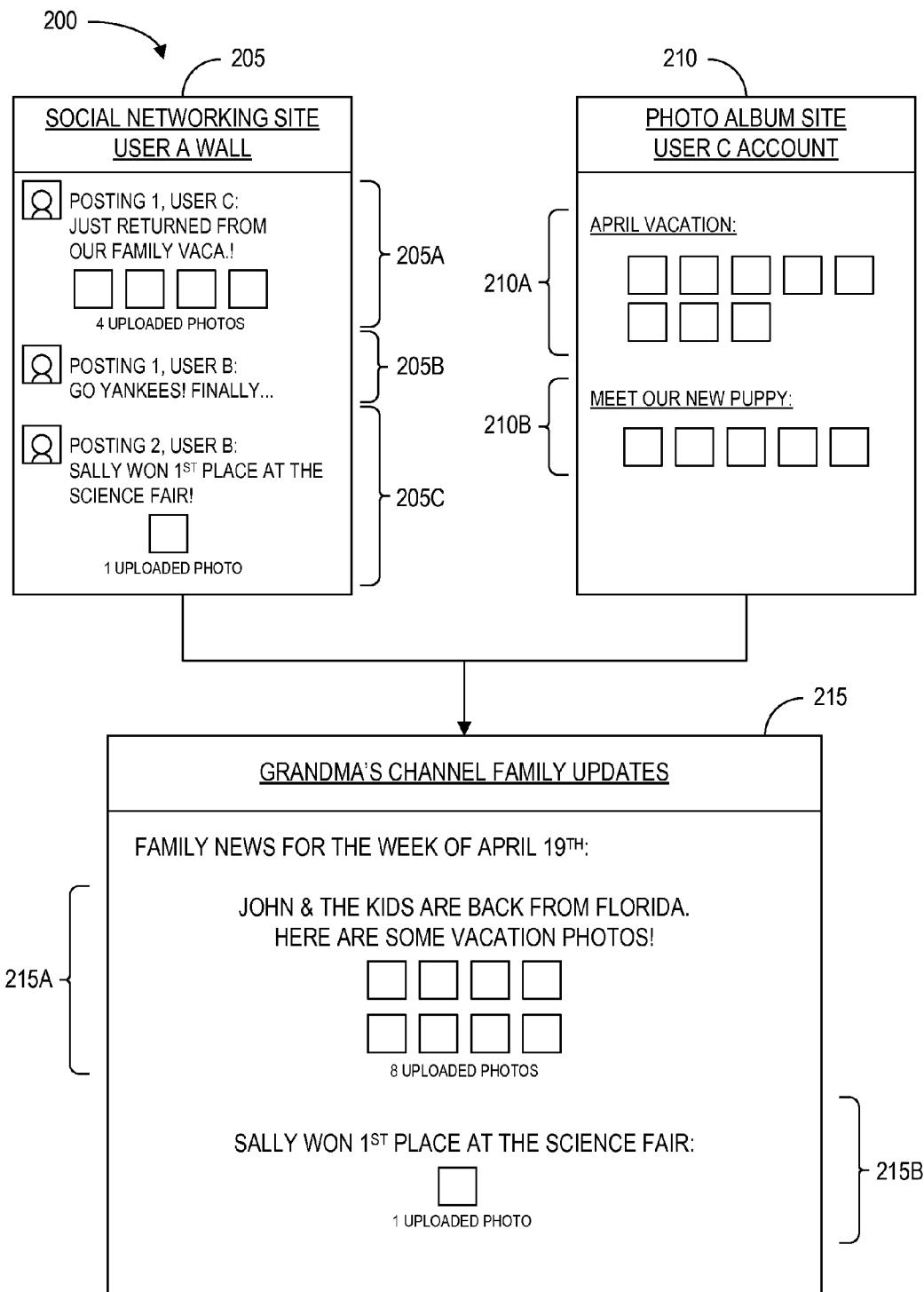


FIG. 2

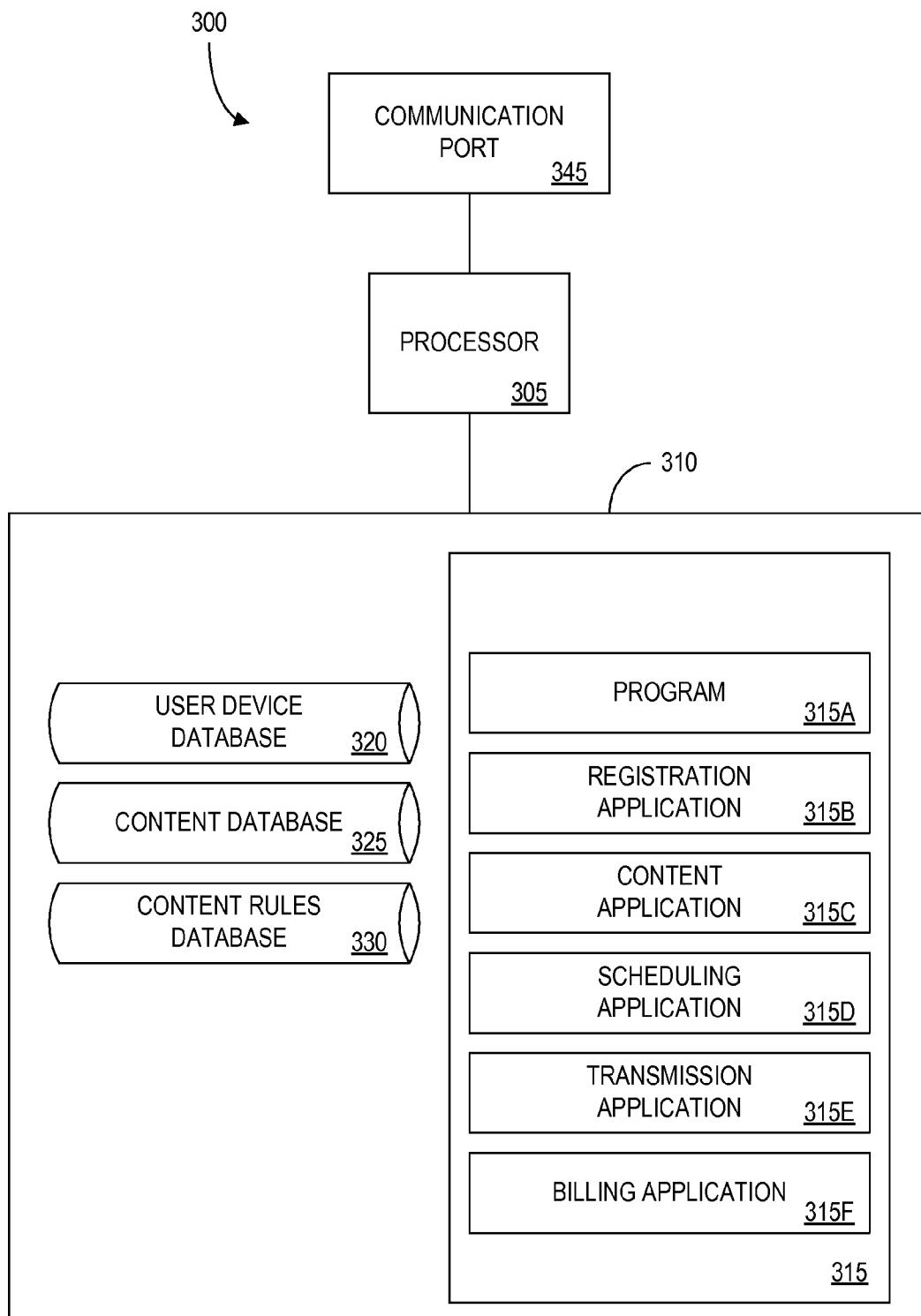


FIG. 3

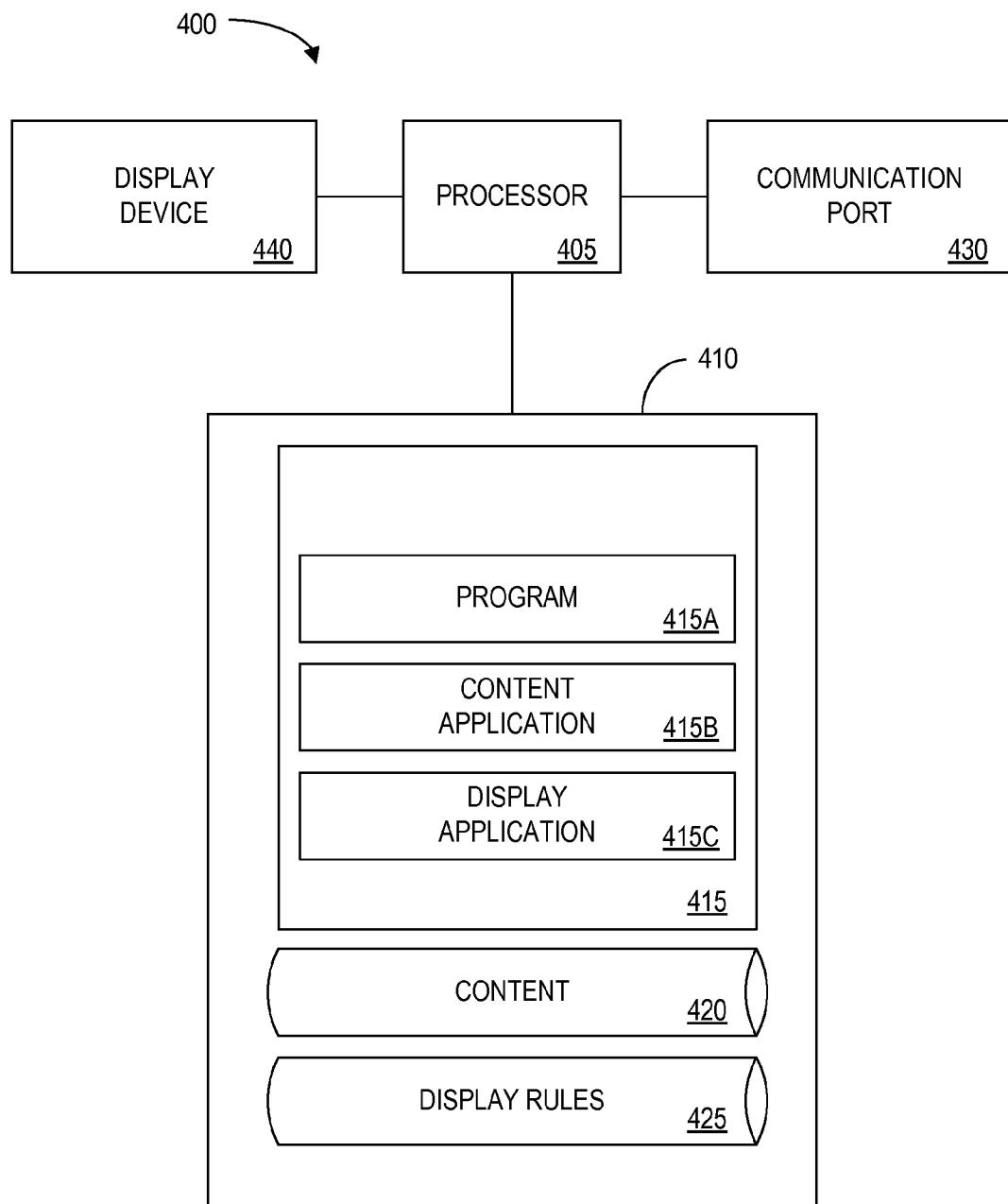


FIG. 4

500A

USER DEVICE ID: UD002-34912-221.3														
VIEWING USER ID: JOHN SMITH 421				<u>502A</u>										
CONTACT INFORMATION: BARBARA.SMITH@MAIL.COM				<u>504A</u>										
MINIMUM CONTENT: 5 PHOTOS PER WEEEK				<u>506A</u>										
SCHEDULE: 2 NEW CONTENT EVENTS PER WEEK				<u>508A</u>										
<table border="1"><thead><tr><th>SELECTED SOURCE</th><th>STATS</th><th>CONTENT RULE(S)</th><th>STATUS</th><th>SOURCE ID</th></tr></thead><tbody><tr><td>512A</td><td>514A</td><td>516A</td><td>518A</td><td>520A</td></tr></tbody></table>					SELECTED SOURCE	STATS	CONTENT RULE(S)	STATUS	SOURCE ID	512A	514A	516A	518A	520A
SELECTED SOURCE	STATS	CONTENT RULE(S)	STATUS	SOURCE ID										
512A	514A	516A	518A	520A										
MYBOOK.COM LOGIN: BARBSMITH PASSWORD: *****	LAST CONTACTED 02/11/11; LAST NEW POST 02/11/11	R-12345; R-78954	APPROVED	1										
PHOTOALBUM.COM LOGIN: KATE_SMITH PASSWORD: *****	LAST CHECKED 02/11/11; LAST NEW POST 01/10/11	R-78954	APPROVED	2										
SANDY'S HOME PC 172.16.264.2 PASSWORD: *****	LAST CHECKED 02/11/11; LAST NEW POST 01/29/11	R-12345	APPROVED	3										
CLOUDSTORE.COM ACCT ID: SMITHBOY PASSWORD: *****	LAST CHECKED 02/11/11; LAST NEW POST 02/9/11	R-03456	ACCOUNT CLOSED	4										

FIG. 5A

500B

USER DEVICE ID: UD002-34912-221.3	<u>502B</u>
VIEWING USER ID: JOHN SMITH 421	<u>504B</u>
CONTENT MANAGER ID: SARAH SMITH 999	<u>506B</u>
MINIMUM CONTENT: 1 NEW CONTENT PER WEEK	<u>508B</u>
SCHEDULE: UPDATE SUNDAY 12AM	<u>510B</u>
SELECTED SOURCE	SOURCE ID
<u>512B</u>	<u>514B</u>
MYBOOK.COM LOGIN: BARBSMITH PASSWORD: *****	1
PHOTOALBUM.COM LOGIN: KATE_SMITH PASSWORD: *****	2
CLOUDSTORE.COM ACCT ID: SMITHBOY PASSWORD: *****	3

FIG. 5B

500C

USER DEVICE ID: UD-002-34912-221.3

502C

SOURCE ID	SOURCE NICKNAME	SOURCE RELATION	ASSOCIATED PERSON(S)	SOURCE LOCATION
<u>504C</u>	<u>506C</u>	<u>508C</u>	<u>510C</u>	<u>512C</u>
1	BARB	DAUGHTER	MOLLY - BARB'S DAUGHTER	SMALLVILLE, CT USA
			JOE - BARB'S HUSBAND	
2	KATIE	GRAND-DAUGHTER	JILL - KATIE'S SISTER	BIG CITY, CA USA
			JANE - KATIE'S MOM	
			SAM - KATIE'S BOYFRIEND	
3	SANDY	NIECE	ANDY - NIECE'S SON	BIG CITY, CANADA
			MARY - NIECE'S DAUGHTER	
			TOM - NIECE'S HUSBAND	

FIG. 5C



RULE ID	RULE DESCRIPTION
<u>602</u>	<u>604</u>
R-12345	ALL PHOTOS IN .JPG FORMAT
R-03456	ALL CONTENT
R-78954	LINKS TO ARTICLES, WEBSITES, ETC. (SHOW CONTENT OF LINK)
R-52341	COMMENTS FROM OTHER USERS
R-37123	VIDEOS
R-89541	AUDIO FILES (E.G. RIFF .WAV FILES)
R-10345	TEXT-BASED MESSAGES
R-91432	LOCATION INFORMATION

FIG. 6



CONTENT IDENTIFIER <u>702</u>	SPECIAL INSTRUCTIONS <u>704</u>	STATUS <u>706</u>
6C221.3-8910375	N/A	REEPLACED 2/25/11 TRANSMITTED 2/15/11
6C221.3-8910376	N/A	REPLACED 2/25/11 TRANSMITTED 2/15/11
6C221.3-8910377	PERPETUAL	ACTIVE TRANSMITTED 2/18/11
6C221.3-8910378	SEND HARDCOPY	REPLACED 2/26/11 TRANSMITTED 2/16/11
6C221.3-8910379	N/A	ACTIVE TRANSMITTED 2/16/11
6C221.3-8910380	N/A	PENDING APPROVAL

