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(71) Applicant (for all designated States except US): **MICROSOFT CORPORATION** [US/US]; One Microsoft Way, Redmond, Washington 98052-6399 (US).

(72) Inventors: **JONES, David**; c/o Microsoft Corporation International Patents, One Microsoft Way, Redmond, Washington 98052-6399 (US). **PLASTINA, Daniel**; c/o Microsoft Corporation International Patents, One Microsoft Way, Redmond, Washington 98052-6399 (US). **HAVESON, Ryan Alexander**; c/o Microsoft Corporation International Patents, One Microsoft Way, Redmond, Washington 98052-6399 (US).

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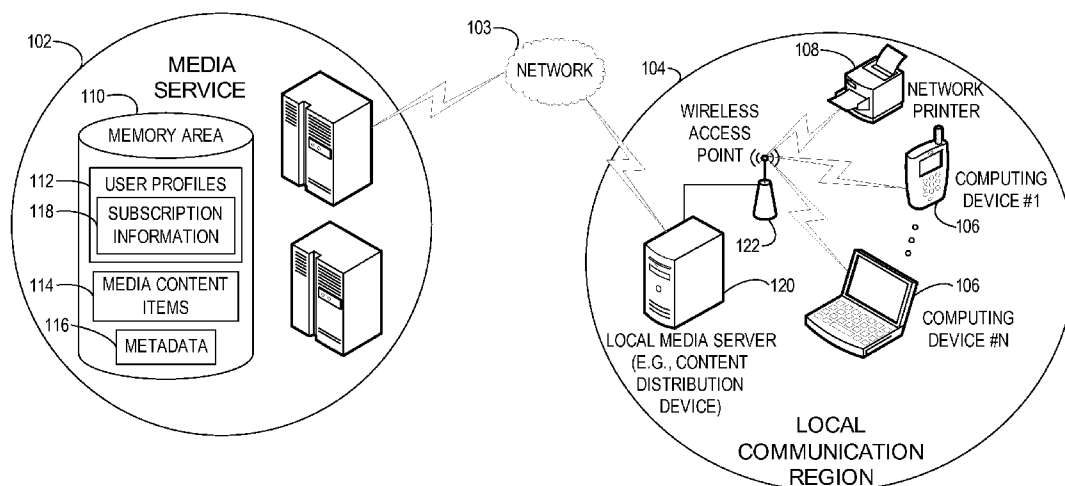
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(54) Title: CONNECTING DEVICES TO A MEDIA SHARING SERVICE



(57) Abstract: Sharing media content between entities. A computing device detects and connects to another computing device within a predefined proximity. Media content items and associated metadata are selected and exchanged between the connected computing devices. A subsequent purchase opportunity is provided to the users to purchase the exchanged media content items.

CONNECTING DEVICES TO A MEDIA SHARING SERVICE

BACKGROUND

[0001] Digital media content such as audio, video, and images may be consumed by a user on a variety of devices such as personal computers, personal digital assistants, portable digital media players, gaming consoles, mobile telephones, and the like. Digital media content is typically acquired by a personal computer accessing a digital media service via subscription or pay-as-you-go service models, and then transferred to a portable media device for consumption by the user. The portable media device does not have the standalone ability to access subscription services (e.g., update subscription licenses, update playlists), obtain new content, and/or generally interact with the digital media service. For subscription services, the lack of flexibility may interrupt access to the digital media service (e.g., since monthly licenses are only renewed during a certain period each month). If the user does not connect back to the digital media service during this particular period, the subscription content on the portable media device stops working.

[0002] Further, with existing digital media services, it is not possible for third parties to transfer promotional content onto a user's media device. For example, for the user to listen on the user's media device to a compact disc (CD) offered for sale at a local coffee shop, the user has to purchase the CD, take it home to a personal computer, copy the contents of the CD to the personal computer, and then transfer the CD contents from the personal computer to the media device. In addition, while at the local coffee shop, the user has no way to access additional third party services such as photo printing. In this example, the user has to copy the photographs from media device to a CD or a flash memory device for transit to a photo store to print out the pictures.

SUMMARY

[0003] Embodiments of the invention include enable the sharing of media content between computing devices. In an embodiment, the invention detects a computing device within a predefined proximity and establishes a wireless connection to the detected computing device. One or more media content items are transmitted to the detected computing device via the established wireless connection responsive to detecting the computing device. Metadata associated with the transmitted media content items is also transmitted to the detected computing device via the established wireless connection. A subsequent purchase opportunity is provided to the user to purchase the transmitted media

content items via the transmitted metadata. The purchase opportunity is provided independent of the predefined proximity.

[0004] This summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

[0005] Other features will be in part apparent and in part pointed out hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 is an exemplary block diagram illustrating a media service interacting with a local network.

[0007] FIG. 2 is an exemplary block diagram illustrating communication between a computing device and the media service.

[0008] FIG. 3 is an exemplary flow chart illustrating operation of media content sharing between two computing devices.

[0009] FIG. 4 is an exemplary block diagram illustrating a peer-to-peer connection between two computing devices within a local communication region.

[0010] FIG. 5 is an exemplary embodiment of a computing device user interface identifying users that are near the computing device.

[0011] FIG. 6 is an exemplary embodiment of a computing device user interface identifying media service access zones that are near the computing device.

[0012] FIG. 7 is an exemplary embodiment of a computing device user interface identifying services offered by a particular media access service zone.

[0013] FIG. 8 is an exemplary embodiment of a computing device user interface identifying the media content items that are available to the computing device while connected to a media access service zone.

[0014] FIG. 9 is an exemplary screen shot of a user interface illustrating metadata obtained from a plurality of users.

[0015] Corresponding reference characters indicate corresponding parts throughout the drawings.

DETAILED DESCRIPTION

[0016] In an embodiment, the invention enables media content sharing between entities such as shown in FIG. 1. From a user perspective, a diverse social network is developed

and the chore of discovering digital media content is reduced in a secure, legal, unobtrusive manner. Users are presented with abundant and flexible options for customization and control of discovery and distribution. For example, asynchronous distribution transactions between users may occur with or without active user participation, allowing a user to manage disruptions associated with digital content discovery and distribution. In another example, a user may limit (or expand) participants with whom, and venues within which, distribution transactions may occur.

[0017] Aspects of the invention enable transparent cross-pollination of users' media libraries with each other, and from other entities such as retail stores based on physical proximity (e.g., see FIG. 1). Media players with wireless networking connections may establish peer-to-peer connections with each other and transfer content on behalf of the user. With aspects of the invention, individual users may act as disc jockeys by selecting music to promote by distributing it to others. As such, media content may be distributed in a viral way based on the media library and preferences of users that come in proximity to each other and other entities.

[0018] Referring first to FIG. 1, an exemplary block diagram illustrates a media service 102 or other media sharing service interacting with a local communication region 104 via a network 103. In an embodiment, the local communication region 104 is a wireless network located, for example, at a retail establishment such as a coffee shop or airport. Users connect to the local communication region 104 via computing devices 106 to initiate or renew subscription licenses to the media service 102, access promotional content, update playlists, purchase media content, play games, and the like. Users may also use the local communication region 104 to access third party resources supported by an operator of the local communication region 104. The resources may include, for example, printing photographs or other data directly from the user's computing device 106 on a local network printer 108, accessing the Internet, and projecting photographs and/or video to a wireless projector or display at the retail establishment.

[0019] The media service 102 in FIG. 1 provides media content and related services to local communication regions such as local communication region 104. Users subscribe to the media service 102 to have access to the services offered by the media service 102. Subscribers to the media service 102 may pay a monthly or yearly fee for access to the media service 102. Alternatively, a pay-as-you-go model may be employed in which users pay on a per-transmission basis for access and connection to the media service 102. In yet

another embodiment, the media service 102 is supported entirely or in part by advertisements inserted into transmissions from the media service 102.

[0020] The media service 102 includes a memory area 110 storing user profiles 112, media content items 114, and associated metadata 116. The user profiles 112 include subscription information 118 describing the user's subscription to the media service 102 (e.g., renewal dates and type of subscription). In an embodiment, the subscription information 118 is populated upon creation of a new subscription for a user. For example, after connecting to the local communication region 104, the media server 120 offers the computing device 106 access to the media content items 114. Upon receipt of an indication of payment from the user (e.g., via computing device 106), the subscription information 118 is populated. The indication of payment includes, for example, a credit card payment, a debit card payment, an electronic funds transfer, or other payment.

[0021] If the user is already a subscriber, a payment status associated with the subscription information 118 is determined by the local media server 120 by communicating with the media service 102. The payment status indicates, for example, that the user account is paid-in-full, or a balance is due if continued access to the media service 102 is desired. The payment status also indicates whether a renewal is currently available to the user. After providing or presenting the payment status to the user, the media server 120 receives an indication of payment from the user for access to the media service 102. In such an embodiment, the indication of payment represents a renewal to the subscription. The subscription information 118 is updated, and the media content items 114 are available from the media service 102.

[0022] The media content items 114 include, but are not limited to, audio, video, still images (e.g., full- or partial-length songs and movies, video clips or shorts, recorded television, and product commercials), and a journal, history, or list of media content. In an embodiment, each of the media content items 114 each has a digital rights management policy associated therewith.

