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Indicating an Association Between a Social-Media Account and a Media Playback System

Abstract

Examples disclosed herein include a social-media computing system receiving, from a first computing device, a first message indicating that a media playback system is associated with a first social-media account; and based on the received first message, sending, to a second computing device associated with a second social-media account, a second message indicating that the media playback system is associated with the first social-media account. The examples may also include the second computing device receiving, from the social-media computing system, the second message; and based on the received second message, causing display of an indication of the association between the media playback system and the second social-media account.

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Background/Summary

CROSS REFERENCE TO RELATED APPLICATIONS [0001] This application is a continuation of U.S. application Ser. No. 17/822,851, titled "Indicating an Association Between a Social-Media Account and a Media Playback System," filed on Aug. 29, 2022, and currently pending; U.S. application Ser. No. 17/822,851 is a continuation of U.S. application Ser. No. 17/131,001, titled "Indicating an Association Between a Social-Media Account and a Media Playback System," filed on Dec. 22, 2020, and issued on Aug. 30, 2022, as U.S. Pat. No. 11,431,771; U.S. application Ser. No. 17/131,001 is a continuation of U.S. application Ser. No. 15/607,267, titled "Indicating an Association Between a Social-Media Account and a Media Playback System," filed on May 26, 2017, and issued on Dec. 22, 2020, as U.S. Pat. No. 10,873,612; U.S. application Ser. No. 15/607,267 is a continuation of U.S. application Ser. No. 14/495,706, titled "Indicating an Association Between a Social-Media Account and a Media Playback System," filed on Sep. 24, 2014, and issued on May 30, 2017, as U.S. Pat. No. 9,667,679. The entire contents of U.S. applications Ser. Nos. 17/822,851; 17/131,001; 15/607,267; and 14/495,706 are incorporated herein by reference. [0002] This application also related to and incorporates the entire contents of the following applications by reference: (i) U.S. application Ser. No. 14/495,595, titled "Social Media Queue," filed Sep. 24, 2014, and issued on Jun. 27, 2017, as U.S. Pat. No. 9,690,540; (ii) U.S. application Ser. No. 14/495,633, titled "Playback Updates," filed on Sep. 24, 2014, and issued on May 5, 2020, as U.S. Pat. No. 10,645,130; (iii) U.S. application Ser. No. 14/495,590, titled "Associating a Captured Image with a Media Item," filed Sep. 24, 2014, and issued on Jan. 2, 2018, as U.S. Pat. No. 9,860,286; (iv) U.S. application Ser. No. 14/495,659, titled "Media Item Context from Social Media," filed Sep. 24, 2014, and issued on May 1, 2018, as U.S. Pat. No. 9,959,087; and (v) U.S. application Ser. No. 14/495,684, titled "Social Media Connection Recommendations Based on Playback Information," filed Sep. 24, 2014, and issued on Aug. 1, 2017 as U.S. Pat. No. 9,723,038.

FIELD OF THE DISCLOSURE
[0003] The disclosure is related to consumer goods and, more particularly, to methods, systems, products, features, services, and other items directed to media playback or some aspect thereof.
BACKGROUND
[0004] Options for accessing and listening to digital audio in an out-loud setting were severely limited until in 2003, when SONOS, Inc. filed for one of its first patent applications, entitled "Method for Synchronizing Audio Playback between Multiple Networked Devices," and began offering a media playback system for sale in 2005. The Sonos Wireless HiFi System enables people to experience music from virtually unlimited sources via one or more networked playback devices. Through a software control application installed on a smartphone, tablet, or computer, one can play what he or she wants in any room that has a networked playback device. Additionally, using the controller, for example, different songs can be streamed to each room with a playback device,

rooms can be grouped together for synchronous playback, or the same song can be heard in all rooms synchronously.

[0005] Given the ever growing interest in digital media, there continues to be a need to develop consumer-accessible technologies to further enhance the listening experience.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] Features, aspects, and advantages of the presently disclosed technology may be better understood with regard to the following description, appended claims, and accompanying drawings where:

[0007] FIG. **1** shows an example network configuration in which certain embodiments may be practiced;

[0008] FIG. **2** shows an example media playback system configuration;

[0009] FIG. **3** shows a functional block diagram of an example playback device;

[0010] FIG. **4** shows a functional block diagram of an example control device;

[0011] FIG. **5** shows an example controller interface;

[0012] FIG. **6** shows a flow diagram of an example method;

[0013] FIG. **7** shows a flow diagram of an example method;

[0014] FIG. **8** shows an example display; and

[0015] FIG. **9** shows an example display.