FIG. 7

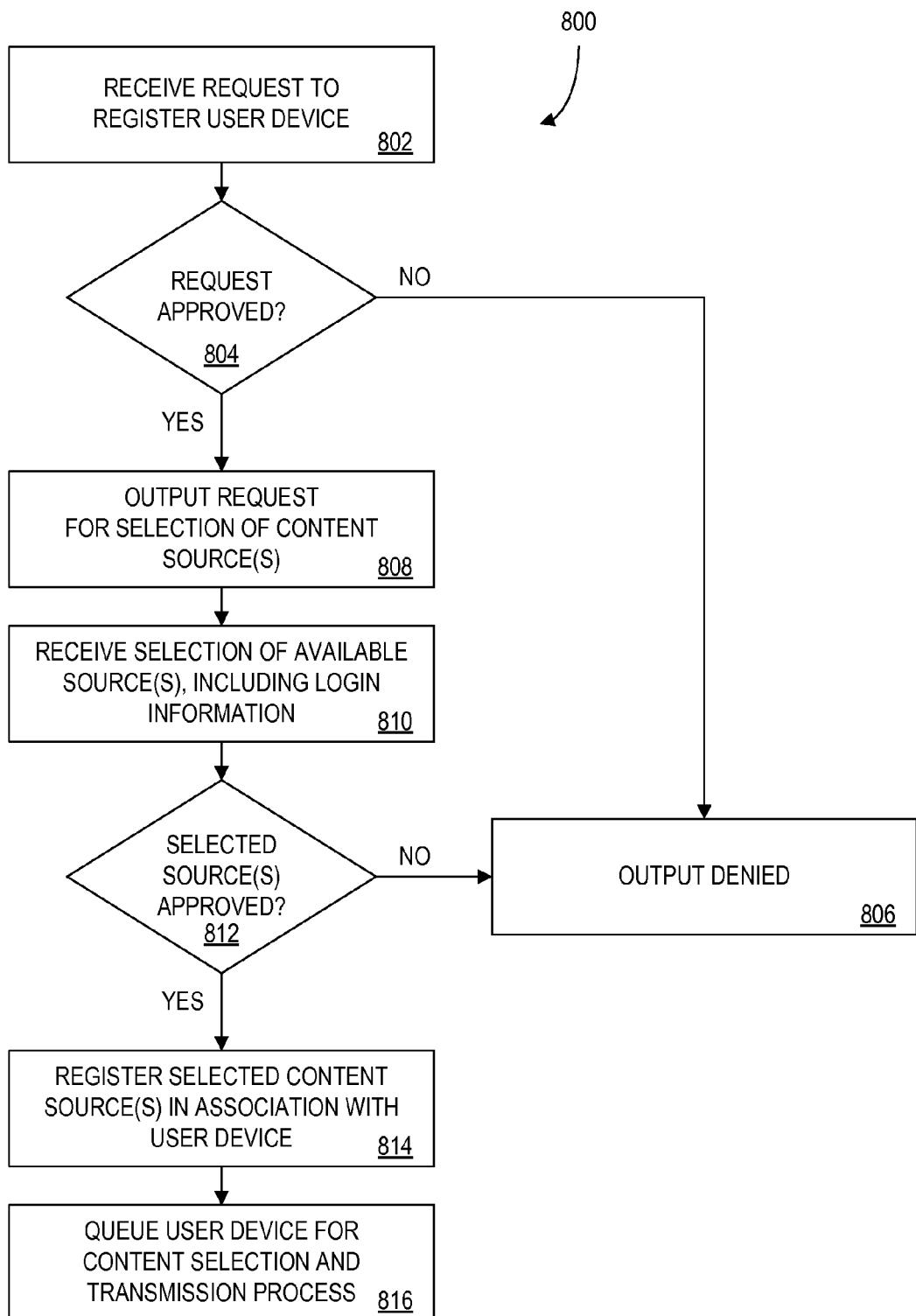


FIG. 8

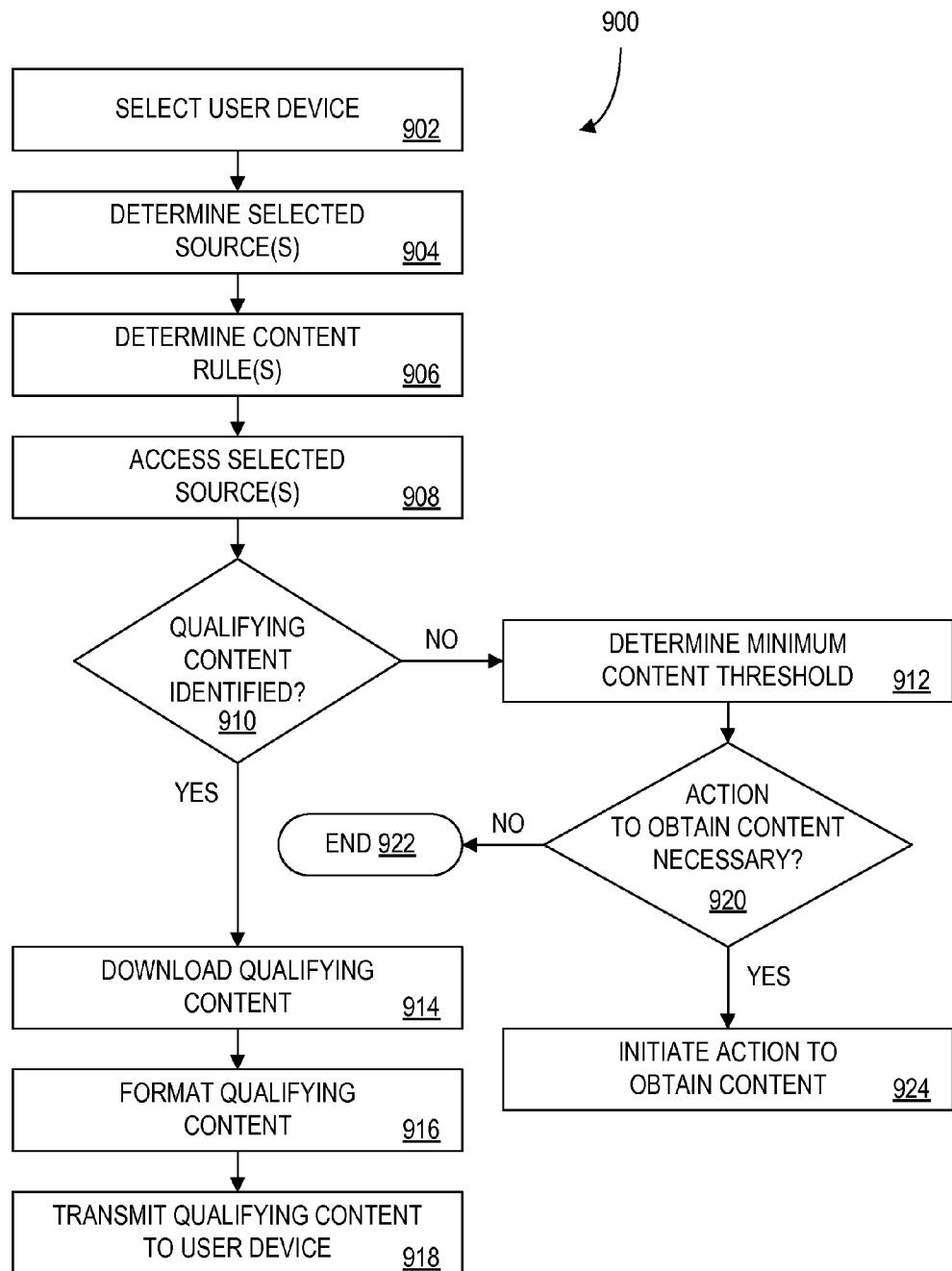


FIG. 9

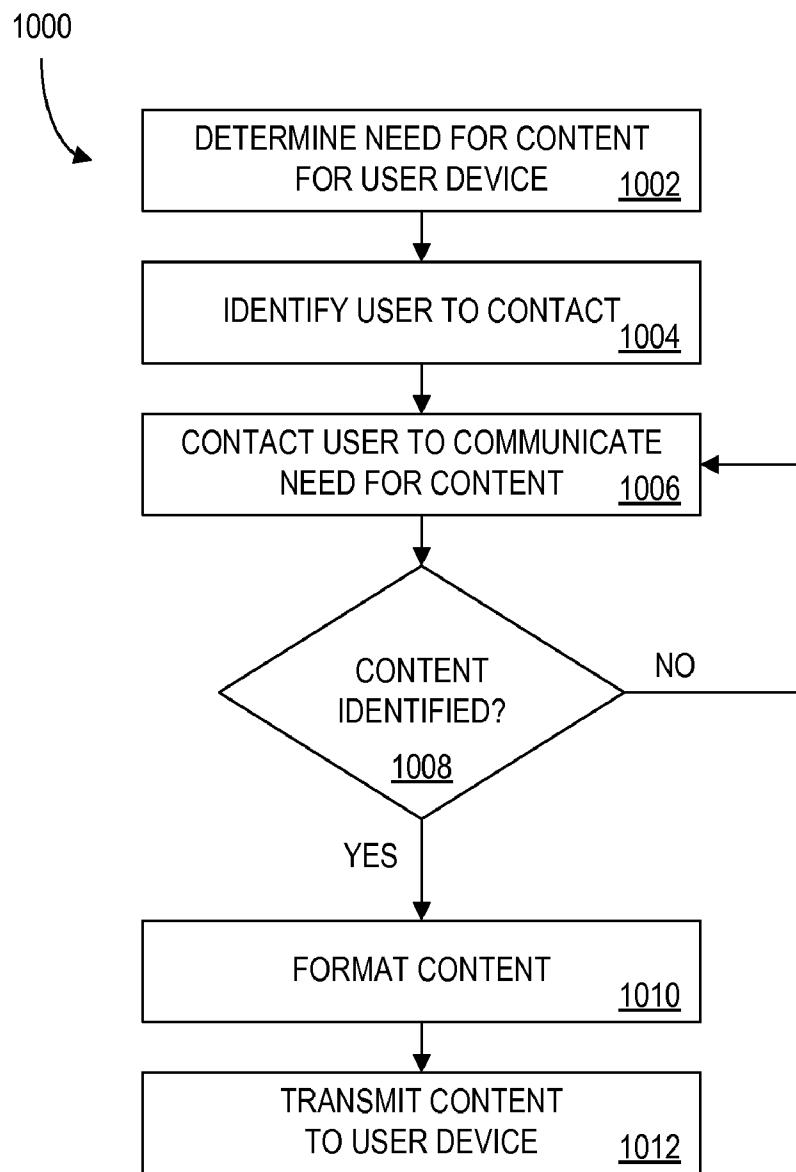


FIG. 10

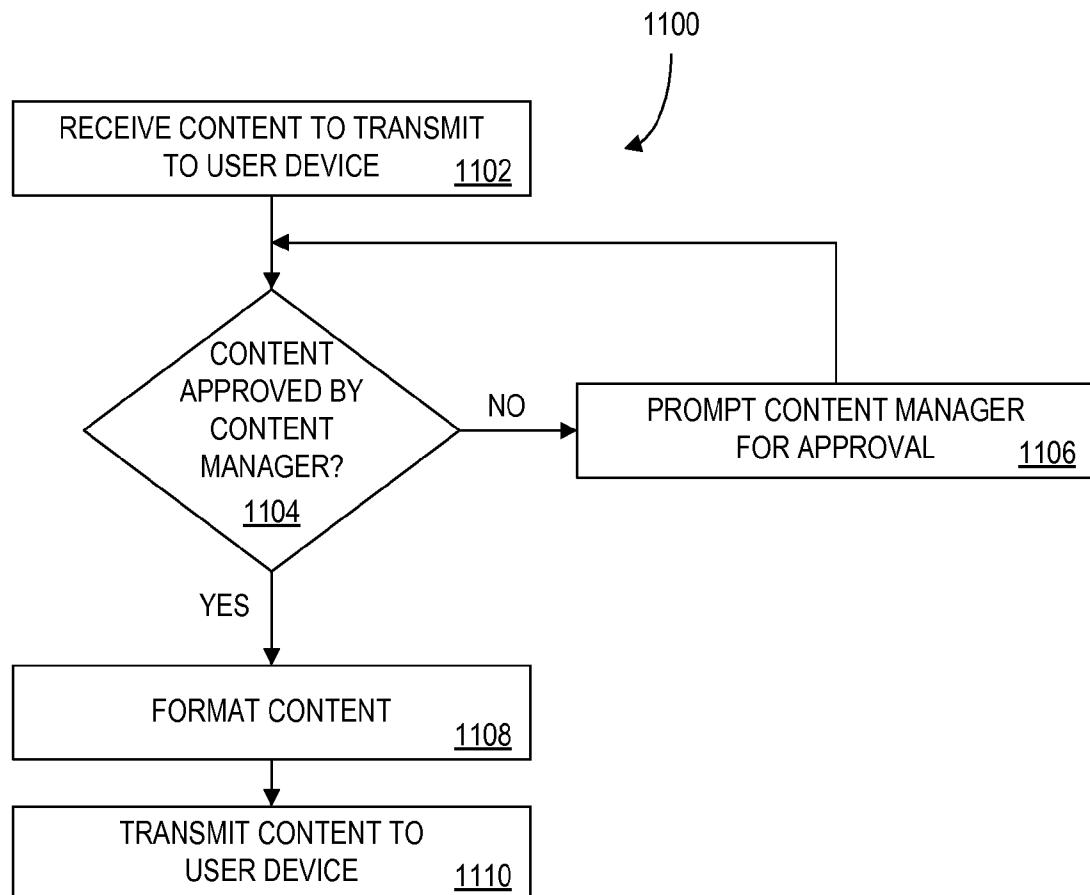


FIG. 11

SYSTEMS AND METHODS FOR FACILITATING TRANSMISSION OF CONTENT FROM A SOURCE TO A USER DEVICE

[0001] The present application claims benefit and priority under 35 U.S.C. §119(e) to (i) U.S. Provisional Patent Application Ser. No. 61/327,675, filed on Apr. 24, 2010, and titled “SYSTEMS AND METHODS FOR FACILITATING USE OF TECHNOLOGY”, (ii) U.S. Provisional Patent Application Ser. No. 61/350,709, filed on Jun. 2, 2010, and titled “SYSTEMS AND METHODS FOR FACILITATING USE OF TECHNOLOGY”, and (iii) U.S. Provisional Patent Application Ser. No. 61/390,703, filed on Oct. 7, 2010, and titled “SYSTEMS AND METHODS FOR FACILITATING USE OF TECHNOLOGY”. Each of the above-referenced applications is hereby incorporated by reference herein.

BRIEF DESCRIPTION OF THE DRAWINGS

[0002] The foregoing and other features, aspects and advantages of the invention are described in detail below with reference to the drawings of various embodiments, which are intended to illustrate and not to limit the invention. The drawings comprise the following figures in which:

[0003] FIG. 1 is a schematic diagram of an example system for facilitating transmission of content from a source to a user device, in accordance with some embodiments.

[0004] FIG. 2 is a schematic diagram illustrating how content may be pulled from multiple sources, modified by a computing device, and displayed in a combined fashion on a user device, in accordance with some embodiments.

[0005] FIG. 3 is a block diagram of an example server device operable to facilitate transmission of content from a source to a user device, in accordance with some embodiments.

[0006] FIG. 4 is a block diagram of an example user device, in accordance with some embodiments.

[0007] FIG. 5A is an example record of a user device database, in accordance with some embodiments.

[0008] FIG. 5B is an example record of a user device database, in accordance with some embodiments.

[0009] FIG. 5C is an example record of a user device database, in accordance with some embodiments.

[0010] FIG. 6 is an example table of a content rule database, in accordance with some embodiments.

[0011] FIG. 7 is an example record of a content database, in accordance with some embodiments.

[0012] FIG. 8 is flowchart illustrating an example process that may be performed, in accordance with some embodiments.

[0013] FIG. 9 is a flowchart illustrating an example process that may be performed, in accordance with some embodiments.

[0014] FIG. 10 is a flowchart illustrating an example process that may be performed, in accordance with some embodiments.

[0015] FIG. 11 is a flowchart illustrating an example process that may be performed, in accordance with some embodiments.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0016] Certain aspects, advantages, and novel features of various embodiments are described herein. It is to be under-

stood that not necessarily all such advantages may be achieved in accordance with any particular embodiment. Thus, for example, those skilled in the art will recognize that an embodiment or aspect of an embodiment may be embodied or carried out in a manner that achieves one advantage or group of advantages as taught herein without necessarily achieving other advantages as may be taught or suggested herein.

[0017] Although several embodiments, examples and illustrations are disclosed below, it will be understood by those of ordinary skill in the art that the invention(s) described herein extend(s) beyond the specifically disclosed embodiments, examples and illustrations and includes other uses of the invention(s) and obvious modifications and equivalents thereof. Embodiments of the invention(s) are described with reference to the accompanying figures, wherein like numerals refer to like elements throughout. The terminology used in the description presented herein is not intended to be interpreted in any limited or restrictive manner simply because it is being used in conjunction with a detailed description of certain specific embodiments of the invention(s). In addition, embodiments of the invention(s) can comprise several novel features and it is possible that no single feature is solely responsible for its desirable attributes or is essential to practicing the invention(s) herein described.

[0018] Applicants have recognized that the availability tools and resources which allow an individual to keep up with the news and happenings of friends, family, colleagues, businesses and organizations and use of various social networking sites has become overwhelming. For example, an individual may have an account at multiple social or professional networking sites (e.g., FACEBOOK, MYSPACE, LINKEDIN, FRIENDSTER, FOURSQUARE), track postings at multiple blogs or other sites (e.g., TWITTER) and/or have friends, family or colleagues who upload and share photos via various photography storage sites (e.g., FLICKR, SHUTTERFLY, OFOTO). Keeping up with the updates to each of such sites can turn into a time-consuming task. To further complicate the situation, many individuals who would like to more actively keep up with the updates to the many social networking, blog, photo and/or other sites or sources of content may have little or no interest in some types of the content being posted on such sources. For example, individuals may not be interested in the constant location updates some users of social networking sites engage in (e.g., “Bob has just checked in at the local pizza place, Bob has now checked in at the movie theater, Bob has not checked in at the local gas station, etc.”), comments made by other users on a particular user’s posting, or links to articles or other websites that someone may have posted. While some tools are available for merging the different streams of content from multiple sources (e.g., the TAPTU and FRIENDS apps available for download by users), such tools merely merge the content from the selected sources and thus create an even more overwhelming stream of data, without providing any meaningful controls or filters that a user may utilize to control the data from the sources that is output to the user.

[0019] Applicants have further recognized that there is a significant portion of the population who is not well versed in using electronic communication channels and resources such as the ones discussed above and is thus left out of the loop when it comes to the happenings of their friends and family. For example, elderly individuals such as grandparents may not have the interest and/or ability to set up and/or monitor

accounts with online sources of content yet remain very interested in knowing what their family and friends are up to and receiving updates and photos from them. Unfortunately, much of the younger generation is so busy and relies so heavily on utilizing their online source of choice to post updates about their life (e.g., posting updates and photos on FACEBOOK, posting photos on digital photography storage sites such as SHUTTERFLY) that they often do not recognize (or have the time to provide updates via additional methodologies) that their elderly family members or friends do not have the benefit of being able to keep up with their goings on via the online updates. While some tools exist (e.g., digital photo frames, such as ones made available by CEIVA) for providing digital photos and other information to persons who are not monitoring their family's online activities, such tools rely on the family members remembering to take the time to pro-actively post content to the digital photo frame in addition to their regular routine of posting to the social networking site.

[0020] Thus, Applicants have recognized a need for a resource which provides an individual an ability to monitor content on one or more online sources (e.g., a specified account of a social networking site, a digital photography storage site, a blog, a cloud storage system (e.g., DROPBOX) in a manner that (i) allows for control and filtering of the content that is posted to such sources such that only the types of content that is of interest is transmitted to the individual; (ii) is relatively seamless and automated to the individual who will be viewing the content; (iii) is relatively seamless and automated to users who post the content (such that the users posting the content are not relied upon to remember to pro-actively forward the content to the individual who will be viewing the content); and/or (iv) provides a rules-based system via which a central controller can monitor, select and transmit content from multiple online sources to a user device.

[0021] Thus, some embodiments described herein comprise methods, systems and articles of manufacture which provide for (i) registering a user device operable to receive, over a network, content from one or more available sources, thereby determining a registered user device; (ii) receiving, in association with the user device, a selection of one or more of the one or more available sources, thereby determining one or more selected sources; (iii) receiving, in association with the user device, an indication of at least one content rule for use in determining which content available via the one or more selected sources is to be transmitted to the user device, thereby determining at least one selected content rule; (iv) monitoring content posted on the one or more selected sources; (v) selecting, based on the at least one selected content rule and the monitoring, content to transmit to the registered user device, thereby determining selected content; and (vi) transmitting the selected content to the registered user device.