[0023] The metadata 116 describes the media content items 114 and includes, for example, information related to album, artist, title, track, and album art. While metadata 116 is described and shown as separate from the media content items 114 in FIG. 1, some of the metadata 116 may be part of the media content items 114 (e.g., stored in a header). Further, while FIG. 1 illustrates the media content items 114 and metadata 116 as being stored in the memory area 110 local to the media service 102, the media content items 114 and metadata 116 may be stored remotely from the media service 102 and be part of a

third-party system. In such an embodiment, the media service 102 has a relationship with, and access to, the third-party system to provide the media content items 114 to the local communication region 104.

[0024] The exemplary local communication region 104 illustrated in FIG. 1 includes a local media server 120 (e.g., a content distribution device) connected to the network 103 and to one or more wireless access points 122. The network 103 links the local communication region 104 to the media service 102 and, in an embodiment, to a wide area network such as the Internet. The local media server 120 includes software for connecting to the media service 102, software for connecting with computing devices 106, and, in an embodiment, a local copy of a content catalog downloaded from the media service 102. The content catalog reflects the media content items 114 that are available from the media service 102. Devices connect to the wireless access point 122 when within the local communication region 104. Exemplary devices include computing devices 106 such as computing device #1 through computing device #N, and the network printer 108. Exemplary computing devices include a mobile telephone, a personal data assistant, a portable digital media player, a laptop, and a personal computer. The computing devices 106 include any device, or any physical or logical element of such a device, separate from or included in other devices.

[0025] The local communication region 104 corresponds to any zone or network such as a media service access zone, local area network, wide area network, or personal area network, and may include any number of devices therein. For example, the local communication region 104 may include only two computing devices 106 (see FIG. 4). Wide area networks and local area networks are widely known. The personal area network represents any technology or system usable for direct communication between the computing devices 106 close to a particular person, device, or entity. An access point such as the wireless access point 122 may be part of such communication in an embodiment, but is not required to enable such communication in other embodiments. Personal area network technologies or systems may be used to connect to other local area networks or wide area networks. The reach of a personal area network may be a few meters. In an embodiment, the personal area network employs a wireless cable replacement technology. Wireless cable replacement technologies are generally identified by the air interface protocols used for communication between computing devices 106. Existing air interface protocols include BLUETOOTH, Wireless USB, and various proprietary protocols. Such air interface protocols may also be used to create wireless cable replacement topologies.

[0026] The local media server 120 in FIG. 1 includes a processor configured to execute computer-executable instructions for connecting the computing devices 106. In an embodiment, the processor operates to detect one of the computing devices 106 when the computing device 106 enters the local communication region 104 or otherwise comes within a predefined proximity of the local media server 120 or the wireless access point 122. The local media server 120 establishes a wireless connection to the detected computing device 106 and receives a user identifier from the connected computing device 106. The user identifier is used by the local media server 120 to authenticate, or enable the media service 102 to authenticate, the user of the computing device 106. Authentication includes, for example, checking the subscription information 118 or other user profile information stored in the memory area 110 of the media service 102 for the received user identifier. Establishing the wireless connection occurs, for example, without any user input, or without explicit user input. In an example, the user may have previously indicated a preference to connect upon entering a local communication region.

[0027] After authentication, the user has access to the media service 102 (e.g., media content items 114) and to one or more of the local services offered by the operator (e.g., printing). In an embodiment, the user has access to only the services offered by the media service 102 that have been paid for by the user (e.g., as specified in the user profile 112) and any additional services offered by the operator of the local communication region 104.

[0028] While connection of the computing device 106 and authentication of the user occurs automatically in an embodiment, such connection and authentication may occur only in response to a specific request from the user in other embodiments. In such embodiments, the operator broadcasts a list of services available within the local communication region 104. Responsive to a request from the user to connect, the local media server 120 connects to the computing device 106, authenticates the user, and provides access to the media service 102 and any available local services.

[0029] The local media server 120 further operates to provide access, based on the authentication status of the user (e.g., successfully authenticated or not), to the memory area 110 associated with the media service 102 for the particular user to update the subscription information 118 stored in the user profile 112 associated with the particular user, or access any other service offered by the media service 102. The local media server 120 also provides one or more of the media content items 114 and associated metadata 116 from the media service 102 to a computer-readable medium associated with the computing device 106. The one or more of the media content items 114 are selected by the operator of

the local communication region 104 based on customer demand (e.g., interest, demographics, etc.). The selected media content items 114 are provided to the computing device 106 with a digital rights management policy associated therewith. For example, the policy allows three renderings of each of the media content items 114 over three days, before the media content items 114 are erased from the computing device 106 or otherwise rendered unplayable.

[0030] Aspects of the invention provide a subsequent purchase opportunity to the user to purchase the media content items 114 sent to the computed device. The purchase opportunity may occur, for example, when the user subsequently connects the computing device 106 to the Internet and views the metadata 116 associated with the provided media content items 114. The purchase opportunity occurs within in the local communication region 104, or outside the boundaries of the local communication region 104.

[0031] The operator or provider of the local communication region 104 (e.g., a retail establishment) provides access to the media service 102 for customers of the operator by acquiring a business subscription to the media service 102. Such a subscription enables the operator to uniquely brand the local communication region 104 (e.g., Joe's Coffee Shop Media Access Zone) for marketing purposes. For example, when a user enters the local communication region 104, the operator name and branding appear on the user's computing device 106. In an embodiment, the operator streams or downloads media content from the media service 102 to connected computing devices 106. By subscribing to the media service 102, the operator no longer needs to store local copies of the media content (e.g., compact discs, digital versatile discs) in an embodiment. Further, with access to the large repository of media content items 114 from the media service 102, the operator may offer a large variety of content to entice customers to visit or enter the local communication region 104. For example, the operator may target customers with selected media content (e.g., jazz music at a coffee shop, easy listening music at a winery, new age music at a candle shop, alternative rock at a snowboard store).

[0032] In addition, the operator is credited with a portion of the sale proceeds or otherwise rewarded by the media service 102 if the user subsequently purchases any of the downloaded media content items 114. This may be accomplished by associating an identifier with the operator, and including this identifier with the media content items 114 downloaded to the user's computing device 106. During a purchase opportunity (e.g., when the computing device 106 is connected to another computing device 106 such as a personal computer), the user views the metadata 116 associated with the downloaded media content

items 114 and has the ability to purchase any of the media content items 114. In purchasing the media content items 114, the metadata 116 associated with the desired media content items 114 is sent to the media service 102 along with the identifier of the operator of the local communication region 104 in which the promotional media content items 114 were downloaded to the user's computing device 106. In this manner, the operator is identified and rewarded by the media service 102 for introducing the user to the purchased media content items 114.

[0033] Alternatively or in addition, the operator may transmit advertisements to the connected computing devices 106 within the local communication region 104. The advertisements may be designed for rendering, for example, before the content is consumed (e.g., at the beginning of music playback), after rendering completes, or at connection time. For example, when the user connects to the local communication region 104, the operator inserts a media advertisement that is presented to the user before the list of available services is displayed to the user. In another example, when the user selects an available service, the operator inserts a media advertisement that is presented to the user before the selected service is provided. In yet another example, the operator may insert advertisements at any point in the streaming or downloading of the media content to the computing device 106.

[0034] Alternatively or in addition, the operator of the local communication region 104 may upload or otherwise identify selected media content items 114 to the media service 102. The media service 102 then makes the selected media content available at all or selected local communication regions related to the operator (e.g., all company-owned stores, or franchised locations).

[0035] Referring next to FIG. 2, an exemplary block diagram illustrates communication between a first computing device 202 and a media service 204 (e.g., such as media service 102 in FIG. 1) via a second computing device 206. For example, the first computing device 202 represents a portable digital media player and the second computing device 206 represents a personal computer. Such a configuration occurs when the user of the first computing device 202 leaves a local communication region such as in FIG. 1 and connects the first computing device 202 to the second computing device 206. The metadata received by the first computing device 202 from the media service 204 while in the local communication region (e.g., FIG. 1) is synchronized with the second computing device 206. The second computing device 206 connects to the media service 204 via a network 208 such as the Internet. In this manner, the user may purchase, via the second computing

device 206, any of the promotional media content items downloaded or streamed from the media service 204. Alternatively or in addition, the first computing device 202 may establish a connection with the media service 204 exclusive of the second computing device 206, and purchase the media content items directly.

[0036] Referring next to FIG. 3, an exemplary flow chart illustrates operation of media content sharing. The operations illustrated in FIG. 3 may be performed by a local media server such as shown in FIG. 1, or by a computing device associated with a user in which media content is shared between the computing devices of two users. At 302, the process loops until a media device is detected. If a media device associated with a user is detected within a predefined proximity at 302, a wireless connection is established with the detected media device at 304. Authentication of the user is performed by determining at 306 if the user of the media device is subscribed to the media service. If the user is not a subscriber, the process continues at 302. If the user is determined to be a subscriber at 306, one or more media content items are pushed or otherwise provided to the media device via the wireless connection at 308. In addition, metadata associated with the provided media content items is transmitted to the media device at 310. A subsequent purchase opportunity is provided to the user to purchase the transmitted media content items via the transmitted metadata. The subsequent purchase opportunity is provided independent of the predefined proximity. For example, the purchase opportunity may occur within the predefined proximity or outside the predefined proximity. If a request to purchase the provided media content items is received at 312, the purchase request is fulfilled at 314.