[0016] The drawings are for the purpose of illustrating example embodiments, but it is understood that the inventions are not limited to the arrangements and instrumentality shown in the drawings.

DETAILED DESCRIPTION

I. Overview

[0017] In some examples, it may be useful for certain playback operations of a media playback system associated with a first social-media account to be provided to a computing device associated with a second social-media account, in order to create an interactive and/or shared media experience. For example, a first user may sign in to their social-media account and be able to learn about media content that a second user is accessing (and perhaps see a playback zone where the second user is listening to the media content), provide comments to the second user (and/or other users) regarding the media content, suggest other media content for the second user to experience, and/or access the media content himself/herself.

[0018] For instance, a first computing device may be communicatively coupled to and/or configured to control the media playback system. In some instances, the media playback system (or a media system server) may authenticate the first computing device by receiving, from the first computing device, credentials corresponding to the media playback system (or corresponding to a playback system account that corresponds to the media playback system). The first computing device may also be authenticated by a social-media server (e.g., a social-media server that manages or is otherwise associated with the first and second social-media accounts) by receiving, from the first computing device, credentials corresponding to the first social-media account. Additionally, the first computing device may detect one or more inputs representing a command to associate the media playback system (or the playback system account) with the first social-media account. This may cause the first computing device to send to the social-media server (i) data indicating the association between the first social-media account and the media playback system (or playback system account), and/or (ii) data related to playback operations of the media playback system.

[0019] The social-media server may then provide the data related to the playback operations and/or indicating the association to other computing devices that have also been authenticated by the social-media server. For example, a second computing device may be authenticated with the social-

media server using credentials corresponding to the second social-media account and may receive the data from the social-media server. In one example, if the social-media server has received, from a computing device associated with the first social-media account, an authorization for the data to be shared publically, the data may be made available to any or all computing devices associated with any social-media account of the social-media server (including the second computing device). In another example, the authorization to receive the data may be limited to a particular group of social-media accounts (e.g., a "friend list" associated with the first social-media account), and the social-media server might provide the data only to a group of computing devices authenticated as belonging to the group (perhaps including the second computing device).

[0020] In some examples, the second computing device (e.g., associated with the second social-media account) may cause display of an indication of the association between the first social-media account and the media playback system. The indication may take the form of a graphic, text, and/or particular colors, among other examples.

[0021] The indication may further indicate whether the media playback system (associated with the first social-media account) is currently playing back media content, and if so, may identify the media content being played back. In another example, the indication may further indicate that the media playback system is not currently playing back media content, but may identify the media content that was previously (or last) played back by the media playback system.

[0022] As indicated above, examples provided herein are directed to sharing data indicating an association of a media playback system (or a playback system account) and a social-media account and/or sharing data related to playback operations of a media playback system associated with a social-media account. The data may be shared with one or more computing devices associated with other social-media accounts.

[0023] In one aspect, a method is provided. The method involves receiving, by a social-media computing system from a first computing device, a first message indicating that a media playback system is associated with a first social-media account; and based on the received first message, sending, to a second computing device associated with a second social-media account, a second message indicating that the media playback system is associated with the first social-media account.

[0024] In another aspect, a social-media computing system is provided. The social-media computing system includes a processor and a non-transitory computer-readable medium storing instructions that when executed by the processor, cause the social-media computing system to perform functions. The functions include receiving, from a first computing device, a first message indicating that a media playback system is associated with a first social-media account; and based on the received first message, sending, to a second computing device associated with a second social-media account, a second message indicating that the media playback system is associated with the first social-media account.

[0025] In yet another aspect, a non-transitory computer-readable medium is provided. The non-transitory computer-readable medium stores instructions that when executed by a social-media computing system cause the social-media computing system to perform functions. The functions include receiving, from a first computing device, a first message indicating that a media playback system is associated with a first social-media account; and based on the received first message, sending, to a second computing device associated with a second social-media account, a second message indicating that the media playback system is associated with the first social-media account.

[0026] In yet another aspect, a method is provided. The method includes receiving from a social-media computing system, by a computing device associated with a first social-media account, a message indicating that a media playback system is associated with a second social-media account; and based on the received message, causing display, by the computing device, of an indication of the association between the media playback system and the second social-media account.

[0027] In yet another aspect, a computing device associated with a first social-media account is provided. The computing device includes a processor and a non-transitory computer-readable medium that stores instructions that when executed by the processor cause the computing device to perform functions. The functions include receiving from a social-media computing system, a message indicating that a media playback system is associated with a second social-media account; and based on the received message, causing display of an indication of the association between the media playback system and the second social-media account.