[0022] In accordance with some embodiments, one or more of these functions may be performed by a processor of a computing device operable to facilitate such functionality. The computing device may comprise, for example, one or more servers of an entity operable to facilitate the monitoring, selection and/or transmission of content from multiple sources (e.g., in accordance with a content rule selected by a user) to a registered user device. In another embodiment, the computing device may comprise the user device via which the selected content is to be viewed (e.g., an application may be

downloaded or otherwise stored on a smartphone, digital picture frame, personal computer, tablet computer or other device, which enables the computing device to perform such functions).

[0023] In accordance with some embodiments, a source of the one or more available sources comprises an account of a social networking web site or an account of a photography storage web site. Of course, other sources are contemplated. For example, a cloud storage site or service (e.g., such as the one provided by DROPBOX or AMAZON.COM's EC2 cloud storage service), a blog, a personal computer or other device with a permanent Internet Protocol (IP) address, or any other source accessible via a network may be accessed for purposes of embodiments described herein.

[0024] In some embodiments, the selected sources may comprise accounts of the user who will be viewing content transmitted to the registered user device (e.g., a user who purchases or otherwise obtains a registered user device may use embodiments described herein to more effectively and efficiently monitor (or have monitored for him/her) content posted to the one or more sources of interest to the user. In another embodiment, a first user who is the viewer of the content transmitted to the registered user device may utilize the registered user device to view content posted via accounts of friends, family and colleagues. For example, grandma may utilize the registered viewer device to view some of the content (e.g., content qualifying based on the content rule associated with the registered user device) posted to accounts of her friends and family, without having to open her own account with any of the relevant sites or services.

[0025] In accordance with some embodiments, the functionality of monitoring, selecting and transmitting content from one or more selected sources to a registered user device may be performed by a server operated by a first entity which is distinct from an entity that manufacture, sells or provides the user device to which the content is transmitted. Thus, for example, a user may register a user device sold, distributed or otherwise made available by a first company (e.g., a digital picture frame, a dedicated device with limited capabilities, a smart phone, a personal computer, etc.) with a web site or service that will monitor sources for qualifying content and transmit such content to the registered user device but who is a different company than the first company. This is beneficial in that the web site or service for monitoring the sources may be agnostic or compatible with many different types of user devices. In one embodiment, a user device may need to first download a proprietary software application of such a web site or service in order to be operable to receive transmissions of content from such a web site or service. In other embodiments, the same entity who sells, distributes or otherwise makes available the user devices described herein may also operate a web site or service for monitoring, selecting and/or transmitting content to the user device.

[0026] Applicants have recognized that in some circumstances it may be desirable to set a minimum content threshold in association with a user device. For example, a user device may become unattractive or unused to a user who desires to view content on the user device if the content transmitted to the user device is not updated with a sufficient frequency or if an insufficient amount of content is available or transmitted to the user device. For example, if grandma receives a digital picture frame for a present but there are very few pictures downloaded to it (or new pictures are not downloaded to it for months at a time), grandma may simply put the

picture frame away and cease to use it. Thus, in some embodiments, a minimum content threshold is determined (e.g., selected by a user associated with a user device, whether it be the user who is viewing the content transmitted to the user device or another user who registers and/or manages the operations of the registered user device). For example, it may be selected that at least one (1) new photo be transmitted to the registered user device per week and/or that the registered user device has stored for display at least ten (10) photos at any given time. In such embodiments, provisions may be made for ensuring that such a minimum content threshold is satisfied (or at least minimizing the likelihood that such a minimum content threshold is not satisfied). For example, in some embodiments a default content rule may be associated with a registered user device, for use in selecting and transmitting default content for the registered user device if insufficient qualifying content is identified by use of the selected content rule that is used as a first resort for determining content for the registered user device. In another embodiment, a user (e.g., friend or family member of the user who views the content transmitted to the registered user device) may be contacted and asked to provide or find content for transmission to the registered user device. In still another embodiment, a schedule of transmission may be utilized to schedule or queue content for transmission to the registered user device (e.g., if ten (10) new photos are identified for transmission to the registered user device, five (5) may be transmitted to the registered user device at a first transmission time and the next five (5) may be transmitted to the registered user device at a second transmission time).

[0027] In accordance with some embodiments, in lieu of (or in addition to) a service actively monitoring and selecting content from selected sources for transmission to a registered user device, the service may allow for a “content manager” to be associated with the user device. In such embodiments, the content manager may be a user (e.g., a friend or family member of the user who views the content transmitted to the registered user device), an employee of such a service or software. In accordance with such embodiments, described herein are methods, apparatus and articles of manufacture which provide for (i) registering a user device operable to receive, over a network, content from one or more available sources, thereby determining a registered user device (in some embodiments the registered user device is associated with a first user who is designated as a viewer of content transmitted to the registered user device); (ii) receiving, in association with the user device, a selection of one or more of the one or more available sources, thereby determining one or more selected sources; (iii) receiving, in association with the user device, information identifying a second user to serve as a content manager for the user device, the content manager being designated to identify and approve content to be transmitted to the registered user device, the content manager being a user who is distinct from the first user; (iv) receiving, by the processor and from the content manager, an indication of content selected by the content manager to be transmitted to the registered user device, thereby determining selected content; and (v) transmitting the selected content to the registered user device.

[0028] As with the previously described embodiments, any of the functionality described in the immediately preceding paragraph may be performed by a processor of a computing device. The computing device may be the user device (e.g., via a software application downloaded to or otherwise stored

on the user device) or another device (e.g., a server operated by an entity which provides a service for obtaining and transmitting content to the user device).

[0029] In some embodiments, a service for obtaining and transmitting content to the user device (or the user device itself) may receive suggested content from a third user and may seek approval from the content manager associated with the user device prior to displaying (in the case the service is the user device) the content on the user device or transmitting (in the case the service is a device distinct from the user device) the content to the user device.

[0030] A content manager may also be reminded to obtain and/or provide content for transmission to or display on the user device (e.g., in order to meet a minimum content threshold or a schedule for displaying content or transmitting content to the user device).

[0031] In accordance with some embodiments, the operator of a service which monitors, selects and/or transmits content from one or more selected sources (whether the content is selected for transmission by the service or provided and/or approved by a content manager) to a registered user device may also modify, annotate, merge, amalgamate, reformat, summarize and/or alter the content. For example, the service may merge content from multiple sources into a single news event that it summarizes. In another example, the service may provide a brief description of the content, based on information associated with who posted the content and any comments made about the content. In yet another example, the service may put the content into a periodical newsletter that also provides a written narrative of activities depicted in the content. In some embodiments, a content manager may perform any of such modifying, annotating, merging, amalgamating, reformatting, summarizing and/or altering of the content.

[0032] A brief explanation of some terms used throughout the present description is now provided in alphabetical order, to aid in the understanding of the present description:

[0033] Content: Content, as the term is used herein unless indicated otherwise, is any data, information, media, files or transmission that may be made available via a source, whether it be text-based (e.g., a text or SMS (short message system), a digital photo, a link, a message, an attachment to message, a posting (or notification of a posting) to a website (e.g., a social networking site such as FACEBOOK or MYS-PACE), a Multi-Media Message (MMS), an video file (e.g., a YOUTUBE VIDEO) or audio file (e.g., a WAV or MP3 file).

[0034] User Device: A User Device (which includes a registered User Device), as the term is used herein unless indicated otherwise, refers to a computing device operable to receive Content via a network (e.g., the Internet). In many embodiments, a User Device includes a display component for displaying content (e.g., digital photos). In some embodiments, a User Device includes a speaker for outputting audio content. In some embodiments, a User Device may be operable to send and/or receive Content over a wireless network (e.g., a radio or satellite network) and/or may be a portable or mobile device. Examples of such mobile User Devices include cellular telephones and satellite telephones, smartphones (e.g., APPLE IPHONE, BLACKBERRY PHONE, an ANDROID platform-based telephones which are capable of facilitating not only voice and text-based messages but also allow for web browsing and for running relatively complex software applications), cordless telephones, personal digital assistants (PDAs), pagers or any other device which facili-

tates display of Content. In some embodiments, a User Device may be a stationary computing device (e.g., a desktop or personal computer). In some embodiments, a User Device may be a dedicated device dedicated to receiving and outputting content to facilitate the embodiments described herein. In some embodiments, a User Device may comprise a simplified computing device with limited processing power, such as a digital picture frame, a CHUMBY device, which provides for limited Internet and radio station access, as well as serving as an alarm clock). In some embodiments, a User Device may be integrated into another system, packaging, structure or device, such as a vehicle, wearable apparel, entertainment system and/or be operable to dock or connect with a wireless enabling accessory system (e.g., a Wi-Fi docking system). In some embodiments, a User Device may be operable to synchronize with a local or remote computing system to receive, download or upload Content, download software applications and to receive and/or transmit other data.

[0035] Content Conversion Server: A Content Conversion Server, as the term is used herein unless indicated otherwise, comprises one or more computing devices operated by an entity or service for purposes of facilitating the monitoring and selection of Content on behalf of a Viewing User (defined below) and/or transmission of selected Content to a registered User Device. The Content Conversion Server may facilitate the monitoring and selection of Content from one or more selected services by actively monitoring and selecting Content based on a content rule and/or default rule associated with the registered User Device and/or by help of a designated Content Manager associated with the registered User Device. It should be noted that a Content Conversion Server may not necessarily "convert" Content in the sense that the Content is altered or reformatted in any sense. In some embodiments, it may simply forward or copy the Content in its original form.

[0036] Content Manager: A Content Manager, as the term is used herein unless indicated otherwise, comprises an entity (e.g., a user who is not a Viewing User (defined below)) associated with a registered User Device and authorized to monitor, select, obtain, provide, prompt others to provide and/or approve Content for transmission and/or display on the associated registered User Device. In some embodiments, a Content Manager may be embodied as one or more software applications for monitoring, selecting, obtaining, prompting for and/or approving Content for transmission to a User Device.

[0037] Contributing User: a Contributing User, as the term is used herein unless indicated otherwise, comprises an entity who contributes Content for the benefit of a Viewing User. For example, a Contributing User may comprise a friend or family member of a Viewing User who agrees to provide Content directly (e.g., directly to the User Device of the Viewing User and/or directly to Content Conversion Server 300, for subsequent transmission to the User Device of the Viewing User) or agrees that Content made available on a Source managed by the Contributing User (e.g., an online account of the Contributing User, such as a social networking account or a digital photography storage account) may be reviewing or monitored and selected for transmission to the User Device of the Viewing User. A Contributing User may use a User Device to contribute Content to a Source, to a User Device of a Viewing User and/or to Content Conversion Server 300.

[0038] Viewing User: A Viewing User, as the term is used herein unless indicated otherwise, refers to a user who has Content from one or more selected sources monitored and

selected on his/her behalf (e.g., by a Content Conversion Server and/or a Content Manager) and views the selected Content via a User Device.

[0039] To help highlight some benefits and uses that may be derived from embodiments described herein, provided in this section are some illustrative examples of how aspects of the invention(s) described herein may be embodied. It should be understood that no aspect of the following examples is intended to limit how aspects of the invention(s) described herein may be practiced or interpreted.

[0040] In one example, a service facilitates display of Content via a User Device, which User Device requires little to no interaction from a Viewing User. Such a User Device can thus be provided to a relatively technologically illiterate user (i.e., a user relatively unfamiliar with communication technology or online content sources and who is at times referred to as a "low-tech user" herein). The transmission of Content to, and display of Content on, such a device may be controlled by a remote device owned by another user who is more capable and/or comfortable using modem technologies and online Content sources (this latter user being at times referred to as a "high-tech user" herein). In the illustrative example, one or more high-tech users can use one or more computing devices to cause selected Content from one or more online Sources to be transmitted to the low-tech user's User Device. For instance, one high-tech user may select text (initially sent over SMS or email) to be displayed on the low-tech user's device. Similarly, another high-tech user may select recorded audio in an MMS, email, web upload, etc., to be output on the low-tech user's device. Images and or video may also be uploaded and/or sent to a low-tech user's device. In some embodiments, one or more of the high-tech users may be designated as a Content Manager for the low-tech user and thus be authorized to select/approve Content to be transmitted to the Viewing User's User Device via Content Conversion Server. In another embodiment, a Content Conversion Server may be authorized to monitor and select Content posted by the one or more high-tech users associated with the low-tech user (or with the low-tech user's User Device) on one or more selected online Sources (e.g., each high tech user may correspond to an account of an online Source which is monitored by the Content Conversion Server for Content which qualifies for transmission to the low-tech user's User Device in accordance with one or more associated Content rules).

[0041] The service described above may enable aggregation and transmission of Content comprising digital media. In one example, Content made available by one or more high-tech users (either directly to the Content Conversion Server or indirectly by being posted on a selected Source being monitored by the Content Conversion Server) is collected by the Content Conversion Server and transmitted to the associated low-tech user's User Device. In such an example, the Content Conversion Server operates as a carrier that handles Content selection and/or collection from multiple high-tech user devices and/or accounts and then transmits the Content to a low-tech user's device. In other words, high-tech users that register with the Content Conversion Server can allow Content to be transmitted to low-tech user's User Devices through the Content Conversion Server.

[0042] In another example, the Content Conversion Server may enable transmission of Content directly from a high-tech user's User Device to a low-tech user's User Device. In such an example, the Content Conversion Server may operate to register a low-tech user's User Device in association with one

or more high-tech users' User Devices and/or Accounts. The Content Conversion Server may thus handle account registration and formation and may also handle "permission" for communication from one device to another. In other words, high-tech users can send Content directly to the low-tech device; the service simply makes sure that the Content has originated from a device that is "allowed" (registered) to send Content to the low-tech user's device.

[0043] In one example, as alluded to above, the Content Conversion Server may obtain Content from one or more high-tech user accounts (it should be noted that, as the term "obtain" is used herein, it may refer to obtaining information or Content via "push" technology or "pull" technology, as desired or appropriate). In such an example, a high-tech user may register an online account and/or a website (e.g., a social networking website account, a social media account, a media storage account, a blog, a website, a web service, etc.) with the Content Conversion Server as a selected Source to be associated with a particular User Device (i.e., a Viewing User's User Device). The Content Conversion Server may then automatically and/or proactively transmit Content (e.g., Content as selected in accordance with one or more Content Rules, such that only a subset of the available Content from any given Source may be selected) from these accounts or websites to the associated Viewing User's User Device. In such an example, when a high-tech user whose account or Source is associated with a particular User Device of a Viewing User uploads or provides Content to an online account, the Content Conversion Server may operate to extract that Content (or a subset of that Content, in accordance with an associated Content rule) and transmit it to the Viewing User's User Device. In some examples, the Content may be manually sent from the 3rd party account or website to the Viewing User's User Device. For instance, a high-tech user may be required to select/confirm that he or she wants Content forwarded to a particular Viewing User's User Device.

[0044] In some embodiments, the Content Conversion Server may also add information to Content and/or reformat Content (e.g., into a template) before transmitting it to Viewing User's User Device. For instance, if a high-tech user uploads a digital photo to an account being monitored by the Content Conversion Server, information stored in association with either the high-tech user's profile or the Viewing User's profile may be added, such as the user's name, the user's home address, the user's profile picture, the user's signature, etc. In such an example, an image for output may be prepared that places the user's profile picture and name next to the digital photo that was uploaded to the monitored account.

[0045] Thus, as should be now clear, an elderly person comprising a Viewing User who has no technology or online Source knowhow can benefit from the services provided via a Content Conversion Server by being provided with an ability to have Content of multiple Sources monitored on his/her behalf, Content that is of particular interest selected for his/her viewing, and having that selected Content transmitted to their User Device, all with little or no input or activity on behalf of the Viewing User. In some embodiments in which the Viewing User's User Device consists of a simple computing device which can be controlled remotely (e.g., by a Content Conversion Server or another user), the Viewing User may simply need to turn on the simple User Device and view the Content selected on his/her behalf. One analogy might

relate such a User Device to a TV that plays one station and is always on; all Grandma has to do is watch what is pushed to her.

[0046] Referring now to FIG. 1, illustrated therein is an example system 100 consistent with one or more embodiments. The system 100 comprises a Content Conversion Server 105, a plurality of Content Sources 110 and a plurality of User Devices 120.

[0047] In some embodiments, one or more of these User Devices 120 and/or Content Sources 110 may be operable to communicate with Content Conversion Server 105 via a network 113. The network 113 may comprise, for example, a mobile network such as a cellular, satellite or pager network, the Internet, a wide area network, another network or a combination of such networks. It should be understood that although not shown in FIG. 1, other networks and devices may be in communication with any of the devices of system 100 and/or that network 113 may comprise two or more networks operable to facilitate the routing of communications and Content among the devices of system 100. For example, in one embodiment, both the Internet and a wireless cellular network may be involved in routing Content and other communications among two or more components of the system 100.

[0048] In some embodiments, additional devices that are not shown in FIG. 1 may be part of a system 100. For example, one or more servers operable to serve as wireless network gateways or routers may be part of system 100.

[0049] The Content Conversion Server 105 may comprise one or more computing devices, working in parallel or series if more than one, operable to facilitate the routing of Content or other communications to User Devices 120. A User Device 120 may comprise a computing device associated with a Viewing User (e.g., a personal computer, a cellular telephone or a smartphone), to which Content selected from one or more Content Sources 110 is transmitted via the help of Content Conversion Server 105. A Content Source may comprise an online site or account of a specified user (whether it be an account of a Viewing User or another user associated with the Viewing User) or computing device to which Content is posted, which Content is monitored and selected on behalf of a Viewing User, for transmission to a registered User Device of the Viewing User.

[0050] It should be noted that Content being "transmitted" to a User Device 105 is intended to encompass both a "push" embodiment in which Content Conversion Server 105 proactively contacts a User Device 120 in order to provide updated Content and a "pull" embodiment in which a User Device 120 contacts Content Conversion Server 105 (e.g., on a scheduled or other basis) in order to query whether any updated Content is available for transmission to the User Device 120.

[0051] In some embodiments, a Content Conversion Server 105 may be operable to remotely control a User Device 120 comprising a User Device of a Viewing User, to which User Device the Content Conversion Server is transmitting Content. For example, the Content Conversion Server 300 may be operable to provide instructions to such a User Device 120 (which instructions the User Device may store for subsequent execution and/or execute upon receipt). Such instructions may comprise, for example, instructions regarding the display or other output of Content and/or instructions regarding the storage and/or deletion of Content.