[0037] In an embodiment, a digital rights management policy is associated with the media content items. In such an embodiment, transmitting the media content items to the detected computing device includes transmitting the media content items with the associated digital rights management policy associated therewith to the computing device. A component of the digital rights management policy may direct, for example, that the transmitted media content items are to be deleted or otherwise not renderable after a particular date (e.g., an expiration date). While the media content items may be deleted, however, the metadata associated with the media content items is not deleted and remains to enable the user to purchase the media content items.

[0038] In a peer-to-peer embodiment, the operations illustrated in FIG. 3 are performed by a first computing device. In particular, the first computing device detects a second computing device within a predefined proximity. The first computing device is associated with a first user and the second computing device is associated with a second user. The

first user is subscribed to the media service. The first computing device establishes a peer-to-peer wireless connection to the second computing device responsive to detecting the second computing device. The first computing device determines if the second user is subscribed to the media content service. Such a determination occurs with or without a connection to the media service. For example, the first computing device may interrogate the second computing device for a valid certificate or key (e.g., time-sensitive) which was provided to the second computing device upon subscription of the second user to the media service. The first computing device has the capability to analyze the certificate or key to determine if the second user is a current subscriber to the media service. If the second user is determined to be a subscriber to the media service, the first computing device shares one or more media content items and associated metadata with the second computing device via the established wireless connection. The sharing may occur by streaming the media content items where, upon receipt (e.g., within the predefined proximity), the second computing device renders the streamed media content items to the second user. Alternatively or in addition, the sharing may occur by downloading the media content items to the second computing device. The metadata may be used as a subsequent purchase opportunity for the second user to purchase the shared media content items (e.g., when connecting to a personal computer connected to a network capable of accessing the media service).

[0039] The metadata transmitted with the media content items describes the media content items and describes the transaction. Such metadata includes, but is not limited to, album, artist, title, track, and album art. Further, metadata includes information about the distribution of the media content items: a date associated with transmission of the media content item to the computing device, the parties involved in the transmission, identification of the media content items transferred with a particular media content item, identification of a local communication region where the transmission took place, and the like. The metadata is used to select media content items for purchase as well as to identify the party responsible for the promotional transmission of the media content item (e.g., to reward or give feedback to the responsible party). The metadata may be stored with the media content items or stored separately (e.g., in a different folder).

[0040] Alternatively or in addition, the metadata includes actionable items such as hyperlinks to enable purchase of one or more of the media content items received during the encounter illustrated in FIG. 3.

[0041] In an embodiment, metadata is also stored on the transmitting user's computing device describing the transaction. For example, the metadata identifies the user that received media content items, the local communication region where the media sharing occurred, and other transaction information.

[0042] Embodiments of the invention may be implemented with computer-executable instructions performing operations such as illustrated in FIG. 3. The computer-executable instructions may be organized into one or more computer-executable components or modules. Aspects of the invention may be implemented with any number and organization of such components or modules. Generally, program modules include, but are not limited to, routines, programs, objects, components, and data structures that perform particular tasks or implement particular abstract data types. For example, aspects of the invention are not limited to the specific computer-executable instructions or the specific components or modules illustrated in the figures and described herein. Other embodiments of the invention may include different computer-executable instructions or components having more or less functionality than illustrated and described herein. Computer-executable instructions implementing aspects of the invention may be separate from, or included with, other computer-executable instructions executed by the computing device. For example, aspects of the invention may be implemented within a media player executing on the computing device, or as a separate program executing on the computing device.

[0043] Referring next to FIG. 4, an exemplary block diagram illustrates a peer-to-peer connection between two computing devices 402, 404. In particular, a first computing device 402 (e.g., a content distribution device) associated with a first user establishes a peer-to-peer connection with a second computing device 404 (e.g., a portable computing device) associated with a second user. The connection illustrated in FIG. 4 occurs within a local communication region 405. The peer-to-peer communication session represents any local, peer-to-peer physical or virtual connection between the computing devices. The connection may be wired, wireless, or any combination thereof, and may be implemented by one or more communication protocols and/or bridging techniques for enabling communication between various protocols. Aspects of the invention as described herein are not limited to any specific protocols or network layers, but are compatible via an abstraction layer (such technique is known in the art) to support any protocol or network layer.

[0044] The first computing device 402 has a media library 406, a list of favorites and preferences 408, a proximity search and connectivity agent 410, and interfaces for

connecting to other devices via, for example, wireless fidelity (WiFi) 412, BLUETOOTH 414, and other protocols or network layers 416. The media library 406 identifies the media content items stored on the first computing device 402. In an embodiment, the media library 406 is capable of resolving digital license issues such as transparently obtaining suitable license rights to playback content received during a proximity distribution transaction. The second computing device 404 has a similar set of components. Both the first and second computing devices 402, 404 broadcast their availability for media sharing connections and scan for available devices (e.g., via the proximity search and connectivity agents such as proximity search and connectivity agent 410).

[0045] The first user and second user each identify digital content distribution criteria or otherwise determine what media content to share with which other users. This information is stored, for example, in the favorites and preferences components (e.g., favorites and preferences 408). Examples of digital content distribution criteria include, but are not limited to, information regarding one or more of the following: listening habits; purchasing habits; ratings; user-defined favorites; recently purchased content; user profiles (e.g., personal information such as name, address, gender, and age); service profiles (e.g., whether a user has opted-in to participation local, peer-to-peer distribution transactions and opt-in conditions, if any); user affiliations (e.g., buddy lists); device-gathered location information; digital rights management information associated with the media content items (e.g., whether a user has the right to distribute a particular media content item, or any restrictions on such rights); and other data. The digital content distribution criteria may be combined (e.g., via Boolean operands) to create expressions for evaluation when determining whether to share media content items with a particular user. The digital content distribution criteria may also include or be affected by other criteria such as remaining memory storage and battery life of the device (e.g., do not accept large songs, and do not exhaust the battery by accepting content if the battery level is low). The set of media content items to be shared may be user-defined, auto-generated based on other factors (e.g., listening habits), or a combination of both.

[0046] The first and second computing devices 402, 404 each continually or continuously scan to detect devices within a predefined proximity (e.g., local communication region 405). In an implementation, detecting another computing device includes implementing one or more features of a local networking service defined by the Universal Plug and Play peer-to-peer connectivity architecture ("UPNP Architecture"). Alternatively or in addition, detecting the computing device includes implementing one or

more features of a service defined by the Web Services Dynamic Discovery (“WS-Discovery”) protocol. This protocol defines how services are discovered (e.g., by a simple network access protocol) on a local network. Other implementations are also possible, such as customized BLUETOOTH profiles, and Zero Configuration Networking (“ZeroConf”) techniques.

[0047] In an embodiment, detecting another computing device includes discovering, and determining the proximity of, potential participants a communication session. Proximity determination includes one or more acts, criteria, or the like for determining whether two computing devices are available for communication (e.g., within a predefined proximity or distance). Proximity may be defined as broadly or narrowly as desired, encompassing everyone/every device or only select entities or devices. Proximity may be determined on a periodic basis, and may result in identification of a set of proximate devices and/or entities. In an embodiment, the boundaries of the local communication region 405 define the limits of the predefined proximity. For example, whenever two computing devices are within the local communication region, proximity is deemed to exist.

[0048] In another example, proximity is deemed to exist when two or more computing devices are within static or dynamic physically definable sub-regions of the local communication region 405. Examples of static, physically definable sub-regions of the local communication region 405 include particular geographical regions such as departments of retail locations (e.g., music sales departments), streets, or buildings. An example of a dynamic, physically definable sub-region of the local communication region 405 includes a predetermined maximal distance between two computing device. Various commercially available systems and/or products may be used for location determination. Such systems and/or products are generally based on technologies such as global positioning system (GPS) technology, triangulation technology, signal strength analysis technology, time-distance-of-arrival technology, or the like.

[0049] Other circumstances under which two or more computing devices may be deemed to be in proximity are defined by one or more logical relationships between the computing devices. For example, two computing devices within the local communication region 405 or sub-regions thereof that have predetermined zip codes, genders, ages, preferences (e.g., music preferences), friends, or other logically relatable characteristics may be deemed to be in proximity.

[0050] After detecting each other, the first and second computing devices 402, 404 each play a particular role in an exemplary transaction. For example, the first computing device

402 may take the role of a publisher agent and expose a set of media content items from the media library 406 of the first user. The second computing device 404 may take the role of a recipient agent. The first computing device 402 (e.g., publisher agent) selects one or more media content items from the media library 406 based on the substance of the favorites and preferences component in the second computing device 404 (e.g., an evaluation of the digital content distribution criteria in the second computing device 404). For example, the first computing device 402 receives the digital content distribution criteria from the second computing device 404 upon establishing the peer-to-peer connection. Media content items from the media library 406 in the first computing device 402 that satisfy the criteria from the second computing device 404 are identified and transferred to the second computing device 404 over the established peer-to-peer connection. In addition, metadata describing the transferred media content items and describing the transaction are sent to the second computing device 404. For example, the metadata may specify that a particular song came from John's media library, and was purchased by John from ACME Music Service.