[0028] In yet another aspect, a non-transitory computer-readable medium is provided. The non-transitory computer-readable medium stores instructions that when executed by a computing device associated with a first social-media account cause the computing device to perform functions. The functions include receiving from a social-media computing system, a message indicating that a media playback system is associated with a second social-media account; and based on the received message, causing display of an indication of the association between the media playback system and the second social-media account.

[0029] It will be understood by one of ordinary skill in the art that this disclosure includes numerous other embodiments.

II. Example Network Configuration

[0030] FIG. **1** shows an example network configuration **100** in which one or more embodiments disclosed herein may be practiced or implemented. As shown, the network configuration **100** includes a wide area network ("WAN") **110** that communicatively couples a media system server **120**, a social-media server **130**, one or more media playback systems **140** and **142**, and one or more computing devices **150**, **152**, and **154**. It should be understood that the network configuration **100** may include more or fewer of the depicted network elements and/or may include various other network elements not shown in FIG. **1** (e.g. one or more media sources).

[0031] In examples, the WAN **110** may include the Internet and/or one or more cellular networks, among other networks. Although the WAN **110** is shown as one network, it should be understood that the WAN **110** may include multiple, distinct WANs that are themselves communicatively linked. The WAN **110** may facilitate transferring data between one or more of the various network elements shown in FIG. **1**. In some examples, a given network element may communicate with another network element through yet another network element. For instance, the media playback systems **140** and **142** may communicate with the social-media server **130** through the media system server **120** and/or the computing devices **150-154** may communicate with the media system server **120** through the social-media server **130**. Other examples are also possible.

[0032] In some examples, certain network elements may be communicatively coupled to other network elements via means other than the WAN **110**. In particular, certain network elements may be communicatively coupled via a local area network (e.g., via WiFi), a personal area network (e.g., via Bluetooth), and/or other connections (e.g., via a wired connection). For example, the computing device **150** may communicate with the media playback system **140** via a local area network (e.g., WiFi or perhaps according to a proprietary protocol). The computing device **150** may do so while operating as part of the media playback system **140** (e.g., as a control device).

[0033] The media system server **120** may include a network interface, a processing unit, and data storage, all of which may be communicatively linked together by a system bus, network, or other connection mechanism. The network interface may facilitate data flow over the WAN **110** between the media system server **120** and other network elements. The processing unit may include one or more general purpose processors and/or one or more special purpose processors and may be integrated in whole or in part with the network interface. The data storage may include a non-transitory computer-readable medium, such as optical, magnetic, or flash memory, and may be integrated in whole or in part with the processing unit. The data storage may also include program instructions that are executable by the processing unit to carry out various operations described herein.

[0034] Moreover, the media system server **120** may be configured to store and/or access various data related to media items and/or media playback systems. In examples, the media system server **120** may be configured to store and/or access media items that are playable by a media playback system. In such examples, the media system server **120** may be configured to provide to a given media playback system media items (e.g., audio, video, and/or audio-visual files) or links, pointers, or other network location identifiers that are operable to locate the media items. Additionally, the media system server **120** may be configured to store and/or access a cross-service linking database that facilitates identifying a media item from a first media source based on media item information from a second media source.

[0035] The media system server **120** may also be configured to provide one or more media applications to the media playback systems **140-142** and/or the computing devices **150-154**. In some cases, a media application may be operable to allow a computing device to control one or more media playback systems. Additionally or alternatively, a media application may be operable to allow a media playback system to interface with the social-media server **130** and playback media items based on social-media data. Further still, a media application may be operable to provide functions similar to those provided by a social-media application, discussed in further detail below. Other example media applications are also possible.

[0036] In examples, the media system server **120** may be configured to store and/or access account information corresponding to a particular media playback system. Such information, which may be collectively referred herein as a "playback system account", may include system information (e.g., a household identifier (HHID) that is used to uniquely identify the particular media playback system, identifiers of the devices within the particular system, the software version currently installed on the particular media playback system, etc.) user information (e.g., name, date of birth, etc. of the user or users of the particular system), playback history information (e.g., media items previously played on the particular system and perhaps timestamps indicating when such media items were played), playback preference information (e.g., frequency at which a given media item is played, indications of media items that have been "liked" or "starred", etc.), and linked-account information (e.g., one or more social-media accounts that are linked to the particular media playback system). Other examples of information storable and accessible by the media system server **120** are also possible.

[0037] In some examples, a playback system account may also include information regarding the media services that provide media to the particular media playback system. For example, the playback system account may include one or more identifiers of media services that provide media to the particular media playback system. Such information may be used by the media system server **120**, or perhaps the social-media server **130**, to recommend media services that a user might be interested in. Other examples are also possible.