[0052] In some embodiments, a first User Device 120 may comprise a User Device of a Viewing User to which Content

Conversion Server **300** is operable to transmit Content while another User Device **120** comprise a User Device of another user associated with the Viewing User (e.g., a User Device of a friend or family member of the Viewing User), which other user may have agreed to provide Content for the Viewing User (e.g., directly, by providing the Content to the User Device of the Viewing User directly or via the Content Conversion Server **300**, or indirectly by posting Content on the one or more selected Sources). The Content Conversion Server **300** may be operable to exchange communications, including Content, with either such type of User Device. Further, in some embodiments the User Device of the non-Viewing User may be operable to communicate directly (and, in some embodiments described elsewhere herein, remotely control) the User Device of the Viewing User.

[0053] It should be understood that while any of the components **105**, **110** and **120** may transmit Content or other communications to one another via the Content Conversion Server **105**, in some embodiments some or all of the Sources **110** of system **100** may communicate with one or more User Devices **120** directly or indirectly, via a wired or wireless medium such as the Internet, LAN, WAN or Ethernet, Token Ring, or via any appropriate communications means or combination of communications means. For example, in one embodiment communication among any and all of the devices of system **100** may occur over the Internet through a Web site maintained by computer on a remote server or over an on-line data network including commercial on-line service providers, bulletin board systems and the like. In some embodiments, communication among any of the components of system **100** may occur over radio signals, cellular networks, cable network, satellite links and the like.

[0054] The system **100** may be operable to facilitate communication using known communication protocols. Possible communication protocols that may be useful in the system **100** include, but are not limited to: Ethernet (or IEEE 802.3), ATP, BLUETOOTH, SMPP Protocol (e.g., SMPP Protocol Version 3.4), HTTP, HTTPS, and Transmission Control Protocol/Internet Protocol (TCP/IP). Communications may be encrypted to ensure privacy and prevent fraud in any of a variety of ways well known in the art, some of which are described herein.

[0055] It should be understood that any or all of the devices of system **100** may in some embodiments comprise one or more of (i) an input device; (ii) an output device; (iii) an input/output device; or (iv) a combination thereof.

[0056] An input device, as the term is used herein, may be any device, element or component (or combination thereof) that is capable of receiving an input (e.g., from a user or another device). An input device may communicate with or be part of another device. Some examples of input devices include: a bar-code scanner, a magnetic stripe reader, a computer keyboard or keypad, a button (e.g., mechanical, electromechanical or "soft", as in a portion of a touch-screen), a handle, a keypad, a touch-screen, a microphone, an infrared sensor, a voice recognition module, a coin or bill acceptor, a sonic ranger, a computer port, a video camera, a motion detector, a digital camera, a network card, a universal serial bus (USB) port, a GPS receiver, a radio frequency identification (RFID) receiver, an RF receiver, a thermometer, a pressure sensor, an infrared port, and a weight scale.

[0057] An output device may comprise any device, component or element (or a combination thereof) operable to output information from any of the devices described herein.

Examples of an output device include, but are not limited to, a display (e.g., in the form of a touch screen), an audio speaker, an infra-red transmitter, a radio transmitter, an electric motor, a dispenser, an infra-red port, a Braille computer monitor, and a coin or bill dispenser.

[0058] An input/output device may comprise components capable of facilitating both input and output functions. In one example, a touch-sensitive display screen comprises an input/output device (e.g., the device outputs graphics and receives selections from an authorized person).

[0059] Referring now to FIG. 2, illustrated therein is a set **200** of screens or display interfaces intended to illustrate a use of system **100** in accordance with some embodiments described herein. The set **200** illustrates how a Content Conversion Server **105** may, in accordance with some embodiments, select Content from one or more Sources (screen **205** and screen **210** being screens showing Content available on two (2) distinct Sources for purposes of the present illustration) and transmit the selected Content (with some formatting and addition of description information) for display on a registered User Device (screen **215** being a screen of a User Device for purposes of the present illustration). It should be presumed that the two screens **205** and **210** are screens showing Content available on two (2) Sources selected as being ones the Content of which is to be monitored for selection for transmission to the associated User Device of screen **215**. The selection of the Sources, as is described in more detail elsewhere herein, may be done by the Viewing User of the registered User Device and/or another user (e.g., a friend or family member of the Viewing User who is helping the Viewing User obtain access to the Content of the selected Sources). It should further be noted, as is also described in more detail elsewhere herein, that a user associated with each selected Source (e.g., the account holder/manager of each account that comprises a selected Source) may first need to provide permission/authorization to have Content of that Source monitored, selected and transmitted to the registered User Device before such activities are initiated.

[0060] The first screen **205** is a screen displaying Content available on a first Source which comprises an account on a social networking site. In the example of screen **205**, the Content is shown as postings on a "wall", web page or account of a first user, "user A." As can be seen, and as is typical with many social networking sites, users other than the user who is the account holder corresponding to the web page (i.e., other users being users who user A has authorized to post Content to his/her wall) may post Content to user A's wall. Of course, user A may also post content to the screen **205**. In the example screen **205**, three (3) distinct postings of Content are illustrated. A first posting **205A**, "posting 1 from user C" comprises a short textual message ("Just returning from our family vaca") and four (4) associated digital photos (e.g., photos from the referred-to vacation) that user C has uploaded to the wall as part of his/her posting. A second posting **205B**, "posting 1 from user B" is simply a textual message ("Go Yankees! Finally . . .") that is unaccompanied by any photos. Finally, a third posting **205C** "posting 2 from user B" is a textual message ("Sally won 1st place at the science fair!") accompanied by a single photo (e.g., a photo depicting Sally winning a prize at the science fair). It should be noted that the screen **205** is a simplified version of all the information that may actually be available on a wall or account page of a social networking site. For example, in some embodiments additional information may be included

on such a screen (e.g., each posting may be followed by one or more comments from various users, many more postings may be included, advertisements may be depicted on the page, etc.). It should further be noted that in the example embodiment of screen 205, each posting on the screen 205 is accompanied (to the left of the posting) by a photo of the user who has provided the posting. Each posting 205A-205C may be considered distinct available Content that Content Conversion Server 105 may consider (e.g., in accordance with an associated Content rule) for transmission to an appropriate registered User Device.

[0061] Turning now to screen 210, illustrated therein is Content available on a second Source comprising an online digital photography web site, specifically on an account of user C (who is the same user C who posted posting 1 to screen 205). The available Content comprises various photo albums uploaded to the account. Specifically, a first album entitled "April Vacation" is depicted in area 210A and includes eight (8) photos and a second album entitled "Meet Our New Puppy" is depicted in area 210B and includes five (5) photos.

[0062] Turning now to screen 215, depicted therein is a display of Content obtained from Source 205 and Source 210 and transmitted for display on the corresponding User Device. The User Device in the present example is viewed by "Grandma" and may comprise a simplified or dedicated device or output mechanism, such as a cable channel that is personalized to show only the Content transmitted by Content Conversion Server 105 or a digital picture frame programmed to display the Content transmitted by Content Conversion Server 105. As illustrated by the information displayed on screen 215, and in accordance with some embodiments, not all of the Content available on the two monitored Sources depicted in screen 205 and screen 210 has been transmitted for display to the associated User Device. For example, a Content rule associated with the User Device may specify that only Content accompanied by photos is to be transmitted. In another example, a Content rule may specify that only Content posted by specified users (e.g., user A and user C for purposes of the present example) is to be transmitted to the User Device. Of course, more than one Content rule may be specified and many different example types of Content rules are contemplated and described herein. Thus, screen 215 shows Content based on posting 205A of screen 205, posting 205C of screen 205 and the first album depicted in area 210A of screen 210. The Content displayed in screen 215 does not include, however, information based on posting 205B of screen 205 or the second album depicted in area 210B of screen 210. The lack of inclusion of the latter Content may be due, for example, to some Content not meeting a Content selection rule being used to select the Content for transmission to the associated User Device and/or a scheduling issue (e.g., one or more of the Content may be stored for later transmission to User Device, as is described in more detail elsewhere herein), or another factor.

[0063] As illustrated in screen 215, and as described in more detail elsewhere herein, in some embodiments information in addition to that derived directly from Content available on one or more Sources may be transmitted to a User Device along with the Content. For example, in the present example a brief textual message that describes the eight (8) uploaded photos was generated by the Content Conversion Server 300 in area 215A of the screen to add some context to the photos being depicted. It should be noted that the portion "John and the kids" as well as "Florida" may be derived or determined

by the Content Conversion Server 300 directly or indirectly, based on information available on the Source from which Content is being selected (e.g., user C may be identified as "John" in the Source depicted in either screen 205 or screen 210) and/or based on information stored in association with the User Device. Embodiments in which Content Conversion Server 300 stores information which may be used in generating Content to include with Content selected from one or more Sources are described in more detail herein with respect to FIG. 5C. Further, content from multiple sources may be amalgamated into a single event or Content instance in some embodiments. For example, the eight (8) photos included under the description "John and the kids . . ." may include the four (4) photos included in posting 205A plus four (4) photos from the album depicted in area 210A of screen 210 (e.g., the eight (8) photos depicted in the album depicted in the album of area 210A may include the four (4) photos of posting 205A plus four (4) additional photos and the Content Conversion Server 105 may be programmed to remove duplicates when merging Content from two or more Sources).

[0064] It should be noted that the Content depicted in screen 215 is but one possible format. In some embodiments, the photos comprising the Content may be large enough to fill the entire screen and may be output as a slideshow (as but one example of a different display format). In some embodiments, the Viewing User may have different options available for viewing the Content of screen 215 (e.g., there may be a button on the User Device or a touch screen of the User Device that allows the Viewing User to enlarge, switch, or otherwise adjust the format in which Content is being viewed on the User Device). FIG. 2 is provided herein to illustrate one use of the embodiments described herein in an illustrative manner that highlights some benefits of the present invention(s), without creating any limitations on the interpretation of embodiments described herein. For example, one benefit of the embodiments described herein is to provide a low-tech user with a service (Content Conversion Server 105) that proactively monitors (whether by an appropriately programmed computing device or with the aid of a human employee) Content made available on one or more selected Sources, selects some of the Content in accordance with a Content selection rule, and transmits the selected Content to a registered User Device for enjoyment of the Viewing User, thus allowing the Viewing User to keep track of online Content being shared by family and friends without having to actively familiarize themselves with the different Content Sources or to actively monitor the Content Sources.

[0065] Referring now to FIG. 3, illustrated therein is a block diagram of a Content Conversion Server 300 (which may be one embodiment of Content Conversion Server 105 of FIG. 1). The Content Conversion Server 300 may be implemented as a system controller, a dedicated hardware circuit, an appropriately programmed general-purpose computer, or any other equivalent electronic, mechanical or electro-mechanical device. The Content Conversion Server 300 may comprise, for example, one or more server computers operable to communicate with (a) one or more User Devices 120 (FIG. 1); (b) one or more Content Sources 110 (of FIG. 1) and/or (c) one or more additional devices (e.g., gateway server, router devices or other devices for facilitating the routing or management of Content or other communications among devices over a wireless or other network). The Content Conversion Server 300 may be operable to facilitate some functions or procedures described herein, such as registering

one or more User Devices, monitoring Content on one or more Sources associated with a registered User Device, selecting Content from one or more such associated Sources, modifying such selected Content and/or transmitting such selected and/or modified Content to the registered User Device of a Viewing User on whose behalf such Sources are being monitored. The Content Conversion Server **300**, as well as other devices described herein (such as a User Device), as well as components thereof, may be implemented in terms of hardware, software or a combination of hardware and software.

[0066] The Content Conversion Server **300** comprises a processor **305**, such as one or more INTEL PENTIUM processors. The processor **305** is in communication with a communication port **345**. Communication port **345** comprises a component (which can be embodied as hardware, software and/or firmware) for communicating, directly or indirectly, with one or more other devices, such as one or more User Devices and/or one or more Content Sources. For example, a communication port **345** provides the Content Conversion Server **300** the capability of receiving Content or other communications from User Devices and/or Content Sources and routing such Content or other communications to other devices. The communication port **345** may be operable to work in various language and protocol environments, as would be understood by one of ordinary skill in the art (e.g., http, TCP/IP, SMPP). The communication port **345** may comprise, for example, an Ethernet port, a PTSN port, a wireless modem, a wireless network card, a SIM card, a USB port or a serial port. It should be understood that Content Conversion Server **300** may comprise more than one communication port **345**.

[0067] The processor **305** is further in communication with a memory **310**. The memory **310** may comprise an appropriate combination of magnetic, optical and/or semiconductor memory, and may include, for example, Random Access Memory (RAM), Read-Only Memory (ROM), a compact disc and/or a hard disk. The processor **305** and the memory **310** may each be, for example: (i) located entirely within a single computer or other device; or (ii) connected to each other by a remote communication medium, such as a serial port cable, telephone line or radio frequency transceiver. In one embodiment, the Content Conversion Server **300** may comprise one or more devices that are connected to a remote server computer for maintaining databases.

[0068] Memory **310** stores one or more software module(s) **315**, which comprise(s) one or more software module(s) for directing the processor **305** to perform certain functions. The processor **305** performs instructions of the one or more software module(s) **315**, and thereby operates in accordance with at least some of the methods described in detail herein. The software module(s) **315** may be stored in a compressed, uncompiled and/or encrypted format. The software module(s) **315** may include program elements that may be necessary, such as an operating system, a database management system and "device drivers" for allowing the processor **305** to interface with computer peripheral devices. Appropriate program elements are known to those skilled in the art, and need not be described in detail herein.

[0069] Some example software module(s) that may be stored in memory **310** include, without limitation: (i) a general Program **315A**, which may include instructions for operating the Content Conversion Server **300**; (ii) a Registration Application **315AB**, which may include instructions for a

process to register a User Device with Content Conversion Server **300**; (iii) a Content Application **315C**, which may include instructions for selecting, obtaining and/or storing Content from one or more Sources; (iv) a Scheduling Application **315D**, which may include instructions for scheduling the selection, obtainment and/or transmission of Content to a registered User Device; (v) a Transmission Application **315E**, which may include instructions for transmitting Content to a User Device and/or requests, reminders or other communications to a User Device and/or a user (e.g., a Content Manager or other user associated with a Viewing User of a Viewing Device); and (vi) a Billing Application **315F**, which includes instructions for billing one or more users (e.g., a Viewing User, a user who provides Content for transmission to a User Device) for the services provided by Content Conversion Server **300**. Each of these example software modules is described in more detail below, via a description of flow diagrams relevant to functions which may be performed by the Content Conversion Server **300**.

[0070] Any of the software module(s) **315** may be part of a single program or integrated into various programs for controlling processor **305**. Further, any of the software module(s) **315** may be stored in a compressed, uncompiled and/or encrypted format and include instructions which, when performed by the processor **305**, cause the processor **305** to operate in accordance with at least some of the methods described herein. Of course, additional or different software module(s) **301** may be included and it should be understood that the example software module(s) **315** are not necessary in any embodiments.

[0071] According to an embodiment, the instructions of any or all of the software module(s) **315** may be read into a main memory from another computer-readable medium, such as from a ROM to RAM. Execution of sequences of the instructions in the software module(s) **315** causes processor **305** to perform the process steps described herein. In alternate embodiments, hard-wired circuitry may be used in place of, or in combination with, software instructions for implementation of the processes of the present invention. Thus, embodiments of the present invention are not limited to any specific combination of hardware and software.

[0072] The memory **310** further stores a User Device Database **320**, which stores information about User Devices and/or Users registered with the Content Conversion Server **300**. Such information may include, for example, selected Sources to be monitored for Content, selected Content rules to be used in selecting Content from one or more Sources, contact information for a User and/or User Device and/or other information. Various example embodiments of a User Device Database **320** are illustrated in FIGS. 5A-5C. The memory **310** further stores a Content Database **325**, which stores information about Content selected or otherwise obtained for transmission to a registered User Device. An example embodiment of a Content Database **325** is illustrated in FIG. 6 herein. The memory **310** further stores a Content Rules Database **330**, which stores information about available rules for selecting Content from one or more Sources. A user (e.g., a Viewing User or another User Associated with the Viewing User who will be viewing selected content via the corresponding User Device) who is registering a User Device with Content Conversion Server **300** may select one or more Content Rules to be associated with the User Device. An example embodiment of a Content Rules Database **330** is illustrated in FIG. 7.

[0073] Although the databases **320** through **330** are described as being stored in a memory of Content Conversion Server **300**, in other embodiments some or all of these databases may be partially or wholly stored, in lieu of or in addition to being stored in a memory of User Device **120** and/or in a memory of one or more other devices. Such one or more other devices may comprise, for example, another computing device with which Content Conversion Server **300** is operable to communicate. Further, some or all of the data described as being stored in the memory **310** may be partially or wholly stored (in addition to or in lieu of being stored in the memory **310**) in a memory of one or more other devices. Such one or more other devices may comprise, for example, a remote storage service server (e.g., an online back-up storage server, as would be understood by one of ordinary skill in the art).

[0074] It should further be noted that although Content selected by the Content Conversion Server **300** is described herein as in some embodiments being stored in memory **310**, in other embodiments Content may be stored in cloud space owned, rented, leased or maintained by the service. Additionally, such selected Content may also be accessed remotely by a user (e.g., a Viewing User or another user helping a Viewing User obtain Content), and Content may be protected such that the user may only access the Content by inputting credentials granting access to the Content. For example, a Content Manager associated with a particular User Device may access such Content to modify it, approve it and/or forward it to a User Device.

[0075] To illustrate some example functionality of Content Server **300**, in accordance with some embodiments, once a User Device of a Viewing User on whose behalf Content is to be transmitted to the User Device is registered, Contributing Users associated with the User Device/Viewing User may send Content for the Viewing User's User Device to the Content Conversion Server (e.g., by use of their own User Device). For example, a first Contributing User may select a picture stored on that user's User Device or another Source and use communications network **113** to transmit the picture to Content Conversion Server **300**. Similarly, a second Contributing User may select a video stored on that user's User Device and use communications network **113** to transmit the video to Content conversion Server **300**. In another example, a third Contributing User may have approved a text based story posted on a Source by the Contributing User to be transmitted to the Viewing User's User Device, and subsequently it may be transmitted from the Source to the Content Conversion Server **300** via communications network **113**. Alternately, Content Conversion Server may be programmed to monitor and/or review Content made available on a first Source associated with the first Contributing Use, a second Source associated with the second Contributing User and a third Source associated with the third Contributing User and identify and select any of the available Content that qualifies for transmission to the User Device of the associated Viewing User (e.g., based on a selected and/or default Content rules associated with the User Device of the Viewing User). In such embodiments, the Content Conversion Server **300** may be programmed to download or copy any such qualifying Content to its memory storage.