[0051] The interaction described with reference to FIG. 4 is repeated as the first and second computing devices 402, 404 individually move from one local communication region (e.g., local communication region 405) to another. The criteria defined in the favorites and preferences components (e.g., favorites and preferences 408) of the two computing devices may be met by other devices in some local communication regions, and not met in others.

[0052] FIG. 4 shows one example of a general purpose computing device having one or more processors and a system memory. The computing device typically has at least some form of computer readable media. Computer readable media, which include both volatile and nonvolatile media, removable and non-removable media, may be any available medium that may be accessed by the computing device. By way of example and not limitation, computer readable media comprise computer storage media and communication media. Computer storage media include volatile and nonvolatile, removable and non-removable media implemented in any method or technology for storage of information such as computer readable instructions, data structures, program modules or other data. Communication media typically embody computer readable instructions, data structures, program modules, or other data in a modulated data signal such as a carrier wave or other transport mechanism and include any information delivery media. The modulated data signal has one or more of its characteristics set or changed in such a manner as to encode

information in the signal. Wired media, such as a wired network or direct-wired connection, and wireless media, such as acoustic, RF, infrared, and other wireless media, are examples of communication media. Combinations of any of the above are also included within the scope of computer readable media.

[0053] Aspects of the invention include the computing device itself when programmed according to the methods and techniques described herein.

[0054] Although described in connection with an exemplary computing system environment, embodiments of the invention are operational with numerous other general purpose or special purpose computing system environments or configurations. The computing system environment is not intended to suggest any limitation as to the scope of use or functionality of any aspect of the invention. Moreover, the computing system environment should not be interpreted as having any dependency or requirement relating to any one or combination of components illustrated in the exemplary operating environments. Examples of well known computing systems, environments, and/or configurations that may be suitable for use with aspects of the invention include, but are not limited to, personal computers, server computers, hand-held or laptop devices, personal digital assistants, multiprocessor systems, microprocessor-based systems, set top boxes, programmable consumer electronics, digital broadcast television recording devices, portable digital media players, gaming consoles, mobile telephones, network PCs, minicomputers, mainframe computers, distributed computing environments that include any of the above systems or devices, and the like.

[0055] Referring next to FIG. 5, an exemplary embodiment of an aspect of the invention includes a computing device user interface 504 identifying users that are near the computing device 502. While the computing devices illustrated in FIG. 5, FIG. 6, FIG. 7, and FIG. 8 correspond to a portable digital media player, the user interfaces displayed therein are applicable to any computing device (e.g., mobile telephone, personal digital assistant, etc.). In FIG. 5, the user interface 504 displays the users or device names that have been detected by the computing device 502 and determined to be "nearby" or within a predefined proximity. In this example, the users or device names "Bill," "Alfred," "Henry," and "Mildred" have been detected. The user of the computing device 502 interacts with the user interface 504 to select one or more of the displayed users or device names to investigate media content stored on the detected devices.

[0056] The user interface 504 in FIG. 5 appears when the user of the computing device 502 has set a preference or otherwise indicated that explicit consent is required before

media content sharing occurs between the computing device 502 and any of the detected devices.

[0057] Referring next to FIG. 6, an exemplary embodiment of an aspect of the invention includes a computing device user interface 604 identifying media service access zones that are near the computing device 602. The media service access zones or other local communication regions are listed in the user interface 604 on the computing device 602. The user selects one or more of the proximal, detected zones via the user interface and connects to the selected zone to access the services offered by the selected zone.

[0058] Referring next to FIG. 7, an exemplary embodiment of an aspect of the invention includes a computing device user interface 704 on a computing device 702 identifying services offered by a particular media access service zone. After selection of the zone (e.g., see FIG. 6), a list of services available within the selected zone is displayed on the user interface 704. In this example, the user is able to listen to music selected by the local zone, print a photograph locally, or connect to the Internet.

[0059] Referring next to FIG. 8, an exemplary embodiment of an aspect of the invention includes a computing device user interface 804 identifying the media content items that are available to the computing device 802 while connected to a media access service zone. After selection of the 'Listen to Music' service (e.g., see FIG. 7), the user interface 804 displays a list of the media content items that are available to the computing device 802. In the example of FIG. 8, the play icon or button (e.g., triangle within a circle) next to a particular media content item indicates that that media content item is available for streaming and immediate rendering on the computing device 802. The download icon or button (e.g., arrow pointing down within a circle) next to a particular media content item indicates that a promotional copy of the media content item is available for downloading and storage on the computing device 802. When the user selects a media content item that has both icons, the user is given the choice of either streaming the media content item or copying the media content item to their device 802. If only one of the icons appears next to the media content item, the operation corresponding to the appearing icon is automatically selected (e.g., "X&Y" by Coldplay will automatically be streamed upon selection of this song by the user).

[0060] Referring next to FIG. 9, an exemplary screen shot 902 of a user interface illustrates metadata obtained from a plurality of users. In an embodiment, the screen shot 902 corresponds to a journal or inbox within a media player. The contents of the screen shot 902 may be presented within the context of any other application program including,

for example, an Internet browser, and may also be presented as a standalone application program.

[0061] The screen shot 902 in FIG. 9 shows the encounters with other users that the user has had, along with a list of the media content items shared by the other users. In this example, the user has had encounters with Mediadude, Jeeters, and Marky Mark. Mediadude shared songs by Annie Lennox, U2, and Green Day. Jeeters shared songs by Coldplay. Marky Mark shared songs by Green Day and Snow Patrol. Some of the songs have been flagged by the user (e.g., as songs of particular interest).

[0062] A purchase opportunity is provided for several of the songs as shown in the Action column. The "download" action indicates that the particular media content item was streamed to the user's device, and a copy is available for purchase and downloading. The "buy" action indicates that a local copy (e.g., promotional copy) of the particular media content item is stored on the user's computing device, but the digital rights management information associated with the particular media content item indicates that a non-promotional copy of the particular media content item has not been purchased by the user. The "search" action indicates that the particular media content item is not available for purchase from the media service.

[0063] The following examples further illustrate aspects of the invention. In a first example, the user receives streamed media content and subsequently purchases the streamed media content. In this example, the user connects the computing device to a local communication region at a coffee shop. The user views the selected services available at the coffee shop (e.g., "The Roasted Bean"). The user previews promotional content being streamed by coffee shop over the local communication region. Metadata describing the streamed, promotional media content is copied to the user's computing device along with an identifier associated with the coffee shop (e.g., "The Roasted Bean"). The user leaves the coffee shop, thereby disconnecting from the local communication region.

[0064] At home, the user connects the computing device to a personal computer that initiates a synchronization of the metadata from the computing device to the personal computer. After synchronization completes, the user opens a journal or inbox (e.g., see FIG. 9) on the personal computer and navigates to the entry for the coffee shop. All the media content that was streamed to the computing device while at the coffee shop is listed with the option to purchase the streamed media content. The user selects a few of the media content items and purchases them. The purchase request, along with the identifier of the coffee shop, is sent to the media service. The media service identifies that "The

Roasted Bean" coffee shop recommended the media content items to the user, and credits a portion of the sale to the account of the coffee shop. This account of the coffee shop may be related to the business subscription that the coffee shop has with the media service, or may be a separate rewards-style account associated with the coffee shop.

[0065] In another example, the user connects the computing device to a local communication region at a coffee shop. The user views the selected services available at the coffee shop (e.g., "The Roasted Bean"). The user selects to download promotional content available on the local communication region at the coffee shop. The content and associated metadata are copied to the user's computing device (e.g., to an inbox) along with an identifier associated with the coffee shop (e.g., "The Roasted Bean"). The user may only consume the downloaded promotional media content for a time period defined by the digital rights management policy associated with the downloaded promotional media content. After the time period expires, the copies of the downloaded promotional media content stored on the computing device are deleted from the computing device or otherwise rendered not playable. The metadata, however, remains on the computing device to enable the user to subsequently purchase the media content.

[0066] The user leaves the coffee shop, thereby disconnecting from the local communication region. Outside the local communication region (e.g., on a bus), the user browses the inbox on the computing device and opens the entry associated with "The Roasted Bean". The downloaded promotional media content is listed therein. The user selects a particular media content item and begins playback of the item.

[0067] At home, the user connects the computing device to a personal computer that initiates a synchronization of the metadata (but not the media content items) from the computing device to the personal computer. After synchronization completes, the user opens a journal (e.g., see FIG. 9) on the personal computer and navigates to the entry for the coffee shop. All the media content that was copied to the computing device while at the coffee shop is listed with the option to purchase the downloaded media content. The user selects a few of the media content items and purchases them. The purchase request, along with the identifier of the coffee shop, is sent to the media service. The media service identifies that "The Roasted Bean" coffee shop recommended the media content items to the user, and credits a portion of the sale to the account of the coffee shop. As with the previous example, this account of the coffee shop may be related to the business subscription that the coffee shop has with the media service, or may be a separate rewards-style account associated with the coffee shop.