[0076] When media is received by Content Conversion Server **300** (whether it is received due to being pushed to the Content Conversion Server from a Contributing User or another Source, or pulled therefrom), it may be stored in

Content Database **325**. Content Conversion Server **300** may also store additional information in association with the Content, such as an indication of a Source of the Content, one or more accounts the Content is associated with (e.g., the User Device that sent the Content, the Contributing User account associated with that User Device, the Viewing User's User Device that the Contributing User is associated with, the other Contributing Users associated with the Viewing User's User Device, Content characteristics such as length, time, file format, tags, etc.). An example embodiment of a Content database **325** is described with respect to FIG. 7 herein.

[0077] Continuing the example functions of Content Conversion Server **300**, once Content has been obtained by the Content Conversion Server **300** for transmission to a Viewing User's User Device, it may automatically be sent to that device. For example, such Content may be stored in Content Database **325** and Content Conversion Server **300** may simply determine which User Device of a Viewing User is associated with the Content, as well as any account settings, rules or instructions that may be associated with the Viewing User's User Device which indicate to the Content Conversion Server **300** how and/or when to transmit and/or output the Content. Such settings, rules or instructions may be selected, indicated or controlled by one or more of (i) the associated Viewing User; (ii) an associated Contributing User; (iii) an associated Content Manager; and (iv) Content Conversion Server **300** (or an employee or operator thereof). It should be understood that whenever a step or function is described herein as being performed by a device (e.g., Content Conversion Server **300**), it may alternately be performed by an operator of that device).

[0078] Referring now to FIG. 4, illustrated therein is a block diagram of an example embodiment **400** of a User Device (e.g., a User Device **120** of system **100**). As described herein, in some embodiments a User Device may be utilized by a Viewing User to view Content selected for the Viewing User from one or more Sources and in accordance with a Content Rule. Thus, in such embodiments a User Device **400** may be operable to (i) receive Content from Content Conversion Server **105** and/or directly from one or more Sources; and (ii) output (e.g., display) such Content to a Viewing User. Some other uses for a User Device as the term is used herein and as embodied in embodiment **400** may be to allow another user (e.g., a user who is assisting a Viewing User to obtain Content from one or more Sources) to (i) register a User Device (e.g., the User Device of the Viewing User, that is to receive selected Content, or a User Device of the other user) with a Content Conversion Server **105**; (ii) exchange communications from the Content Conversion Server **105** (e.g., reminders to review, approve, obtain, modify and/or provide Content, select one or more Content rules, select one or more Sources, etc.); (iii) exchange communications with another User Device (e.g., a User Device of a Viewing User); and/or (iv) exchange communications with or view Content available on one or more Sources. In some embodiments, User Device **400** may be utilized by a Content Manager to facilitate the transmission of Content to a User Device of a Viewing User.

[0079] Embodiment **400** is referred to herein as User Device **400**. It should be noted that some or all of the functionality described herein as being performed by Content Conversion Server **105** may in some embodiments be performed by a User Device **400** (e.g., in some embodiments, User Device may store thereon one or more of the software module(s) **315** and or databases **320-330** (and/or some or all

of the data described as being stored thereon), which may allow the User Device to perform such functions. For example, in some embodiments an entity may provide a software application (an “app”) available for download or other purchase for a User Device which would allow a Viewing User of the User Device to realize some of the benefits described herein (e.g., to have Content of one or more Sources monitored and selected in accordance with one or more Content rules, and transmitted to the User Device for viewing on the User Device).

[0080] The User Device **400** may comprise, for example, a computing device operable to receive Content via a network (e.g., via a connection to the Internet, a cable connection or otherwise) and output such Content. In some embodiments the User Device **400** may comprise a mobile or portable computing device such as a smartphone (e.g., the IPHONE manufactured by APPLE, the BLACKBERRY manufactured by RESEARCH IN MOTION, the PRE manufactured by PALM or the DROID manufactured by MOTOROLA), a Personal Digital Assistant (PDA), cellular telephone, laptop or other portable computing device. Examples of such devices include computers (such as a desktop computer, a laptop computer, a tablet computer, a server etc.), mobile phones (such as a basic phone, a smart-phone, a Personal Digital Assistant (PDA), etc.), portable game or media players, (such as a music/media player e.g., an AppleTM iPodTM or iPadTM, a Panasonic DVDTM-LS86 and/or a gaming device e.g., a SonyTM PSPTM), or the like.

[0081] In some embodiments, the User Device **400** may comprise a simplified computing device with limited functionality but which can receive Content transmitted over a network and output that Content. Examples of such devices include digital picture frames (such as the KODAK EASY SHARE wireless picture frames or ones manufactured by CEIVA), a CHUMBY device. In other embodiments, the User Device **400** may comprise a more robust computing device, such as a desktop computer, a laptop computer, a tablet computer, a server etc.

[0082] As illustrated in FIG. 4, User Device **400** comprises a processor **405**, such as one or more INTEL PENTIUM processors. The processor **405** is in communication with a communication port **430**. Communication port **430** comprises a component (which can be embodied as hardware, software and/or firmware) for communicating, directly or indirectly, with one or more other devices, such as one or more other User Devices, Content Conversion Server **105** and/or one or more Content Sources. For example, a communication port **430** provides the User Device **400** the capability of receiving Content or other communications from Content Conversion Server **105**, another User Device and/or one or more Content Sources. The communication port **430** may be operable to work in various language and protocol environments, as would be understood by one of ordinary skill in the art (e.g., http, TCP/IP, SMPP). The communication port **430** may comprise, for example, an Ethernet port, a PTSN port, a wireless modem, a wireless network card, a SIM card, a USB port or a serial port. It should be understood that User Device **400** may comprise more than one communication port **430**.

[0083] The processor **405** is further in communication with a memory **410**. The memory **410** may comprise an appropriate combination of magnetic, optical and/or semiconductor memory, and may include, for example, Random Access Memory (RAM), Read-Only Memory (ROM), a compact disc and/or a hard disk. The processor **405** and the memory

410 may each be, for example: (i) located entirely within a single computer or other device; or (ii) connected to each other by a remote communication medium, such as a serial port cable, telephone line or radio frequency transceiver. In one embodiment, the User Device **400** may comprise one or more devices that are connected to a remote server computer for maintaining databases.

[0084] Memory **410** stores one or more software module(s) **415**, which comprise(s) one or more software module(s) for directing the processor **405** to perform certain functions. The processor **405** performs instructions of the one or more software module(s) **415**, and thereby operates in accordance with at least some of the methods described in detail herein. The software module(s) **415** may be stored in a compressed, uncompiled and/or encrypted format. The software module(s) **415** may include program elements that may be necessary, such as an operating system, a database management system and “device drivers” for allowing the processor **305** to interface with computer peripheral devices. Appropriate program elements are known to those skilled in the art, and need not be described in detail herein. Some example software module(s) that may be stored in memory **410** include, without limitation: (i) a general Program **415A** for facilitating the operation of User Device **400**; (ii) a Content application **415B** for instructing the User Device to receive (e.g., actively retrieve or pull Content or passively received push Content) from a Content Conversion Server **105**, one or more Content Sources and/or another User Device), which may in some embodiments include a scheduling component for receiving Content; and (iii) a Display application **415C** which instructs the User Device as to how to Display (or otherwise output, if the Content is an audio file, for example) Content.

[0085] With respect to Content application **415B**, in one example embodiment such a software module may instruct processor **405** to retrieve digital files from an external storage device, such as a CD-ROM, an external drive, networked storage space (e.g., files on a server, in the cloud, stored on a third party computer/server) a flash drive and/or another Content Source (which in some embodiments may comprise another User Device).

[0086] As described herein, in some embodiments a software application may be made available for download or storage on a User Device **400**, which software application instructs the User Device to perform some of the functions described with respect to Content Conversion Server **300** (e.g., monitor available Content on one or more Selected Sources and select Content from such Sources for display on the User Device). In such embodiments, memory **410** may store such a software application (e.g., after it is downloaded over a wired or wireless Internet or cellular connection to the User Device).

[0087] Memory **410** may further store one or more databases or data in one or more other formats. In the example of FIG. 4, memory **410** stores (i) a Content database **420** which includes one or more files comprising Content for display on the User Device **400** and (ii) a Display Rules database **425** which stores one or more rules in accordance with which Content is to be displayed on the User Device **400**. For example, in some embodiments a user (e.g., a Viewing User or another user assisting the Viewing User) may view and select one or more of the display rules stored in Display Rules database **425** (e.g., directly via one or more input devices of User Device **400** (not shown) or remotely over a network).

[0088] Although the databases 320 and 325 are described as being stored in a memory of User Device 400, in other embodiments some or all of these databases may be partially or wholly stored, in lieu of or in addition to being stored in a memory of Content Conversion Server 105 and/or in a memory of one or more other devices. Such one or more other devices may comprise, for example, another computing device with which User Device 400 is operable to communicate. Further, some or all of the data described as being stored in the memory 410 may be partially or wholly stored (in addition to or in lieu of being stored in the memory 410) in a memory of one or more other devices. Such one or more other devices may comprise, for example, a remote storage service server (e.g., an online back-up storage server, as would be understood by one of ordinary skill in the art).

[0089] Processor 405 is further operable to communicate with a display device 400. A display device 440 may comprise, for example, a screen via which Content (e.g., digital photos) may be displayed to a Viewing User of the User Device 400. For example, the display device 440 may comprise, for example, a touchscreen, an LCD screen, a Plasma display and/or CRT display. Of course, other types of output devices may comprise User Device 400 (e.g., User Device 400 may include a speaker, a vibration device, or any other sensory output device (e.g., visual, auditory, tactile, olfactory, gustatory).

[0090] In accordance with some embodiments, a User Device 400 may be operable to receive input and/or capture media. Thus, the User Device 400 may include one or more input and/or output/input devices (not shown), which may include one or more of the following: a touch screen, a keypad, a trackball, a mouse, a keyboard, a microphone, a camera, and/or a sensor capable of collecting any of a variety of environmental changes (e.g., an accelerometer, a thermometer, a pressure sensor, a light sensor, a motion detector, etc.).

[0091] Referring now to FIGS. 5A-7, each of these figures illustrates a respective example structure and sample contents of a database that may be useful in some embodiments. The specific data and fields illustrated in FIGS. 5A-7, respectively, represents only some embodiments of the information that may be stored in such databases. The data and fields of such databases can be readily modified, for example, to include more or fewer data fields. A single database that is a combination of multiple databases, or a configuration that utilizes multiple databases for a single database illustrated herein may also be employed. Note that in the databases of FIGS. 5A-7, a different reference numeral is employed to identify each field. However, in at least one embodiment, fields that are similarly named (e.g., a User Device identifier) may store similar or the same data in a similar or in the same data format.

[0092] As will be understood by those skilled in the art, the schematic illustration and accompanying descriptions of data contained in the sample database presented herein is an exemplary arrangement for stored representations of information. Any number of other arrangements may be employed besides those suggested by the table shown. For example, the embodiments described herein could be practiced effectively using more functionally equivalent databases. Similarly, the illustrated entries of the database represent exemplary information only; those skilled in the art will understand that the number and content of the entries can be different from those illustrated herein. Further, despite the depiction of the database as a table, an object-based model could be used to store

and manipulate the data types of one or more embodiments and likewise, object methods or behaviors can be used to implement the processes of one or more embodiments.

[0093] FIG. 5A is a tabular representation 500A of an example embodiment of a record of a user device database 320 (e.g., as it may be stored in a memory 310 of a Content Conversion Server 300 and/or in a memory of another device). Tabular representation 500A is referred to herein as record 500A.

[0094] In accordance with the embodiment of FIG. 5A (as well as the embodiments of FIG. 5B and FIG. 5C, respectively), each record of a user device database 320 may define an account of a registered User. Device associated with a Viewing User for whose benefit Content is to be transmitted to the User Device. Information stored in a user device database 320 may include means of contacting the User Device in order to transmit Content to the User Device and other information useful in determining content for the subject User Device. Since a record of the user device database 320 defines a User Device of a Viewing User, the account may also be referred to as an account of a Viewing User in some embodiments. Those skilled in the art will understand that a user device database 320 may include any number of records.

[0095] The record 500A defines the following example fields (1) a user device identifier 502A which uniquely identifies a particular User Device registered with the Content Conversion Server 300; (ii) a Viewing User Identifier 504A which identifies a Viewing User associated with the User Device (this may or may not comprise contact information (such as an e-mail or postal address or a telephone number, for enabling the Viewing User to be contacted via a mechanism other than the User Device); (iii) Contact Information 506A for contacting a user regarding the User Device (this may be contact information for the Viewing User (in which case this field may be redundant with field 504A in some embodiments) or another user (e.g., a friend or family member of the Viewing User who is helping the Viewing User obtain access to Content from selected Source but who is not the Viewing User); (iv) a minimum content indication 508A which indicates a minimum content threshold (e.g., minimum amount and/or frequency of content to be transmitted to the User Device within each predetermined unit of time) associated with the User Device of the record; (v) a schedule 510A which indicates some scheduling rule or guideline for use in transmitting Content to the User Device; (vi) a Selected Source(s) 512A which indicates an account which may store available Content (including login credentials for accessing such Content); (vii) a stats (statistics) field 514 which stores some data or statistics associated with a given Source; (viii) a Content rule(s) 516 which indicates one or more Content rules for selecting Content from the associated Source; (ix) a Status 518A which indicates a current status of an associated Source; and (x) Source identifier 520A which stores an identifier or index assigned to a given source, which may enable additional information for that source to be stored and accessed in a different table, record or database.

[0096] With respect to field 502A, the user device identifier, it should be noted that this user device identifier may comprise (i) a unique account identifier identifying the account of the registered user device; (ii) contact information for contacting the user device (e.g., an e-mail address, cellular telephone number, URL, static IP address, etc.); and/or a unique identifier otherwise associated with the user device. While only a single field 502A is illustrated as a mechanism for

storing such information, this is done for purposes of brevity and it should be understood that in some embodiments such information may be stored in distinct fields and take distinct forms/formats. For example, in one embodiment a first field may be preferred for storing a unique account identifier associated with a registered user device but which does not comprise contact information for enabling contact with the user device while a second field may be preferred for storing distinct contact information (e.g., an e-mail address, cellular telephone number, static IP address, URL, etc.).

[0097] With respect to minimum content field 508A, Applicants have recognized that at times a device such as a digital picture frame may become unused or underappreciated if it is not provided with fresh content on a regular or consistent basis. Thus, in an effort to alleviate this problem, provided herein is a mechanism for setting a minimum content threshold or indicator for a User Device. The minimum content threshold may comprise, for example, a minimum amount of new Content to be provided to a User Device per predetermined unit of time, a minimum amount of Content to be stored and/or displayed one User Device per predetermined unit of time and/or a minimum number of times new Content is to be transmitted to a User Device per predetermined unit of time. In some embodiments a user may be presented with a menu of available minimum content threshold from which to make a selection while in other embodiments a user may be provided with an opportunity to input a customized minimum content threshold.

[0098] A minimum content indication may be selected by a user who is registering a User Device (e.g., a Viewing User or another user who is aiding a Viewing User) at the time of registration or another time. In some embodiments, one or more events may be triggered if a minimum content threshold is not met or it appears that the minimum content threshold may not be met based on a current status of Content. For example, a user associated with the User Device (e.g., a Content Manager or a user associated with a selected Source of the User Device) may be contacted and reminder or prompted to provide Content for the User Device. This may be the case in embodiments in which the reason for the minimum Content threshold not being met or being in danger of not being met is due to insufficient Content having been available on the one or more selected Sources during the relevant time frame. If, on the other hand, the reason for the minimum Content threshold not being met or being in danger of not being met is due to the Content Conversion Server 300 or another entity responsible for monitoring available Content available on the one or more selected Sources and selecting Content for transmission to the User Device failing to sufficiently perform such monitoring and selecting, then the event triggered may be a review of the Content available on such one or more Sources (in the case of the Content Conversion Server being responsible for such selection) or a reminder being sent to the responsible other entity to perform such review and selection.

[0099] Determining whether a minimum content threshold of a User Device has been met or is likely to be met may comprise referring to a data set of Content transmitted to the User Device. For example, in some embodiments a log of transmissions to a User Device may be stored, which log may indicate the time and Content of each transmission. For example, such a log may store the date and time of a transmission and an indication of the Content transmitted (e.g., the number of pictures or words transmitted, the size of the file

transmitted, etc.)). Thus, the Content Conversion Server 300 may consult such a log and compare the data stored therein to the relevant minimum content threshold in order to determine whether the minimum content threshold has been met (or is likely to be met) for a particular time frame. For example, if the minimum content threshold is five (5) photos per week to be transmitted to the User Device and the log indicates that only one (1) photo has been transmitted thus far this week and this is the last day of the week, it may be determined that the minimum content threshold is not likely to be met. In some embodiments, Content Conversion Server 300 may be programmed to perform such a determination on a periodic, random or other basis for each registered User Device.

[0100] Referring now to schedule field 510A, in accordance with some embodiments a schedule of Content may be associated with a User Device. For example, a schedule in accordance with which to transmit new Content to a User Device may be stored in association with the User Device. Such a schedule may be selected or indicated by a user associated with the User Device (e.g., a Viewing User or another user aiding the Viewing User, such as a Content Manager) or may be created by the Content Conversion Server 300 (e.g., based on a minimum Content threshold associated with the User Device). The schedule may be a schedule in accordance with which Content is transmitted to the User Device. Thus, for example, once Content is selected from available Content on one or more selected Sources in accordance with a Content rule, the Content may not necessarily be immediately transmitted to the User Device. Rather, the selected Content may be stored (e.g., temporarily stored) in a memory of the Content Conversion Server 300 and transmitted to the User Device in accordance with the schedule. Thus, the selected Content may be “doled out” over a plurality of transmissions even if it was obtained prior to a first transmission of the plurality of transmissions. This may be beneficial in that the User Device is more likely to be “freshened up” with new Content on a regular basis even if no new Content becomes available on the selected Sources over some period of time. In some embodiments, the schedule 510A may refer to a schedule in accordance with which (i) selected Sources are reviewing for new Content that may qualify for selection based on a Content rule; and/or (ii) reminders are sent to one or more users associated with a User Device (e.g., friends or family members of the Viewing User) to provide Content (e.g., directly to the Content Conversion Server to indirectly by posting such Content to one or more of the selected Sources).

[0101] In some embodiments in which multiple users have agreed to provide Content for a User Device of a Viewing User (e.g., directly to the User Device of the Viewing User, directly to the Content Conversion Server for subsequent transmission to the User Device of the Viewing User and/or indirectly by posting the Content on a selected Source), the Content Conversion Server 300 may help ensure that sufficient new Content is obtained for the User Device of the Viewing User by creating a schedule based on which the multiple users are to provide Content for the User Device of the Viewing User. For example, the Content Conversion Server 300 may use a scheduling algorithm to schedule X number of Content events to be created by Y users over Z days. The algorithm may further designate which users are to provide Content at what time. Reminders for providing Content may then be distributed to the appropriate users in a time appropriate to the schedule. Reminders as the term is used herein may be sent out via any of a variety of communication

methods, such as SMS, email, MMS, website post, phone call, etc. In a more specific and illustrative example, the Content Conversion Server 300 may create a schedule that requires a new Content contribution from a different associated friend or family member each day, on a rotating basis. Thus, when it is a particular friend or family member's day to provide Content for the Viewing User's Viewing Device, that friend or family member may receive an automatic prompt or reminder from the Content Conversion Server 300, such as a text message, email or phone call. This is one example mechanism for ensuring that a Viewing User (e.g., grandma) gets some new Content each day.

[0102] Selected source(s) 512A comprises information on one or more Sources or online accounts that are to be monitored and/or reviewed for Content, to determine whether any of the available Content thereon qualifies (e.g., in accordance with a selected or default Content rule) for transmission to the associated User Device. In some embodiments, each Source may be associated with a user (e.g., a friend or family member of the associated Viewing User) who is an account holder of the Source account and who has agreed that Content made available on the Source may be selected for transmission to the User Device of the Viewing User. Such a user who is an account holder of a Source may be referred to as a "contributing user" herein. In some embodiments, a contributing user may agree to provide Content directly to the User Device of the Viewing User and/or to the Content Conversion Server 300 for subsequent transmission to the User Device of the Viewing User (e.g., once the Content has been approved, formatted, reviewed, etc. by Content Conversion Server 300 or a Content Manager). In such embodiments, the contributing user may be considered a Source of Content (i.e., a Source is not necessarily an online account or web site) and the selected source(s) field 512A may store contact information for such contributing user (e.g., an e-mail address for use in communicating with the contributing user).

[0103] With respect to status field 518A, it should be noted that in some embodiments a user associated with a Source (e.g., a user whose account of a web site comprises a selected Source) may first need to approve the use of Content on his/her account for selection and transmission to a registered User Device of a Viewing User prior to such functionality being enabled. Thus, for example, when a user (e.g., a Viewing User or another user aiding the Viewing User) registers a User Account and indicates or selects one or more Sources to be monitored for Content for transmission to the User Device, that indication or selection may cause Content Conversion Server 300 to contact the user associated with the indicated or selected Source and request his/her approval of the intended use of the Content of this Source. For example, the user registering the User Account and providing the indication or selection of a particular Source to be monitored may also be required to provide contact information for the administrator, owner or account holder of the account comprising the Source. The Content of such a Source may only be monitored on behalf of the Viewing User associated with the subject User Device for so long as the account holder corresponding to the Source provides and maintains his/her approval of such use of the Content. In some embodiments, upon providing his/her approval, the account holder may also be requested to provide login credentials or other information that may in some circumstances be required to access the Content available via the account.

[0104] It should be noted that a record of a User Device database 320 may include fields and/or data in addition to, or different from, that depicted in record 500A. For example, an indication of the one or more transmissions of Content transmitted to the associated User Device may be stored. In another example, an indication or copy of the Content previously transmitted to the User Device (or an indication or copy of the Content currently being displayed on the User Device) may be stored. In yet another embodiment, an available amount of memory for additional Content available on the User Device may be stored.

[0105] In some embodiments, billing information for the User Device may be stored in a record of User Device database 320 (or another database, such as a billing database (not shown)). For example, the person(s) to be billed for the services provided to the User Device by the Content Conversion Server 300 may be stored, along with information about an outstanding balance, a billing address, previously paid balances and/or an indication of a payment scheme in accordance with which billing for the User Device is to be carried out. Various embodiments for billing for the services of the Content Conversion Server 300 are described in more detail below.

[0106] Referring now to FIG. 5B, illustrated therein is a tabular representation 500B of an example embodiment of a record of a user device database 320 (e.g., as it may be stored in a memory 310 of a Content Conversion Server 300 and/or in a memory of another device). Tabular representation 500B is referred to herein as record 500B.

[0107] The record 500B defines the following example fields (i) a user device identifier 502B; (ii) a viewing user identifier 504B; (iii) a content manager identifier 506B; (iv) a minimum content indicator 508B; (v) a schedule 510B; (vi) a selected source 512; and (vii) a source identifier 510B. Fields that are names the same as fields in record 500A are intended to indicate the same type of information and will not be described again for purposes of brevity.

[0108] In accordance with some embodiments, an entity may be designated at a Content Manager for a specified User Device. The Content Manager may comprise, for example, a friend or family member of the Viewing User of the User Device (e.g., a friend or family member who purchases and registers the User Device for the Viewing User). In other embodiments, the Content Manager may comprise an employee of the Content Conversion Server 300, an employee of another associated entity, or a software module of a computing device (e.g., a software module of Content Conversion Server 300 or a software module of a User Device 400). The function(s) of the Content Manager may be to (i) review available Content on one or more Sources (e.g., in accordance with a Content rule) and select Content from such Sources for transmission to an associated User Device; (ii) otherwise obtain Content for, or obtain Content for, transmission to an associated User Device (e.g., by himself/herself posing Content on a Source, providing Content directly to Content Conversion Server, and/or prompting other users to post Content on a Source or provide Content to Content Conversion Server); (iii) select or indicate one or more Content rules for use in selecting Content; (iv) select or indicate one or more default rules for use in selecting Content (default rules may be used in certain embodiments and are explained in detail elsewhere herein); (v) approve and/or authorize specific Content for transmission to an associated User Device; (vi) provide and/or approve display and/or transmission rules

for use in transmitting Content to a User Device (e.g., a minimum content threshold, a schedule, a format for display or other output of Content, etc.); (vii) annotate, format, summarize, alter, modify and/or amalgamate Content; and/or (viii) control one or more settings of a User Device of the Viewing User for whose benefit the Content is transmitted to the User Device. A Content Manager may have different permissions and/or account settings for an account of a registered User Device than another user (even a Viewing User in some embodiments) associated with the User Device.

[0109] In one embodiment, a Content Manager may be responsible for requesting Content from other users associated with a given User Device. In such an example, the Content Conversion Server 300 may provide functionality for helping the Content Manager send reminders to one or more users associated with an account of a User Device of a Viewing User who have agreed to provide such Content. In another embodiment, a Content Manager may be responsible for approving or selecting which Content selected from a Source or otherwise obtained from such users should be forwarded to the User Device of the Viewing User. A Content Manager may also be responsible for instructing Content Conversion Server 300 on how and/or when Content should be transmitted and/or output by the associated User Device. For instance, the Content Manager may control any number of characteristics or Content transmission, such as which Content to transmit, when to transmit the Content, how frequently to send Content and how to store the Content locally on the associated User Device.

[0110] As described, in some embodiments, a Content Manager may be responsible for instructing the Content Conversion Server 300 on how Content should be output on the User Device. There may be any number of output options/settings that can be selected by the Content Manager, such as the speed of output, the frequency of output, the volume of audio output, the brightness, contrast and/or color of image output, an amount of time the Content is output, which locally stored Content to output, etc. The Content Manager may also be responsible for the order in which Content is output on the associated User Device. For example, a Content Manager may create a slideshow of pictures to be output on the associated User Device. In another example, a Content Manager may apply settings that determine the order of Content to be output, e.g., display pictures of a specific type before pictures of another type.

[0111] Referring now to FIG. 5C, illustrated therein is a tabular representation 500C of an example embodiment of a record of a user device database 320 (e.g., as it may be stored in a memory 310 of a Content Conversion Server 300 and/or in a memory of another device). Tabular representation 500C is referred to herein as record 500C. In the embodiment of record 500C, information descriptive of Sources associated with a Viewing User or a User Device of a Viewing User is stored, for purposes of enabling an entity (e.g., Content Conversion Server 300, a Content Manager, or another entity) to determine auxiliary information that may be helpful in providing context, a summary or annotations to Content to be transmitted to a User Device. For example, as illustrated in FIG. 2, in some embodiments Content Conversion Server 300 may select Content from multiple selected Sources and format the selected Content into an interface that also includes some explanation or summary text that puts context to the Content. In such embodiments, it may be helpful to the Content Conversion Server 300 to store additional information

about the selected Sources, which information can be accessed to help create such explanation or summary text. Of course, in other embodiments such additional information may be obtained via other means (e.g., by contacting a Contributing User or Viewing User for additional information, doing an online search, etc.).

[0112] The record 500C defines the following example fields (i) a user device identifier 502C; (ii) a source identifier 504C; (iii) a source nickname 506C which stores an easy-to-remember nickname for a particular source (e.g., a nickname indicative of the Contributing User associated with the Source); (iv) a Source relation indication 508C which indicates a relationship of the Contributing User who is the manager of the corresponding Source (e.g., the account holder of the social networking web site account comprising the Source) to the Viewing User; (v) an associated person(s) 510C which stores an indication of one or more persons who may be referenced in the corresponding Source or in Content made available on the corresponding Source, or who may provide Content to the corresponding Source but may not be the account holder of the corresponding Source (in the illustrative embodiment of record 500C, a relationship of the associated person to the account holder of the corresponding Source is also indicated in this field); and (vi) a Source location 512C which indicates a location in which the account holder (e.g., a residency address, a current location). Fields that are names the same as fields in record 500A and 500B are intended to indicate the same type of information and will not be described again for purposes of brevity.

[0113] As described, in some embodiments the information stored in record 500C is intended to aid an entity tasked with modifying, appending, summarizing, annotating or explaining Content obtained from one or more Sources with additional information. In other embodiments, the information stored in record 500C may be helpful in obtaining default Content based on one or more default Content rules. As described in more detail elsewhere herein, in some embodiments default Content may be obtained and transmitted to a Viewing User's User Device (e.g., if the Content selected and transmitted from one or more selected Sources in accordance with a selected Content rule is insufficient to satisfy a minimum content threshold). In such embodiments, information stored in the record 500C may be helpful in obtaining such default Content. For example, one or more of the associated person(s) indicated in field 510C may be contacted (e.g., in some embodiments contact information may be stored in association with each such person) and requested to provide Content. In another embodiment, the source location information stored in field 512C may be accessed to determine what location to obtain local news (e.g., local weather, top local stories, etc.) to provide to the Viewing User's User Device (e.g., grandma may be interested to know what the weather is like today in her grandchildren's hometown or what is on the front page of their local paper, if there is no other more personalized Content available for transmission or otherwise).

[0114] It should be noted that any of the information stored in any of the example records 500A, 500B and 500C may be updated by Content Conversion Server 300 based on information received directly from a user (e.g., a Viewing User, a Contributing User, a Content Manager, an operator or employee of Content Conversion Server 300, etc.). Similarly, any of the databases and data may be accessed by any of such users for various purposes described herein.

[0115] Referring now to FIG. 6, illustrated therein is a tabular representation 600 of an embodiment of Content rules database 330, which may be stored in a memory of Content Conversion Server 300 or another device. The Content rules database may include a plurality of records, each record defining a rule based upon which Content may be selected from one or more selected Sources for transmission to an associated User Device. Although eight (8) records are shown, it should be understood that a Content rules database 330 may include any number of records. Tabular representation 600 is referred to as Content rules database 600 herein.

[0116] The Content rules database 600 includes a plurality of fields, including: (i) a rule identifier 602 which uniquely identifies a rule; and (ii) a rule description 604 which explains the Content to be selected based on the subject rule. It should be understood that although the rules description 604 is illustrated as being in human readable form, in some embodiments such a rule may be more complex and provided in software code of an appropriate computer language, for implementation by a processor of a device tasked with selecting Content from a Source based on the rule. In some embodiments, a menu of available rules may be output to a user authorized to select a Content rule to be associated with a particular User Device. The example rules illustrated in Content rules database 600 are not intended to be limiting and are merely some examples of rules that may be useful or desirable by users of the presently described systems and methods. It should further be noted that although the rules illustrated are rules for affirmatively including or selecting Content for transmission to a User Device, in some embodiments a rule may define Content that is to be excluded from selection or transmission to a User Device. For example, Applicants envision that some Viewing Users may desire to exclude certain types of Content (e.g., current location information, comments from other users on a posting posted by a first user, etc.) from transmission to the Viewing User's Viewing Device (e.g., grandma may be very interested in a cute photo of her grandson that is posted on a social networking site by his mom, but not very interested in all the inevitable "awwww" comments by friends and family who view and comment on the photo).

[0117] Referring now to FIG. 7, illustrated therein is a tabular representation 700 of an example embodiment of a Content database 325, which may be stored in a memory of a Content Conversion Server 300 or another device. A Content database 325 may store a plurality of records, each record defining selected Content associated with a particular User Device. Tabular representation 700 is referred to as Content database 700 herein. The Content stored in Content database 700 may comprise, for example, Content that has been obtained for transmission to a particular User Device (e.g., Content that has been selected from one or more selected Sources based on a Content rule associated with the User Device and/or Content provided by a user who is not a Viewing User).

[0118] In the embodiment of FIG. 7, the data illustrated is all associated with a single registered User Device, the User Device with User Device identifier ending in the digits "221.3." It should be understood that while in some embodiments a distinct record may be stored for each registered User Device in a Content database 325, in other embodiments a Content database 325 may store Content associated with many different registered User Device (and, for example, may be searchable by the User Device identifier associated with

each Content instance). It should further be noted that in some embodiments, a particular Content instance may be associated with more than one User Device identifier (e.g., in an embodiment in which it is possible that the same Content instance be transmitted to more than one User Device). In the embodiment of FIG. 7, each Content instance is associated with a single User Device identifier (as evidenced by the Content identifier, a portion of which comprises the last four digits of the User Device identifier with which it is associated).

[0119] The Content database 700 includes a plurality of fields, including: (i) a Content identifier field 702; (ii) special instructions 704; and (iii) a status 706. With respect to the Content identifier field 702, this identifier uniquely identifies a Content instance associated with a particular User Device. This identifier may, in some embodiments, be generated by the Content Conversion Server 300 when the Content instance is received by the Content Conversion Server 300 (e.g., when the Content instance is downloaded or copied from a Source or when it is received from a user). With respect to the special instructions 704, such instructions may be provided by a user (e.g., a Viewing User or another user associated with the Viewing User, such as a user who initially provided the Content, a user helping to manage the Content of the Viewing User's User Device and/or a Content manager) and govern the storage, transmission, handling, management and/or output of the Content instance. For example, in one embodiment a Viewing User to whose User Device a particular Content instance is transmitted may enjoy the Content so much that he/she may request that a hard copy of the Content instance be provided to the Viewing User (e.g., a print of a digital photo, if the Content instance comprises a digital photo) and/or that the Content instance be permanently (or until further notice) maintained for display on the Viewing User's User Device (e.g., that it not be replaced or deleted until further notice, even if additional or new Content is transmitted to the Viewing User's User Device). With respect to the status field 706, it should be noted that the data illustrated as being stored in this field includes a date and time at which the Content was initially transmitted to the relevant User Device and a date and time at which the Content was replaced with other Content. For example, in some embodiments unless special instructions are received to keep a Content instance available for output (e.g., displayed) on a Viewing User's User Device, such Content will automatically be replaced over time (e.g., after a predetermined period of time, once memory storage on the User Device runs low, in order to make room for new Content or on another basis). If a status indicates that a Content instance is currently "active" that may mean that the Content is currently being output on a User Device.

[0120] The last record of the Content database 700 for Content identifier "6C221.3-8910380" has an associated status of "pending approval." Such a status may be appropriate in embodiments in which selected Content may need to be approved prior to being transmitted to a corresponding User Device. For example, as described herein, in some embodiments a Content Manager may need to approve Content prior to it being transmitted to a User Device. In another embodiment, it may be questionable as to whether certain Content qualifies for transmission to a User Device based on a Content rule. In such circumstances, the Content may be "tentatively" selected but may need to be approved (e.g., by an employee of an operator of the Content Conversion Server) prior to being

transmitted. In yet another example, in embodiments in which an account holder of an account comprising a Source may need to approve use of the Content for transmission to a User Device, Content may be tentatively selected from the Source prior to such approval but not transmitted to a User Device unless and until such approval is received from the account holder.

[0121] In some embodiments, the Content database **700** may be useful in determining whether a minimum content threshold has been satisfied or is likely to be satisfied for a given time frame. For example, Content Conversion Server **300** may access the data in Content database **700** to determine how much Content (or how many Content instances) have been transmitted to a particular User Device in a particular time frame and compare this to the minimum content threshold associated with the User Device.

[0122] It should be understood that, with respect to any of the example uses of any of the databases described above with reference to FIGS. 5A-5C, FIG. 6 and FIG. 7, such uses of the databases (and data stored therein) may be performed by any of the devices of system **100** (FIG. 1) even though such uses have mainly been described as being performed by Content Conversion Server **300**. It should further be understood that, with respect to any of the example uses of these databases, in some embodiments such uses may be performed partially or wholly by a person (e.g., a user, an employee of an operator of Content Conversion Server **300**, etc.). Thus, for example, in some embodiments an employee of an operator of Content Conversion Server **300** may be tasked with merging selected Content that had been selected from multiple Sources into an issue of a weekly newsletter to be transmitted to a User Device for enjoyment by a Viewing User. In some embodiments, such an employee may further be tasked with modifying or annotating the selected Content by, for example, providing a textual summary of the Content. Thus, the employee may derive clues, additional information or explanations to use in providing such a textual summary by viewing the Content (as selected or by going directly to the Source from which the Content had been selected), by accessing a Content database **325**, by accessing a User Device database **320**, by contacting a user to obtain information, by doing research on the Internet, or otherwise. The employee may then utilize such clues, additional information or explanations in creating the newsletter.