[0068] In yet another example, George and David are both near the same WiFi hotspot in a coffee shop. David is using a portable media player that has a manual mode and an automatic mode. In manual mode, David is alerted that his portable media player has detected George, and David is prompted to indicate whether he would like to receive digital content available for distribution by George. For example, a reference to George (such as an avatar or screen name or the like) appears on David's user interface, and David selects George via the user interface. David's selection of George via the user interface results in media content items and associated metadata being transmitted from George's portable media player to David's portable media player.

[0069] In automatic mode, David is not alerted that his portable media player has detected George. Digital media content items available for distribution by George are automatically transmitted, pushed, or otherwise sent from George's computing device to David's media player. The available digital media content items on George's computing device are identified for transmission by evaluating digital content distribution criteria associated with David's portable media player and/or George's computing device. For example, David's portable media player automatically transmits the digital content distribution criteria to George's computing device such that George's computing device identifies the media content items suitable for transmission to David's portable media player. Alternatively or in addition, George's computing device identifies the media content items for transmission to David's portable media player based on digital content distribution criteria associated with George's computing device.

[0070] The automatic and manual modes described in the above example correspond to consent models. Users may give explicit consent to receive any and all media content items from any user within the proximity, or may limit such consent by evaluating conditions to determine if consent is granted in particular situations.

[0071] The figures, description, and examples herein as well as elements not specifically described herein but within the scope of aspects of the invention constitute means for sharing the media content items stored in the memory area among the plurality of users and means for providing an opportunity to computing device of a user to purchase media content acquired during a media encounter with another computing device.

[0072] The order of execution or performance of the operations in embodiments of the invention illustrated and described herein is not essential, unless otherwise specified. That is, the operations may be performed in any order, unless otherwise specified, and embodiments of the invention may include additional or fewer operations than those

disclosed herein. For example, it is contemplated that executing or performing a particular operation before, contemporaneously with, or after another operation is within the scope of aspects of the invention.

[0073] When introducing elements of aspects of the invention or the embodiments thereof, the articles “a,” “an,” “the,” and “said” are intended to mean that there are one or more of the elements. The terms “comprising,” “including,” and “having” are intended to be inclusive and mean that there may be additional elements other than the listed elements.

[0074] The word “exemplary” is intended to mean serving as an example, instance, illustration, or the like. Any implementation or aspect thereof described herein as “exemplary” is not necessarily to be constructed as preferred or advantageous over other implementations or aspects thereof.

[0075] It will further be understood that when one element is indicated as being responsive to another element, the elements may be directly or indirectly coupled.

[0076] Having described aspects of the invention in detail, it will be apparent that modifications and variations are possible without departing from the scope of aspects of the invention as defined in the appended claims. As various changes could be made in the above constructions, products, and methods without departing from the scope of aspects of the invention, it is intended that all matter contained in the above description and shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

CLAIMS

What is claimed is:

1. A method comprising:

detecting a computing device (106) within a predefined proximity, said computing device (106) being associated with a user;

establishing a wireless connection to the detected computing device (106);

transmitting one or more media content items (114) to the detected computing device (106) via the established wireless connection responsive to said detecting the computing device (106);

transmitting metadata (116) associated with the transmitted media content items (114) to the detected computing device (106) via the established wireless connection; and

providing a subsequent purchase opportunity to the user to purchase the transmitted media content items (114) via the transmitted metadata (116), said subsequent purchase opportunity being provided independent of the predefined proximity.

2. The method of claim 1, wherein the computing device comprises one or more of the following: a mobile telephone, a personal data assistant, a portable digital media player, a laptop, and a personal computer.

3. The method of claim 1, further comprising authenticating the user.

4. The method of claim 1, wherein providing the subsequent purchase opportunity comprises providing the subsequent purchase opportunity outside of the predefined proximity.

5. The method of claim 1, wherein establishing the wireless connection comprises establishing a peer-to-peer connection with the computing device.

6. The method of claim 1, wherein transmitting the media content items to the detected computing device comprises streaming the media content items to the detected computing device, and wherein the computing device renders the transmitted media content items to the user while the computing device is within the predefined proximity.

7. The method of claim 1, further comprising associating a digital rights management policy with the media content items, and wherein transmitting the media content items to the detected computing device comprises transmitting the media content items with the associated digital rights management policy associated therewith to the computing device for storage thereon.

8. The method of claim 7, further comprising deleting the transmitted media content items from the computing device in accordance with the digital rights management policy, wherein the user subsequently purchases one or more of the media content items via the transmitted metadata.

9. The method of claim 1, wherein the user synchronizes the transmitted metadata with another computing device, and wherein the user purchases one or more of the transmitted media content items via the synchronized metadata on the other computing device.

10. The method of claim 9, wherein the predefined proximity is associated with an operator, and further comprising rewarding the operator responsive to the purchase by the user of the one or more of the transmitted media content items.

11. The method of claim 1, wherein the predefined proximity is associated with an operator, and wherein the transmitted media content items include one or more advertisements from the operator.

12. The method of claim 1, wherein detecting the computing device comprises detecting, via a device local to the computing device, the computing device within the predefined proximity, and wherein providing the media content items to the detected computing device comprises providing, via the device local to the computing device, the media content items to the detected computing device.

13. The method of claim 1, wherein establishing the wireless connection to the detected computing device comprises:

transmitting a list of the one or more media content items to the detected computing device; and

responsive to a request received from the detected computing device, establishing the wireless connection to the detected computing device.

14. The method of claim 1, wherein one or more computer-readable media have computer-executable instructions for performing the method recited in claim 1.

15. A method for sharing media content, said method comprising:

detecting, by a first computing device (402), a second computing device (404) within a predefined proximity, said first computing device (402) being associated with a first user, said second computing device (404) being associated with a second user, said first user being subscribed to a media content service;

establishing, by the first computing device (402), a peer-to-peer wireless connection to the second computing device 404 responsive to detecting the second computing device (404);

determining if the second user is subscribed to the media content service;

sharing one or more media content items (114) and associated metadata (116) from the first computing device (402) to the second computing device (404) via the established wireless connection as a function of said determining if the second user is subscribed to the media content service; and

providing a subsequent purchase opportunity to the second user to purchase the shared media content items (114) via the metadata (116), said subsequent purchase opportunity being provided independent of the predefined proximity.

16. The method of claim 15, wherein sharing the one or more media content items and associated metadata comprises streaming the one or more media content items and associated metadata to the second computing device for rendering by the second computing device.

17. The method of claim 15, wherein sharing the one or more media content items and associated metadata comprises downloading the one or more media content items and associated metadata to the second computing device for storage thereon.

18. A media content purchasing system comprising:

a memory area (110) associated with a media service (102), said memory area (110) storing a plurality of media content items (114) and associated metadata (116);

a media server (120) connected to the media service (102) via a data communications network (103);

a portable computing device (106) associated with a user; and

a processor associated with the portable computing device (106), said processor being configured to execute computer-executable instructions for:

establishing a connection to the media server (102) when the media server (102) and the portable computing device (106) are within a predefined proximity;

transmitting digital content distribution criteria to the media server (120) via the established connection;

receiving, responsive to transmission of the digital content distribution criteria, promotional copies of one or more of the media content items (114) and associated metadata (116) from the memory area (110) via the media service (102), said one or more of the media content items (114) being identified by the media server (120) based on the transmitted digital content distribution criteria; and

purchasing, when the media server (120) and the portable computing device (106) are outside the predefined proximity, at least one of the one or more of the media content items (114) from the memory area (110) via the media service (102), said purchasing occurring via the metadata (116) associated with said at least one of the one or more of the media content items (114).

19. The media content purchasing system of claim 18, wherein the processor is further configured to execute computer-executable instructions for authenticating the media server prior to transmitting the digital content distribution criteria.