[0123] Referring now to FIG. 8, illustrated therein is a flowchart of a process **800** consistent with some embodiments described herein. It should be noted that process **800** (and all processes described herein, including those described with respect to FIG. 9, FIG. 10, FIG. 11 and FIG. 12) is exemplary only and should not be construed in a limiting fashion. For example, additional and/or substitute steps to those illustrated may be practiced within the scope of the present invention and in one or more embodiments one or more steps may be omitted or modified.

[0124] The process **800** comprises a registration process for registering a User Device of a Viewing User to receive the services of Content Conversion Server **300**, such that selected Content from one or more selected Sources may be obtained and transmitted to the User Device of the Viewing User. It should be noted that the registration process **800** may occur over a network (e.g., a cellular or Internet network connection), over the telephone, via postal mailings or another appropriate form of communication. Depending on how the registration process **800** is occurring, communications described with

respect thereto may be output to the entity involved in the registration process by means of a display of a computing device (e.g., a display of the User Device being registered or another computing device), via a web site, via a text message, an e-mail message, a voicemail message, a conversation over the telephone, an MMS message or otherwise. Input of information by the entity involved in the process **800** may similarly be provided by any of the above means.

[0125] A request to register a User Device is received in **802**. The request may comprise a request to register a User Device for transmission of Content, such that Content may be transmitted to the registered User Device for the benefit of a Viewing User. The request may be received from, for example, the Viewing User for whose benefit the Content is to be transmitted to the User Device, a Contributing User to be associated with the User Device, another user helping the Viewing User obtain Content for the User Device (e.g., a friend or family member of the Viewing User who may not necessarily be contributing Content to the User Device), a Content Manager, or another entity. A request to register a User Device may be received, for example, via a web site operated by or on behalf of Content Conversion Server **300**, an e-mail message, a telephone call, or otherwise. For example, in some embodiments a user may proactively go onto a designated web site, send an e-mail or make a phone call to provide the request. In some embodiments, a User Device may store instructions which cause it to make the request (e.g., a User Device may be preprogrammed with software or firmware, or have a software application downloaded to it which, when executed, cause the User Device to contact the Content Conversion Server **300** in order to register itself with the Content Conversion Server). For example, a simplified User Device (e.g., a digital picture frame operable to communicate remotely with the Content Conversion Server **300** over the Internet or a cellular connection) may be purchased with pre-stored instructions that cause it to contact the Content Conversion Server **300** and register itself the first time it is plugged into a power source and provided access to the appropriate network.

[0126] The request received in **802** may include various information (automatically or in response to one or more prompts for such information). For example, a Viewing User may be identified, one or more Contributing Users may be identified, a User Device identifier may be provided, etc. Contact information which allows any of the foregoing to be contacted (e.g., e-mail address, telephone number, static IP address) may also be provided. In some embodiments, if it is the subject User Device itself that is making the registration request, the User Device may be programmed to automatically provide contact information and/or another User Device identifier.

[0127] It is determined in **804** whether the registration request is approved. For example, it may be verified that the User Device is compatible with the services being offered by the Content Conversion Server **300**, that the User Device is not already registered, that all necessary information for completing the registration request has been received, etc. If the request is approved and a unique User Device identifier was not already received or created, such a unique User Device identifier may be generated or assigned at this point. A record may also be created in a User Device database **320** at this point in the process for the User Device approved for registration. The process **800** continues to outputting a request for selection of Content sources(s) (**806**) if the registration

request is approved. Otherwise, a denial of the registration request is output in **808** (e.g., along with an explanation of why the request was denied).

[0128] A request for a selection of Content Source(s) may comprise, for example, outputting via a menu (e.g., output via a web page on a PC or other computing device that is not the User Device or via a display of the User Device) a list of available or authorized Source(s). For example, a list of the social networking sites with which the Content Conversion Service works may be output. In such embodiments, the request for selection of content source(s) may comprise a request to input information enabling the contacting of the selected Source(s). For example, an account identifier of the Source or a means of contacting an account manager of the Source may be requested. In some embodiments, the entity registering the User Device may be requested to provide Source identifying information without being limited to a menu of preselected options.

[0129] The selection of available source(s) is received in **810**, including login information or credentials such as an account identifier and/or password which provides access to the account or device comprising the selected Source(s). Such information may be stored in the record of the User Device database corresponding to the User Device.

[0130] It is next determined whether the selected Source(s) are approved. For example, in some embodiments a request may be sent to a selected Source or account holder of the Source, asking the Source or account holder to provide permission for the Content Conversion Server to obtain Content therefrom for transmission to the associated User Device. For example, an e-mail, text, voice or MMS message may be transmitted to a Source or account holder of the Source, identifying the User Device (and/or Viewing User) who desires to have Content available on the Source monitored and reviewed for selection and transmission to the associated User Device in accordance with a Content selection rule. In such embodiments, a selected Source may not be considered approved unless and until the Source or account holder of the Source provides approval or permission for the Content to be so reviewed or monitored. In other embodiments, an approval of a Source may comprise Content Conversion Server **300** determining whether the Source otherwise qualifies for the services provided by the Content Conversion Server **300**. If the Source is not approved, a denial message is output to the entity involved in the registration process.

[0131] If it is determined in **812** that the selected source(s) have been approved, the process continues to **814** wherein the selected Source(s) is/are registered in association with the User Device being registered. For example, an indication of the selected Source(s) may be stored in the relevant record of the User Device database **320**. Additional information associated with each approved Source may also be stored, such as a Source identifier (which, in some embodiments, may be generated or assigned by Content Conversion Server **300**) and login information for accessing Content available on the approved Source.

[0132] In **816**, the User Device is added to a queue for Content selection and transmission. In accordance with some embodiments, each User Device is associated with a schedule in accordance with which Content on selected Source(s) is reviewed (or associated Contributing sources are contacted or reminded to provide Content) for selection in accordance with a Content selection rule.

[0133] Process **800** may include additional steps in some embodiments. For example, the entity involved in process **800** may be prompted to select one or more Content rules in accordance with which Content is to be selected from the one or more selected Source(s). In another embodiment, a selection of a Content rule may be prompted outside of the registration process. In some embodiments, a selection of a default Content rule may also be prompted during the registration process (or as part of another process).

[0134] In some embodiments, the registration process **800** may include obtaining billing information to associate with the User Device being registered (e.g., an indication of who should be billed for the services of Content Conversion Server **300** and a means for obtaining payment therefrom). As described with respect to FIG. 3, in some embodiments Content Conversion Server **300** may include a billing application **315F**. A billing application **315F** may comprise instructions in accordance with one or more billing mechanisms available via the Content Conversion Server **300**.

[0135] In one embodiment, the billing application **315F** may be designed to handle prepayment by payers. Prepayment amounts may be added to an account balance that is decremented by billing application **315F** each time the billable service of Content Conversion Server **300** is used or provided. When the balance gets low, another prepayment may automatically be charged, or the appropriate paying user may be required to call or to approve another prepayment. In another embodiment, billing application **315F** may track billable services used or provided, calculate an amount owed and send a bill for services rendered to the appropriate paying user.

[0136] In various embodiments, billing may occur based on a variety of rules—a first example is that they may occur as a function of time expired (e.g., monthly, quarterly) or as a function of service consumed (e.g., # of messages sent, billing amount threshold). And, of course, the system may be designed to handle prepayments and post-billing.

[0137] The billing mechanisms of Content Conversion Server **300** can be designed to support a variety of payment structures that may involve a variety of payers. In one example, the system may be designed such that the Contributing User or Source who provides Content for transmission to a User Device is responsible for paying for the transmission of Content to a registered User Device. In such an example, Contributing User may set up a billing account when they register/activate the service for a registered User Device and he or she understands that he or she is responsible for paying for Content transmitted to the registered User Device.

[0138] In another example, the system may be designed to allow (or may even require) the Viewing User who is receiving Content on his/her User Device to pay for any incoming Content transmitted to the registered User Device. In this example, the sender of Content may not be responsible for paying for Content he or she sends to a Viewing User's User Device. Such an example may be particularly useful for a Viewing User who wants to be able to receive Content from friends or family members. For instance, an elderly grandparent who cannot use a computer may find this service is a good way to keep in touch with her grandchildren. When she registers for the service (e.g., by calling a corresponding Call Center associated with Content Conversion Server **300**) she agrees to pay for Content that her grandchildren transmit to her User Device. User accounts may then be established for the grandchildren (either by the grandchildren, or by the

grandparent), each of which may then be linked to the grandparent's account. Billing application 315F may recognize this link and charge the grandparent for each Content sent to her from the grandchildren's' accounts. It should be noted that in embodiments in which a Viewing User is the payer for some Content transmitted to his/her registered User Device, it is not necessarily the case that the recipient pays for all Content so received. Indeed, the system can be designed such that a Viewing User may set up an account (or have an account set up on his/her behalf) and agree to pay for any Content that the Viewing User receives from associated/authorized Contributing Users. However, in some embodiments the system may also be designed to allow a Viewing User to pay for some Content transmitted to his/her registered User Device but not for all such transmitted Content. For instance, a Viewing User may identify a subset of Contributing Users he or she wants to pay for Content from—all other Content transmitted to the Viewing User's registered User Device may therefore be paid for by another user (e.g., the sender, a third party). Additionally, a Viewing User may agree to receive Content, but may limit the amount of Content that either he or she is willing to pay for, or that may be sent to his or her registered User Account (e.g., in a given period of time). In some embodiments, such limits may be Contributing User specific and/or Source specific as well. In one example, a limit may be placed on the amount of Content that can be transmitted from a specified Contributing User or Source. It should be noted that in referring to a Viewing User agreeing to pay for Content, it is envisioned that another user (e.g., a Content Manager, a Contributing User and/or a friend or family member of the Viewing User) may be the payer instead of the Viewing User.

[0139] In yet another embodiments, Content transmission may not be paid for by either the sender or the recipient of the Content, but rather a party other than the sender or payer (herein referred to as a third party payer) may elect to pay. For instance a set of users in the system may be linked to a single user account that is responsible for paying for the Content sent by the set of users to which the account is linked. In some examples, third party payer responsibilities may overlap with recipient payer responsibilities (and vice versa). For example, a grandfather may register for an account and agree to pay for ANY Content contributed by his grandchildren, whether to his registered User Device or another User Device. As such, when the grandchildren are the Sources of Content transmitted to the grandfather's User Device, the grandfather is a recipient payer, and when the grandchildren are the Source of Content transmitted to another User Device, the grandfather is a third party payer.

[0140] It should be understood that any and all of the above described payment structures—sender as payer, recipient as payer and third party as payer—may be combined. In one such example, a recipient may register as a payer for a first set of users that contribute Content to his registered User Device. A second set of users may also contribute Content to his registered User Device; however, each user of this second set of users may be responsible for paying for the Content they contribute. Additionally, a third set of users may be Contributing Content to the same User Device, however the Content contributed by each user of the third set of users is paid for by a third party. In such embodiments, billing application 315F may be designed such that it can recognize each one of these payment relationships and bill the appropriate party each time Content is transmitted to the registered User Device. In some embodiments, a group of users associated with a registered

User Device may pay collectively, wherein each user of the group of users puts money into a common fund that is used to pay for the group's Content that is transmitted to the User Device. It should be noted that when the concept of a user "contributing" Content to a User Device is used herein, it refers to Content that is transmitted to the User Device by means of being selected from a Source by Content Conversion Server 300, an associated Content Manager or otherwise, is provided directly by the Contributing User to the User Device or is provided directly by the Contributing User to the Content Conversion Server 300 and forwarded to the User Device.

[0141] Referring now to FIG. 9, illustrated therein is a process 900 that may be performed in accordance with some embodiments described herein. Process 900 may be performed, for example, by Content Conversion Server 300. Process 900 comprises a process for selecting Content for a specific User Device based on data associated with the User Device. As described with reference to FIG. 8, once a User Device is successfully registered, it may be placed in a queue for Content selection and transmission. Process 900 is one example of how User Devices in such a queue may be treated. It should be noted that although the term "queue" is used for illustrative purposes, it is not intended to imply that only a single registered User Device may be processed at any given time; rather, in some embodiments a plurality of User Devices may be put through the process 900 in parallel.

[0142] A registered User Device is selected for processing in 902. For example, the next registered User Device that needs fresh Content may be selected or a registered User Device may be selected based on a current time and a schedule associated with the User Device. The one or more selected Sources associated with the User Device are then determined in 904. For example, the appropriate record of a User Device database 320 may be accessed based on a User Device identifier of the selected User Device. The one or more selected Content rules associated with the User Device are then determined in 906. For example, the one or more Content rules identifiers associated with the User Device in a record of the User Device database 320 may be determined and the appropriate rules corresponding to the rule identifiers may be determined based on information stored in a Content rules database 325.

[0143] The one or more selected Sources determined in 904 are then accessed in 908. For example, if a selected Source comprises an account or page of a social networking site, a cloud storage site or a digital photography site, accessing the Sources may comprise retrieving the login credentials for the account or page (e.g., as stored in a Source database) and using the credentials to access the account or page in order to review the Content available thereon. If the selected Source comprises a User Device of a Contributing User, accessing the Source may comprise contacting (e.g., via e-mail or text message) the Contributing User or accessing content stored on the User Device remotely (e.g., also using the appropriate login credentials).

[0144] In 910 it is determined whether qualifying Content is available or identified. For example, Content may be considered qualifying Content if it satisfies the one or more Content rules determined for the User Device and a determination of what Content is newly available or posted since the last time the Source was accessed or reviewed for Content. If qualifying Content is identified, the process 900 continues to 914, wherein it is downloaded or copied to a memory of

Content Conversion Server **300**. For example, newly posted digital photos may be downloaded or copied.

[0145] It should be noted that in an alternate embodiment, a Source that is a selected Source may be instructed (e.g., upon being registered as a selected Source associated with one or more User Devices of one or more Viewing Users) to transmit to the Content Conversion Server **300** any qualifying or potentially qualifying Content (or, in some embodiments, any Content that the Contributing User associated with the Source would like to request be transmitted to the User Device). In such embodiments, rather than Content Conversion Server **300** actively accessing the selected Sources and pulling Content therefrom, the Content Conversion Server **300** may be programmed to receive and review such Content from selected Sources and store it in association with the appropriate User Device of a Viewing User (e.g., the Content may be tagged with the identifier of the User Device to which it is intended to be transmitted). Upon receiving such Content in these embodiments, the Content Conversion Server **300** may determine whether the received Content qualifies for transmission to an associated User Device (e.g., based on one or more Content rules associated with the User Device). In such embodiments, the Content that is referred to in process **900** as the downloaded or copied Content may instead be received and reviewed Content.

[0146] Returning now to process **900**, in **916** the downloaded (or received and reviewed, depending on the embodiment) Content is formatted prior to transmission to the appropriate User Device. For example, the Content Conversion Server **300** (or another device or entity, such as a Content Manager) may be operable to resize the Content, adjust the size of the file of the Content, combine the Content with other Content (e.g., into a template, newsletter, letter, etc.), provide a note, annotation, audio file, summary or explanation of the Content, modify the content, etc. Of course, in some embodiments the Content may not be formatted at all and may simply be forwarded to the appropriate User Device in its original form. The qualifying (and perhaps formatted) Content is then forwarded to the appropriate User Device for output on the User Device in accordance with one or more output settings or rules of the User Device.

[0147] If, in **910**, no qualifying Content has been identified, the process continues to **912** wherein a minimum Content threshold associated with the User Device is determined (e.g., based on information stored in a record of the User Device database **320**). It is determined in **920** whether any action is necessary to obtain Content for the User Device such that the minimum content threshold is satisfied or is likely to be satisfied for a given period of time. If not action is necessary (e.g., the minimum content threshold has been satisfied for the current period of time), the process ends (**922**). Otherwise, the process **900** continues to **924**, wherein an appropriate action is initiated to obtain additional Content for transmission to the User Device, such that the minimum content threshold is satisfied or is likely to be satisfied. Example actions that may be initiated as part of **924** are discussed in detail with respect to process **1000** of FIG. 10. It should be noted that steps **912**, **920** and **924** may, in some embodiments, be performed outside of process **900** (e.g., as a distinct process for determining whether a minimum content threshold associated with a given User Device has been satisfied or is likely to be satisfied for a given period of time) or even if qualifying Content is identified in **910**.

[0148] Referring now to FIG. 10, illustrated therein is a process **1000** that may be performed in accordance with embodiments described herein. Process **1000** may be performed, for example, by Content Conversion Server **300**. Process **1000** is one example process of how Content may be more proactively obtained for a given User Device. For example, process **1000** may be utilized if it is determined that reviewing selected Sources for newly available Content (or receiving new Content from selected Sources) is determined to be insufficient to satisfy a minimum Content threshold of associated with the User Device.

[0149] In **1002** it is determined that there is a need to obtain Content for a specified User Device. For example, such a need may be determined in step **912** of process **900**. In another embodiment, a Viewing User may transmit a request to Content Conversion Server **300** for additional Content. In yet another embodiment, process **1000** may be utilized on a periodic basis and the need may be determined based on a current time meeting a scheduled time for obtaining Content for a User Device.

[0150] In **1004** a user to be contacted in order to obtain the needed Content is identified. For example, a Contributing User associated with a User Device or a Content Manager may be identified. The contact information for the identified user (e.g., e-mail address, cellular telephone number, other telephone number, static IP address, etc. may be determined) may also be determined. The identified user is then contacted in **1006**. For example, an e-mail or text message may be sent to the user, communicating the need for Content. In an alternate embodiment, the user may be telephoned. In **1008** it is determined whether Content has been identified (e.g., provided by the identified and contacted user in response to the communication of **1006**). If Content has not been identified, the process **1000** may loop back to **1006** and the user may again be contacted with a reminder. Alternatively, another user may be identified and contacted (in some embodiments, more than one user may be identified and contacted in parallel). If Content is identified in **1008**, the Content is formatted in **1010** and transmitted to the appropriate User Device in **1012**.

[0151] In another embodiment, in lieu of or in addition to contacting a user and requesting Content in a circumstance in which selecting Content from one or more selected Sources based on one or more selected Content rules has proven insufficient, Content Conversion Server **300** may be programmed to utilize one or more default Content rules to help meet a minimum content threshold for a User Device. A default Content rule may be selected by a user associated with a User Device (e.g., a Viewing User, a Contributing User, a Content Manager) or by Content Conversion Server **300**. A default Content rule is a rule intended to help identify Content to transmit to a User Device of a Viewing User in a circumstance in which selecting Content from one or more selected Sources provides an insufficient amount or frequency of Content. A default rule is further intended to obtain Content that is still somewhat customized for the Viewing User and may be of interest to the Viewing User. For example, a default Content rule may comprise a rule that weather or top news stories in a location associated with a Contributing User of the Viewing User be transmitted to the Viewing User's User Device (e.g., look grandma, it is 101 degrees and 100% humidity in Johnny's town today (Johnny being a grandson)). In another example, a default Content rule may specify that Content from one or more selected Sources be selected even if it is not

the preferred Content indicated by the selected Content rule of the User Device (e.g., grandma indicated she only wanted to see photos and not text comments or postings but if insufficient photos are posted on the selected Sources, the text comments and postings may be transmitted to grandma's digital picture frame to keep the Content fresh thereon).