20. The media content purchasing system of claim 18, further comprising means for providing the purchase opportunity.

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FIG. 1

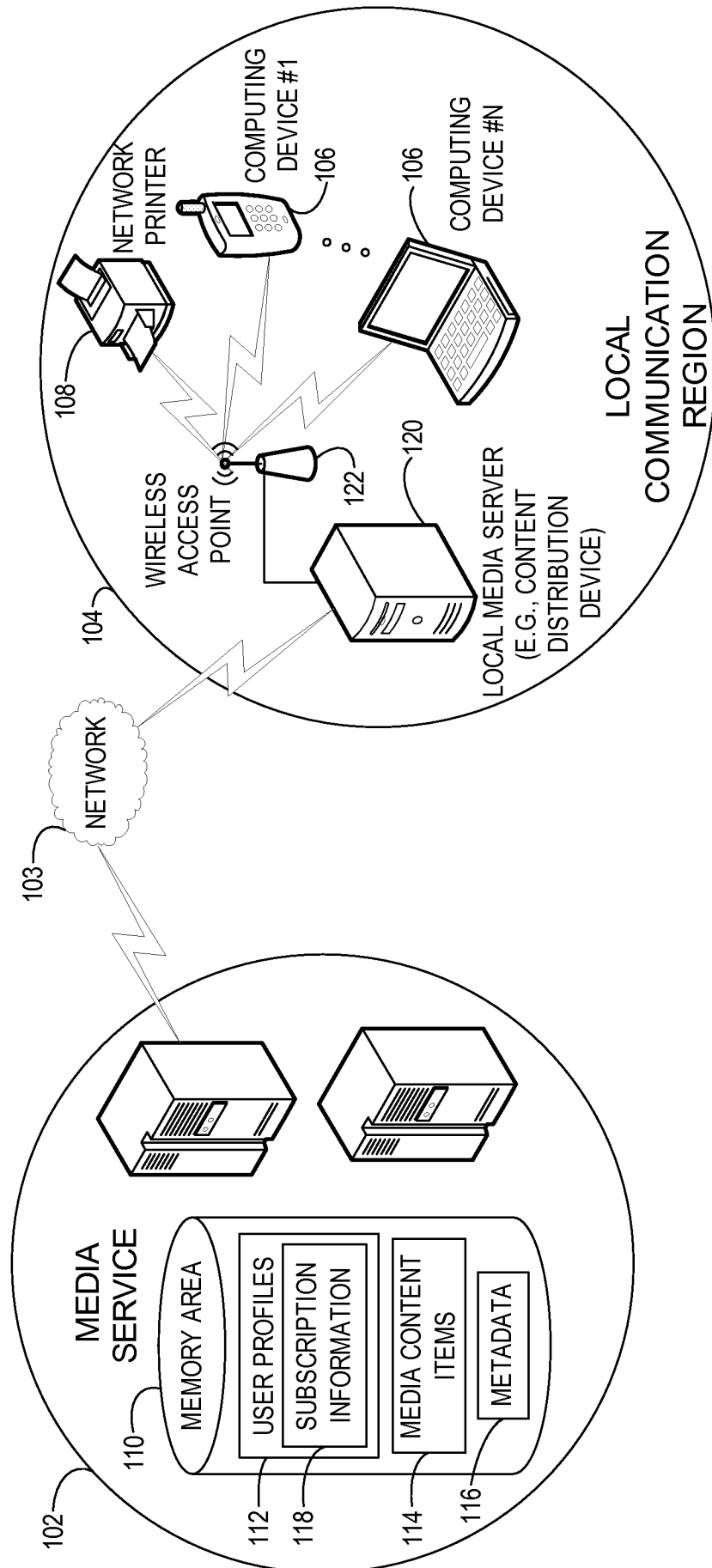
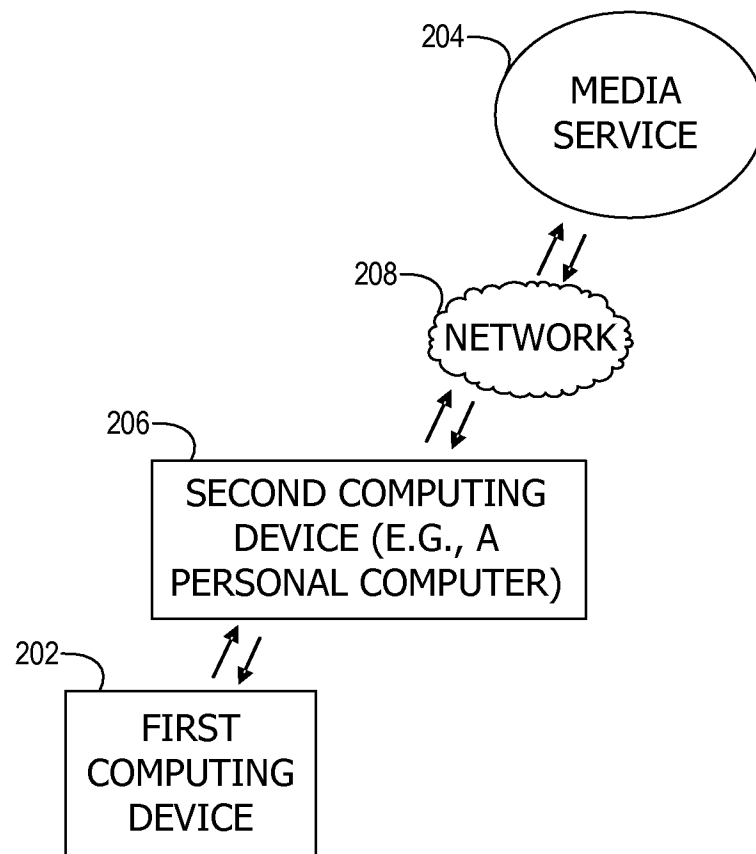