[0152] Referring now to FIG. 11, illustrated therein is an example process 1100 that is consistent with embodiments described herein. Process 1100 may be performed, for example, by Content Conversion Server 300 herein. Process 1100 illustrates an embodiment in which a Content Manager is associated with a User Device of a Viewing User and the Content Manager must approve Content prior to its transmission to the User Device.

[0153] In 1102 Content intended for transmission to a specified User Device of a Viewing User is identified. For example, Content may be received by Content Conversion Server 300 from a Source or Contributing User. In another example, Content may be selected by the Content Conversion Server 300 base on a review of available Content on one or more selected Sources. In some embodiments, Content received or otherwise obtained by Content Conversion Server 300 is tagged with the identifier of the User Device for which it is intended.

[0154] In 1104 it is determined whether the Content has been approved by a Content Manager associated with the User Device the Content is intended for. For example, in some embodiments a queue of Content available for transmission to a specified User Device is stored and made available to a Content Manager through a user interface (e.g., a user interface screen of an account accessible by the Content Manager on a web site operated by or on behalf of Content Server 300). The Content Manager may access such a queue of Content at his/her convenience and indicate which of the Content, if any, is approved for transmission to the associated User Device. In another embodiment, Content may be proactively forwarded to the Content Manager for approval as it is received or otherwise identified by Content Conversion Server 300. In some embodiments, Content Manager may be enabled to provide Content for transmission to the associated User Device. In such embodiments, it may be assumed that Content so provided by the Content Manager has been approved for transmission to the User Device.

[0155] In 1106 the approved Content is formatted (e.g., by the Content Manager and/or by the Content Conversion Server 300). The formatted Content is then transmitted to the associated User Device (1108).

[0156] It should be understood that the above are merely examples of embodiments and should not be interpreted in a limiting fashion. Modifications and alterations to one or more methods described herein could be made without departing from the spirit and scope of the present invention. For example, in some embodiments, a User Device may be sold preloaded with firmware or hardware that allow a Content Conversion Server 300 to monitor and/or review available Content on one or more Sources selected by a user of the User Device and select Content base on one or more rules selected by the User in order to transmit the selected Content to the User Device in a single stream of Content.

RULES OF INTERPRETATION

[0157] Numerous embodiments have been described, and are presented for illustrative purposes only. The described embodiments are not intended to be limiting in any sense. The

invention is widely applicable to numerous embodiments, as is readily apparent from the disclosure herein. These embodiments are described in sufficient detail to enable those skilled in the art to practice the invention, and it is to be understood that other embodiments may be utilized and that structural, logical, software, electrical and other changes may be made without departing from the scope of the present invention. Accordingly, those skilled in the art will recognize that the present invention may be practiced with various modifications and alterations. Although particular features of the present invention may be described with reference to one or more particular embodiments or figures that form a part of the present disclosure, and in which are shown, by way of illustration, specific embodiments of the invention, it should be understood that such features are not limited to usage in the one or more particular embodiments or figures with reference to which they are described. The present disclosure is thus neither a literal description of all embodiments of the invention nor a listing of features of the invention that must be present in all embodiments.

[0158] The terms "an embodiment", "embodiment", "embodiments", "the embodiment", "the embodiments", "an embodiment", "some embodiments", "an example embodiment", "at least one embodiment", "one or more embodiments" and "one embodiment" mean "one or more (but not necessarily all) embodiments of the present invention(s)" unless expressly specified otherwise. The terms "including", "comprising" and variations thereof mean "including but not limited to", unless expressly specified otherwise.

[0159] The term "consisting of" and variations thereof mean "including and limited to", unless expressly specified otherwise.

[0160] The enumerated listing of items does not imply that any or all of the items are mutually exclusive. The enumerated listing of items does not imply that any or all of the items are collectively exhaustive of anything, unless expressly specified otherwise. The enumerated listing of items does not imply that the items are ordered in any manner according to the order in which they are enumerated.

[0161] The term "comprising at least one of" followed by a listing of items does not imply that a component or subcomponent from each item in the list is required. Rather, it means that one or more of the items listed may comprise the item specified. For example, if it is said "wherein A comprises at least one of: a, b and c" it is meant that (i) A may comprise a, (ii) A may comprise b, (iii) A may comprise c, (iv) A may comprise a and b, (v) A may comprise a and c, (vi) A may comprise b and c, or (vii) A may comprise a, b and c.

[0162] The terms "a", "an" and "the" mean "one or more", unless expressly specified otherwise.

[0163] The term "based on" means "based at least on", unless expressly specified otherwise.

[0164] The methods described herein (regardless of whether they are referred to as methods, processes, algorithms, calculations, and the like) inherently include one or more steps. Therefore, all references to a "step" or "steps" of such a method have antecedent basis in the mere recitation of the term 'method' or a like term. Accordingly, any reference in a claim to a 'step' or 'steps' of a method is deemed to have sufficient antecedent basis.

[0165] Headings of sections provided in this document and the title are for convenience only, and are not to be taken as limiting the disclosure in any way.

[0166] Devices that are in communication with each other need not be in continuous communication with each other, unless expressly specified otherwise. In addition, devices that are in communication with each other may communicate directly or indirectly through one or more intermediaries.

[0167] A description of an embodiment with several components in communication with each other does not imply that all such components are required, or that each of the disclosed components must communicate with every other component. On the contrary a variety of optional components are described to illustrate the wide variety of possible embodiments of the present invention.

[0168] Further, although process steps, method steps, algorithms or the like may be described in a sequential order, such processes, methods and algorithms may be configured to work in alternate orders. In other words, any sequence or order of steps that may be described in this document does not, in and of itself, indicate a requirement that the steps be performed in that order. The steps of processes described herein may be performed in any order practical. Further, some steps may be performed simultaneously despite being described or implied as occurring non-simultaneously (e.g., because one step is described after the other step). Moreover, the illustration of a process by its depiction in a drawing does not imply that the illustrated process is exclusive of other variations and modifications thereto, does not imply that the illustrated process or any of its steps are necessary to the invention, and does not imply that the illustrated process is preferred.

[0169] It will be readily apparent that the various methods and algorithms described herein may be implemented by, e.g., appropriately programmed general purpose computers and computing devices. Typically a processor (e.g., a micro-processor or controller device) will receive instructions from a memory or like storage device, and execute those instructions, thereby performing a process defined by those instructions. Further, programs that implement such methods and algorithms may be stored and transmitted using a variety of known media.

[0170] When a single device or article is described herein, it will be readily apparent that more than one device/article (whether or not they cooperate) may be used in place of a single device/article. Similarly, where more than one device or article is described herein (whether or not they cooperate), it will be readily apparent that a single device/article may be used in place of the more than one device or article.

[0171] The functionality and/or the features of a device may be alternatively embodied by one or more other devices which are not explicitly described as having such functionality/features. Thus, other embodiments of the present invention need not include the device itself.

[0172] The term "computer-readable medium" as used herein refers to any medium that participates in providing data (e.g., instructions) that may be read by a computer, a processor or a like device. Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media. Non-volatile media include, for example, optical or magnetic disks and other persistent memory. Volatile media may include dynamic random access memory (DRAM), which typically constitutes the main memory. Transmission media may include coaxial cables, copper wire and fiber optics, including the wires or other pathways that comprise a system bus coupled to the processor. Transmission media may include or convey acous-

tic waves, light waves and electromagnetic emissions, such as those generated during radio frequency (RF) and infrared (IR) data communications. Common forms of computer-readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, any other magnetic medium, a CD-ROM, DVD, any other optical medium, punch cards, paper tape, any other physical medium with patterns of holes, a RAM, a PROM, an EPROM, a FLASH-EEPROM, any other memory chip or cartridge, a carrier wave as described hereinafter, or any other medium from which a computer can read.

[0173] Various forms of computer readable media may be involved in carrying sequences of instructions to a processor. For example, sequences of instruction (i) may be delivered from RAM to a processor, (ii) may be carried over a wireless transmission medium, and/or (iii) may be formatted according to numerous formats, standards or protocols, such as Transmission Control Protocol, Internet Protocol (TCP/IP), Wi-Fi, Bluetooth, TDMA, CDMA, and 3G.

[0174] Where databases are described, it will be understood by one of ordinary skill in the art that (i) alternative database structures to those described may be readily employed, and (ii) other memory structures besides databases may be readily employed. Any schematic illustrations and accompanying descriptions of any sample databases presented herein are illustrative arrangements for stored representations of information. Any number of other arrangements may be employed besides those suggested by the tables shown. Similarly, any illustrated entries of the databases represent exemplary information only; those skilled in the art will understand that the number and content of the entries can be different from those illustrated herein. Further, despite any depiction of the databases as tables, other formats (including relational databases, object-based models and/or distributed databases) could be used to store and manipulate the data types described herein. Likewise, object methods or behaviors of a database can be used to implement the processes of the present invention. In addition, the databases may, in a known manner, be stored locally or remotely from a device that accesses data in such a database.

[0175] For example, as an example alternative to a database structure for storing information, a hierarchical electronic file folder structure may be used. A program may then be used to access the appropriate information in an appropriate file folder in the hierarchy based on a file path named in the program.

[0176] It should also be understood that, to the extent that any term recited in the claims is referred to elsewhere in this document in a manner consistent with a single meaning, that is done for the sake of clarity only, and it is not intended that any such term be so restricted, by implication or otherwise, to that single meaning.

[0177] In a claim, a limitation of the claim which includes the phrase "means for" or the phrase "step for" means that 35 U.S.C. §112, paragraph 6, applies to that limitation.

[0178] In a claim, a limitation of the claim which does not include the phrase "means for" or the phrase "step for" means that 35 U.S.C. §112, paragraph 6 does not apply to that limitation, regardless of whether that limitation recites a function without recitation of structure, material or acts for performing that function. For example, in a claim, the mere use of the phrase "step of" or the phrase "steps of" in referring to one or more steps of the claim or of another claim does not mean that 35 U.S.C. §112, paragraph 6, applies to that step(s).

[0179] With respect to a means or a step for performing a specified function in accordance with 35 U.S.C. §112, paragraph 6, the corresponding structure, material or acts described in the specification, and equivalents thereof, may perform additional functions as well as the specified function.

[0180] Computers, processors, computing devices and like products are structures that can perform a wide variety of functions. Such products can be operable to perform a specified function by executing one or more programs, such as a program stored in a memory device of that product or in a memory device which that product accesses. Unless expressly specified otherwise, such a program need not be based on any particular algorithm, such as any particular algorithm that might be disclosed in the present application. It is well known to one of ordinary skill in the art that a specified function may be implemented via different algorithms, and any of a number of different algorithms would be a mere design choice for carrying out the specified function.

[0181] Therefore, with respect to a means or a step for performing a specified function in accordance with 35 U.S.C. §112, paragraph 6, structure corresponding to a specified function includes any product programmed to perform the specified function. Such structure includes programmed products which perform the function, regardless of whether such product is programmed with (i) a disclosed algorithm for performing the function, (ii) an algorithm that is similar to a disclosed algorithm, or (iii) a different algorithm for performing the function.

CONCLUSION

[0182] While various embodiments have been described herein, it should be understood that the scope of the present invention is not limited to the particular embodiments explicitly described. Many other variations and embodiments would be understood by one of ordinary skill in the art upon reading the present description.

What is claimed:

1. A method, comprising:
registering, by a processor of a computing device, a user device operable to receive, over a network, content from one or more available sources, thereby determining a registered user device,
wherein a source of the one or more available sources comprises an account of a social networking web site or an account of a photography storage web site;
receiving, in association with the user device and by the processor, a selection of one or more of the one or more available sources, thereby determining one or more selected sources;
receiving, in association with the user device, an indication of at least one content rule for use in determining which content available via the one or more selected sources is to be transmitted to the user device, thereby determining at least one selected content rule;
monitoring, by the processor, content posted on the one or more selected sources;
selecting, by the processor and based on the at least one selected content rule and the monitoring, content to transmit to the registered user device, thereby determining selected content; and
transmitting the selected content to the registered user device.

2. The method of claim 1, wherein the computing device is the user device.

3. The method of claim 1, wherein the account is an account of a user to whom content from the one or more registered sources is displayed via the registered user device.

4. The method of claim 1, wherein the computing device is operated by a first entity that is distinct from an entity that operates any of the at least one or more available sources.

5. The method of claim 1, wherein the registered user device is a dedicated device made available to users by an entity that also operates the computing device.

6. The method of claim 1, wherein the registered user device comprises a digital photo frame.

7. The method of claim 1, wherein the network comprises at least one of the Internet and a wireless network.

8. The method of claim 1, further comprising:

receiving an indication of a minimum content threshold

9. The method of claim 8, wherein the minimum content threshold comprises an indication of at least one of a frequency with which new content is to be transmitted to the registered user device and a minimum amount of new content that is to be transmitted to the registered user device per predetermined unit of time.

10. The method of claim 8, further comprising:

determining, based on the minimum content threshold, that new content is due to be transmitted to the registered user device.

11. The method of claim 10, further comprising:

determining a default content rule associated with the device, for use in determining default content to transmit to the registered user device if use of the at least one selected content rule is insufficient to satisfy the minimum content threshold;

using the default content rule to select default content for the registered user device, thereby determining selected default content; and

transmit the selected default content to the registered user device.

12. The method of claim 11, wherein the default content rule selects content based on a location of at least one user associated with the at least one selected source.

13. The method of claim 9, further comprising:

contacting a user associated with a source of the at least one selected sources; and

outputting a reminder to the user to post content to the at least one selected source in order to satisfy the minimum frequency.

14. The method of claim 1, further comprising:

determining, for the selected content, information descriptive of the selected content; and

annotating the selected content with the information, wherein transmitting the selected content comprises transmitting the selected content as annotated.

15. The method of claim 1, wherein transmitting the selected content comprises:

populating a customized newsletter with the selected content, the customized newsletter further comprising narrative text description of activities of users associated with the at least one or more selected sources, the narrative text description being generated based on content posted on the one or more selected sources, which may include content that is not selected for transmission to the registered user device.

16. The method of claim 1, further comprising:
storing, in association with the registered user device, a schedule governing when content is to be transmitted to the registered user device; and
wherein transmitting the selected content comprises transmitting the selected content in accordance with the schedule.

17. The method of claim 16, wherein the schedule is a means for ensuring that selected content is transmitted to the registered user device with at least a minimum frequency.

18. The method of claim 16, wherein transmitting comprises:
transmitting a first portion of the selected content at a first time after the determining the selected content and transmitting a second portion of the selected content at a second time that is after the first time and after determining the selected content.

19. A method, comprising:
registering, by a processor of a computing device, a user device operable to receive, over a network, content from one or more available sources, thereby determining a registered user device,
wherein a source of the one or more available sources comprises an account of a social networking web site or an account of a photography storage web site and further wherein the registered user device is associated with a first user who is designated as a viewer of content transmitted to the registered user device;
receiving, in association with the user device and by the processor, a selection of one or more of the one or more available sources, thereby determining one or more selected sources;
receiving, in association with the user device and by the processor, information identifying a second user to serve as a content manager for the user device, the content manager being designated to identify and approve content to be transmitted to the registered user device, the content manager being a user who is distinct from the first user;
receiving, by the processor and from the content manager, an indication of content selected by the content manager to be transmitted to the registered user device, thereby determining selected content; and
transmitting, by the processor, the selected content to the registered user device.

20. The method of claim 19, wherein one of the at least one selected sources is an account of a third user who is distinct from both the first user and the second user.

21. The method of claim 20, wherein the content manager is provided permission to review content posted by the third user to the third user's account and select content from the third user's account for transmission to the registered user device.

22. The method of claim 19, further comprising:
receiving, from the third user, content for transmission to the registered user device, thereby determining suggested content;
forwarding the suggested content to the content manager for approval; and
only transmitting the suggested content to the registered user device if approval thereof is received from the content manager.

23. The method of claim 19, further comprising:
storing a minimum content threshold in association with the registered user device, the minimum content threshold comprising an indication of at least one of a minimum amount of new content to be transmitted to the registered user device per predetermined unit of time and a minimum frequency with which new content is to be transmitted to the registered user device.

24. The method of claim 23, further comprising:
determining, for a current time, that the minimum content threshold will not be satisfied if new content is not transmitted to the registered user device before a predetermined time that is after a current time; and
contacting the content manager with a reminder to the content manager to select and authorize for transmission to the registered user device new content from at least one of the one or more selected sources.

25. The method of claim 24, further comprising:
reviewing the content available on the one or more selected sources; and
including, in the reminder, a suggestion of some content that may be appropriate to transmit to the registered user device.

26. The method of claim 19, further comprising:
receiving, from the content manager, narrative text to transmit to the registered user device along with the selected content; and
transmitting to the registered user device the narrative text along with the selected content.

27. The method of claim 19, wherein the computing device comprises a device operated by the content manager.

28. The method of claim 19, wherein the computing device comprises a server device operated by an entity distinct from the content manager.

29. The method of claim 19, wherein the registered user device comprises a dedicated device dedicated to displaying the selected content.

30. The method of claim 19, wherein the network comprises at least one of the Internet and a wireless network.

31. The method of claim 19, further comprising:
storing, in association with the registered user device, a schedule governing when content is to be transmitted to the registered user device; and
wherein transmitting the selected content comprises transmitting the selected content in accordance with the schedule.

32. The method of claim 31, wherein the schedule is a means for ensuring that selected content is transmitted to the registered user device with at least a minimum frequency.

33. The method of claim 31, wherein transmitting comprises:
transmitting a first portion of the selected content at a first time after the determining the selected content and transmitting a second portion of the selected content at a second time that is after the first time and after determining the selected content.

34. The method of claim 19, further comprising:
receiving from the content manager instructions for transmitting the selected content to the registered user device; and
transmitting the content to the registered user device in accordance with the received instructions.

35. The method of claim **19**, further comprising:
receiving from the content manager instructions for dis-
playing the content on a display portion of the registered
user device; and

forwarding, to the registered user device, the instructions
for displaying.

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