FIG. 2



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FIG. 3

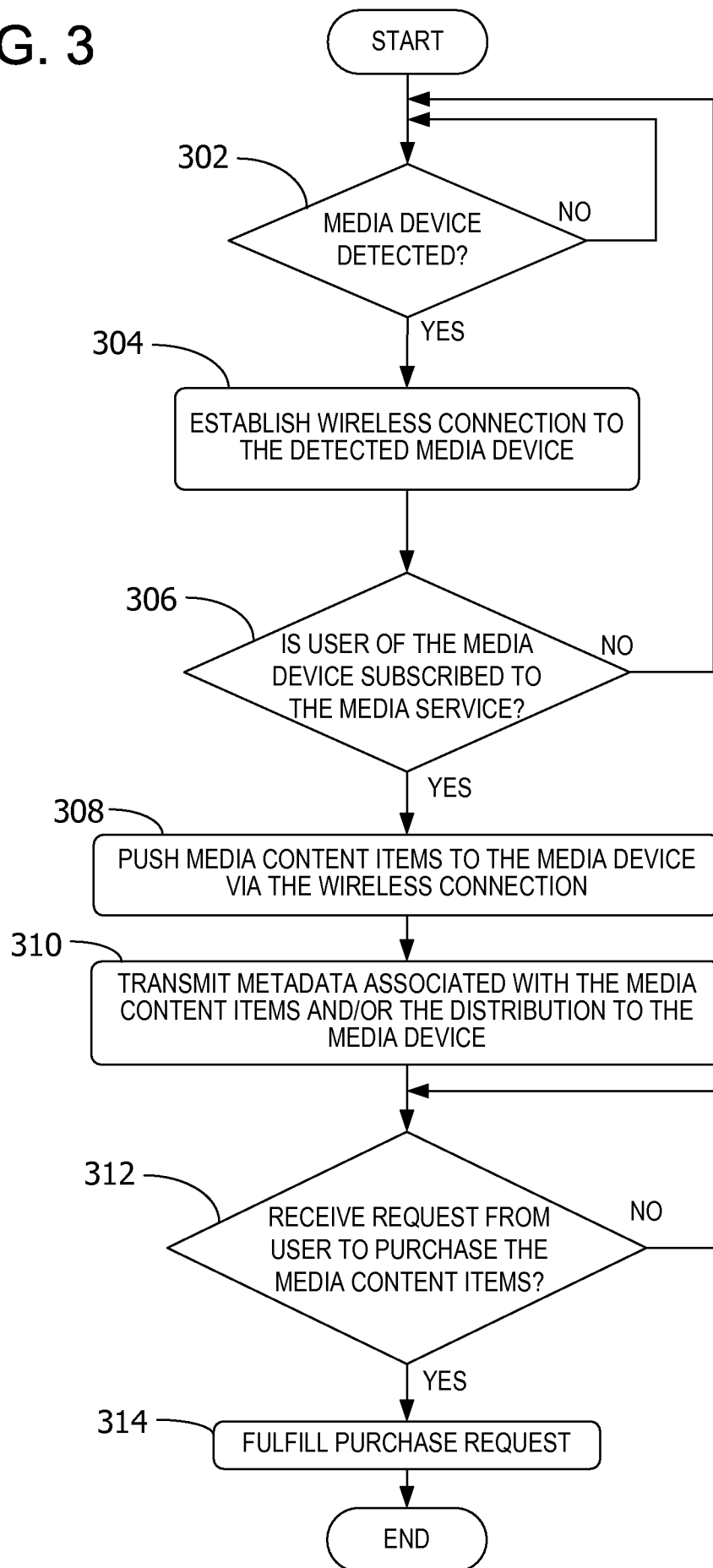


FIG. 4

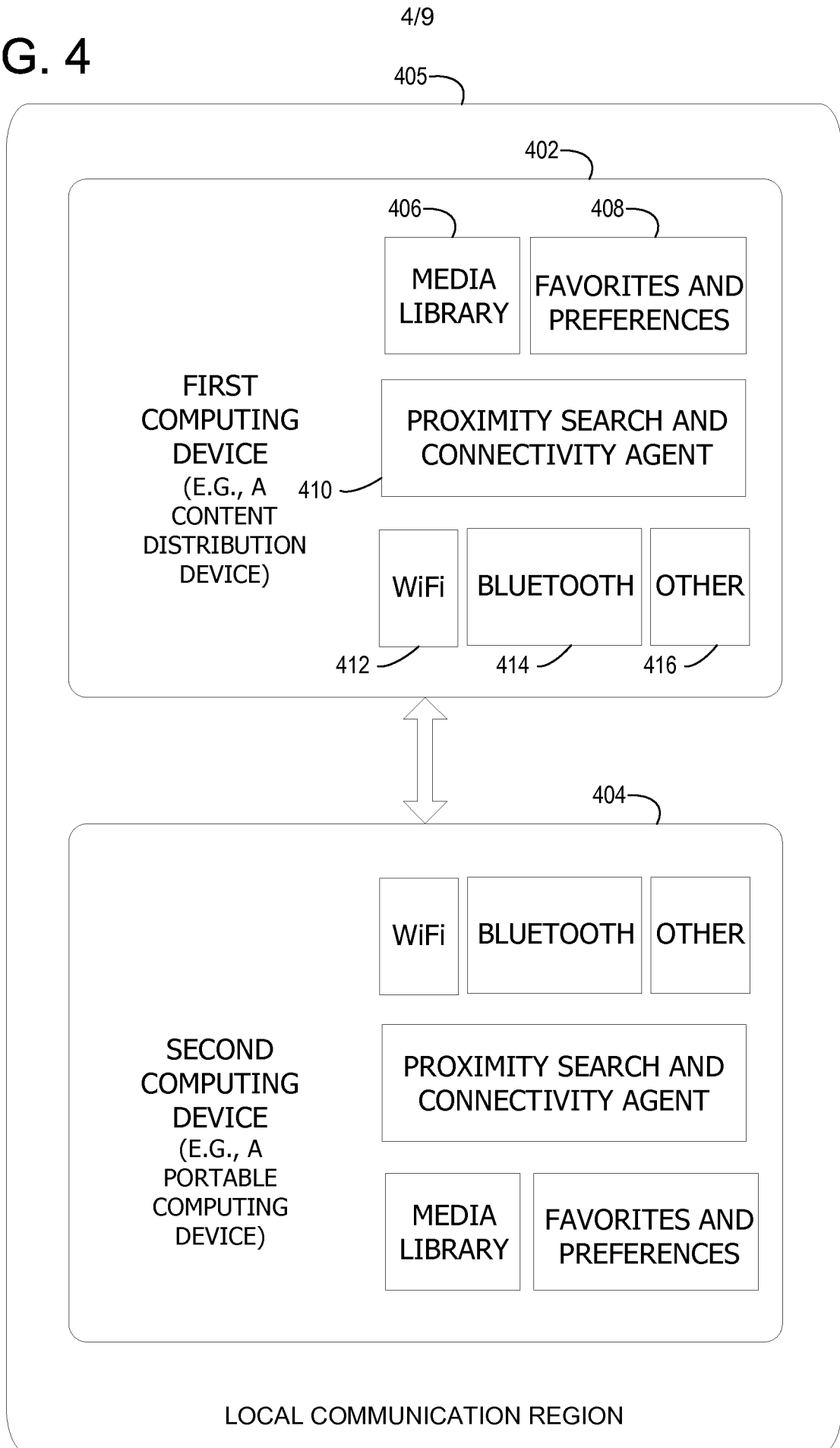


FIG. 5



FIG. 6

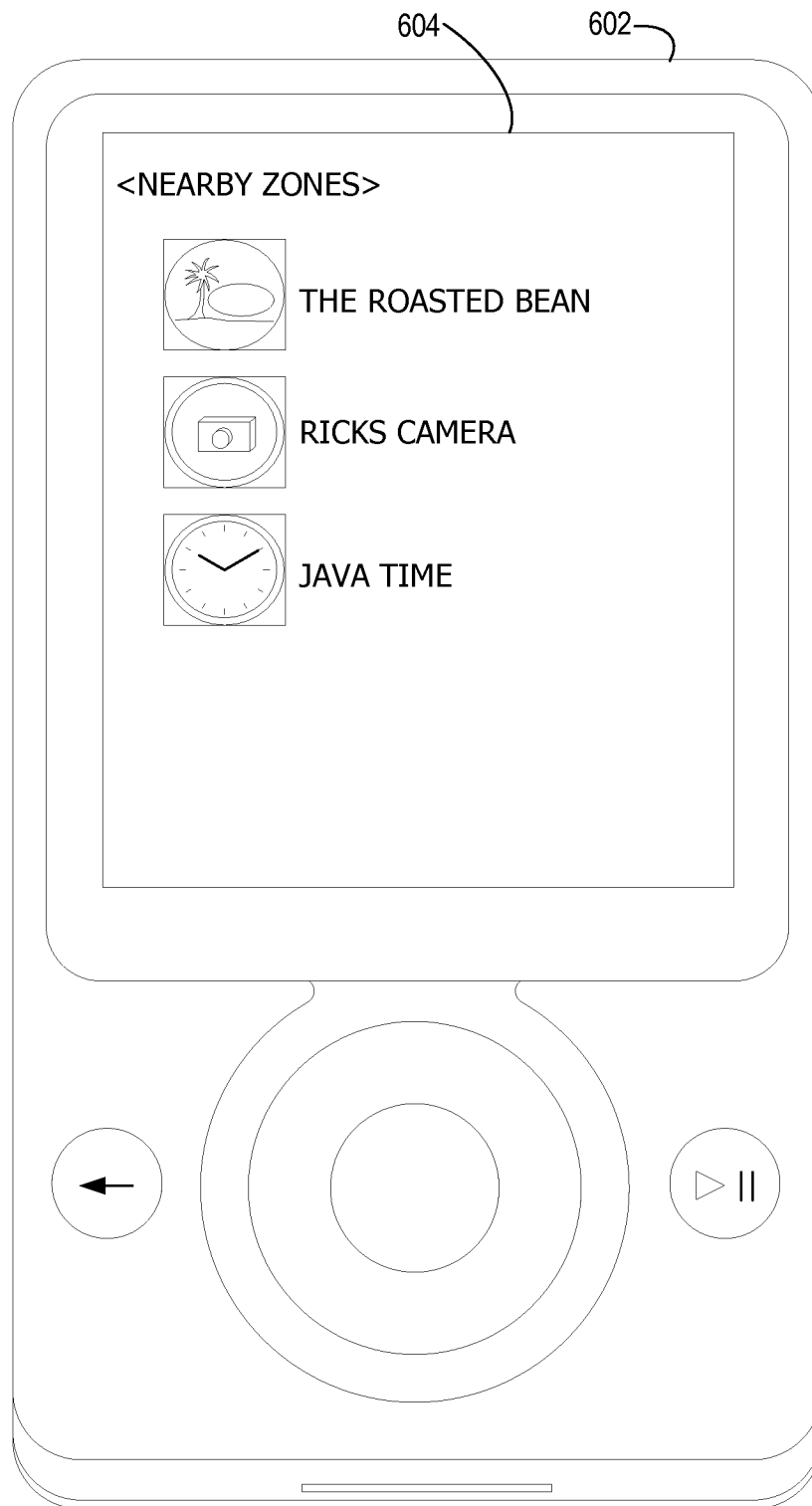


FIG. 7

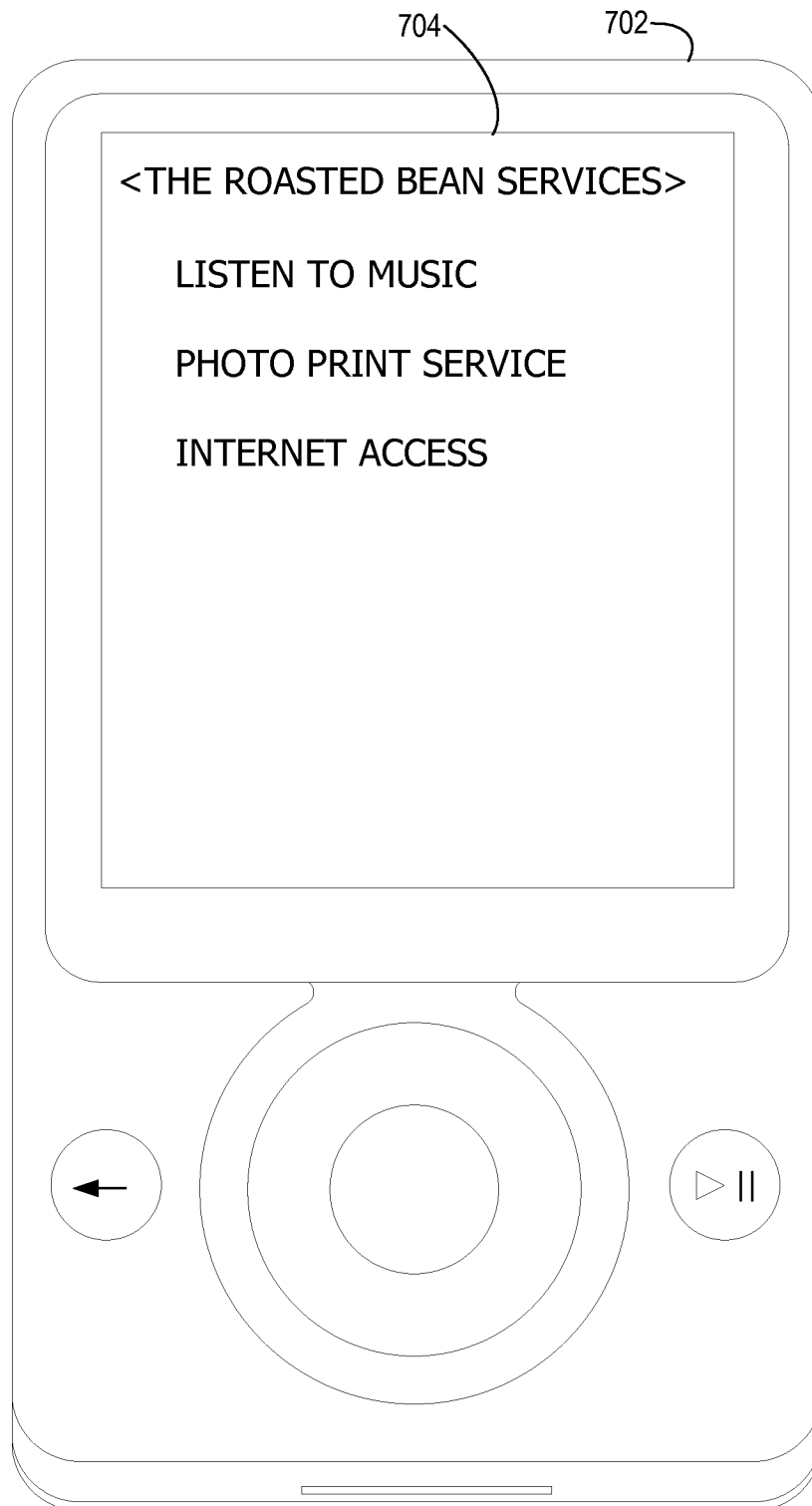


FIG. 8

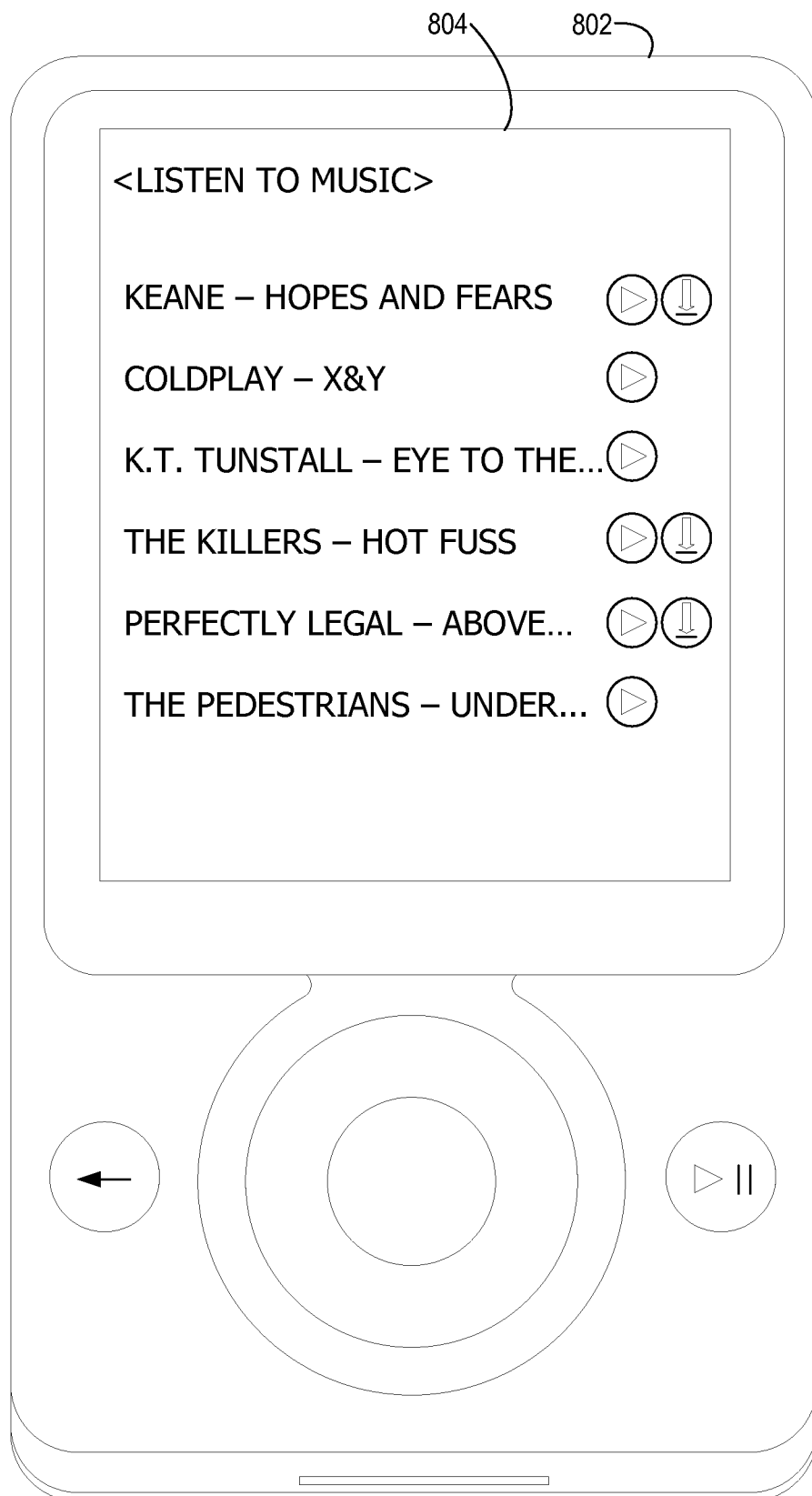


FIG. 9



JOURNAL

SEARCH

TITLE	ARTIST	ALBUM	ACTION	FROM
MEDIADUDE-TODAY 11:42am				
PAVEMENT CRACKS	ANNIE LENNOX	BARE	DOWNLOAD	MEDIADUDE
VERTIGO	U2	HOW TO DIS...	DOWNLOAD	MEDIADUDE
WHATSERNAME	GREEN DAY	AMERICAN IDIOT...	SEARCH	MEDIADUDE
JEETERS-YESTERDAY 2:17pm				
SQUARE ONE	COLDPLAY	X&Y	DOWNLOAD	JEETERS
WHAT IF	COLDPLAY	X&Y	DOWNLOAD	JEETERS
WHITE SHADOWS	COLDPLAY	X&Y	DOWNLOAD	JEETERS
FIX YOU	COLDPLAY	X&Y	BUY	JEETERS
TALK	COLDPLAY	X&Y	DOWNLOAD	JEETERS
X&Y	COLDPLAY	X&Y	BUY	JEETERS
SPEED OF SOUND	COLDPLAY	X&Y	BUY	JEETERS
A MESSAGE	COLDPLAY	X&Y	DOWNLOAD	JEETERS
LOW	COLDPLAY	X&Y	DOWNLOAD	JEETERS
MARKY MARK-7/12/06 7:56pm				
AMERICAN IDIOT	GREEN DAY	AMERICAN IDIOT...	SEARCH	MARKY MARK
HOW TO BE DEAD	SNOW PATROL	FINAL STRAW	DOWNLOAD	MARKY MARK
GRAZED KNEES	SNOW PATROL	FINAL STRAW	DOWNLOAD	MARKY MARK

PLAYLISTS
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 MUSIC
 RADIO
 MARKETPLACE
 HOME
 PLAYLISTS
 CHARTS
 ARTISTS
 ALBUM
 SONGS
 GENRE
 YEAR
 DOWNLOAD MANAGER
 CD/DVD
 MEDIA SERVICE

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/079036**A. CLASSIFICATION OF SUBJECT MATTER****G06F 15/16(2006.01)i, G06F 17/00(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC8 G06F 15/16, 17/60, H04N 7/16, H04L 9/00

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

Korean Utility models and applications for Utility Models since 1975

Japanese Utility models and applications for Utility Models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS(KIPO internal) "wireless, contents, purchase, portable, terminal, and similar terms"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PA	US 20070027776 A1 (DANIEL W. FARROW) 01 Feb. 2007 See Summary of the invention, Paragraphs [0015] - [0058]	1 - 20
A	US 20050131837 A1 (JEANNE DE SANCTIS et al.) 16 June 2005 See Summary of the invention, Paragraphs [0026] - [0033]	1 - 20
A	US 20060218613 A1 (WILLIAM JACKSON BUSHNELL) 28 Sep. 2006 See Summary of the invention, Paragraphs [0013] - [0020]	1 - 20
A	US 20020065732 A1 (PETER JAMES RODGERS et al.) 30 May 2002 See Summary of the invention, Paragraphs [0022] - [0025]	1 - 20
A	US 20020029169 A1 (KATSUHIKO OKI et al.) 07 Mar. 2002 See Summary of the invention, Paragraphs [0021] - [0069]	1 - 20

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

29 JANUARY 2008 (29.01.2008)

Date of mailing of the international search report

29 JANUARY 2008 (29.01.2008)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

JEONG, Jae Woo

Telephone No. 82-42-481-5718



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2007/079036

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