[0038] In practice, the media system server **120** may store some or all of the above-discussed information based on data received from media playback systems (e.g., the media playback systems **140** and **142**), the social-media server **130**, and/or the computing devices **150-154**. In examples, such information may be provided to the media system server **120** when a media playback system is first setup, when a media playback system plays back media items, when a media playback system receives data indicating user feedback, and/or when a computing device runs a media application to control a media playback system, among other scenarios. In any event, the media system server **120** may be configured to provide an option to a user to "opt in" so that the aforementioned information is collected by the media system server **120**.

[0039] The media system server **120** may be further configured to use the above-discussed information to determine playback behaviors of users of media playback systems, among other operations. Based on user playback behaviors, the media system server **120** may perform a number of operations that may add to the users' playback experience. For example, such information may be used to identify a trending artist and then recommend that trending artist to a user whose

playback history indicates he/she listens to other artists similar to the trending artist. Other examples are certainly possible.

[0040] The social-media server **130** may include a network interface, a processing unit, and data storage, similar to those of the media system server **120** discussed above. The social-media server **130** may be configured to provide a social-media service to subscribers to the service. For example, the social-media server **130** may be configured to establish and/or maintain a social network. To this end, the social-media server **130** may be configured to host a social-media webpage accessible over the WAN **110** by subscribers utilizing any suitable computing device, such as the computing devices **150-154**.

[0041] In examples, the social-media server **130** may be configured to store subscriber account information, which may be collectively referred herein as a "social-media account". Such information may include the name, gender, birthdate, email address, and/or residential address, among other information, for each subscriber. Moreover, the social-media server **130** may also be configured to link a given subscriber with a particular media playback system. For example, when a user first subscribes to the social-media service, the user may provide information, such as a HHID, of a media playback system used by the user, and the social-media server **130** may then store such information in the account of the subscriber.

[0042] In addition to subscriber account information, the social-media server **130** may also be configured to store respective subscriber profiles for each subscriber. Broadly speaking, a subscriber profile may include information regarding a subscriber's life, such as relationship status, photos, videos, career information, education information, hobbies/interests, locations visited (e.g., "check-in" locations), sports teams that the subscriber is a fan of, and/or movies, books, artists, TV shows, and the like that the subscriber previously experienced and perhaps enjoyed. Such information may be presented on a subscriber profile in a number of manners, such as through subscriber posts, status updates, blogs, and other uploads.

[0043] The social network provided by the social-media server **130** may be configured so that subscribers may readily share and exchange information, ideas, creations, and the like over a virtual community. The social-media service may provide to its subscribers, via a social-media webpage, respective social-media information that is determined to be relevant to a particular subscriber. Such information may be provided in several manners (e.g., as a "news feed", "timeline", or the like) and may be personalized to fit the preferences of a particular subscriber. In examples, this information may be continuously updated to reflect the most current information that may be relevant to a particular subscriber.

[0044] A given subscriber may have certain "friends" that he/she chooses to associate with. After someone is deemed a "friend" with a given subscriber, the given subscriber may then receive social information that is uploaded, tagged, posted, or otherwise provided by the "friend." For example, the given subscriber's news feed may show a photograph that a "friend" captured and subsequently posted to the social-media webpage. Moreover, a listing of a given subscriber's "friends" may also be provided and that listing may include various information in various forms reflecting a current "status" or the like for a given "friend." The given subscriber may at also be able to "de-friend" someone that was previously deemed a "friend."

[0045] In practice, the social-media server **130** may be configured to collect and analyze the information that is shared and exchanged over the social-media service. The social-media server **130** may be configured to use this collected information, as well as subscriber account information, to determine for a particular subscriber other subscribers that the particular subscriber might want to become "friends" with. In this way, the social-media server **130** may be configured to determine the preferences and/or tastes of its subscribers and recommend other subscribers with similar tastes.

[0046] Moreover, the social-media server **130** may be configured to provide one or more social-media applications that are operable to provide subscribers access to the social-media service in a manner different than through a web browser. Such an application may be installed on a computing

device that is perhaps portable. In examples, a social-media application may further be operable to provide functions similar to those provided by a media application, as discussed above.

[0047] Furthermore, a social-media application, and/or perhaps a media application, installed on a computing device may be operable to determine what, if any, other applications are also installed on the computing device. An application that is operable in such a manner may facilitate linking a playback system account with a social-media account and vice versa. In examples, after a social-media application installed on a computing device is linked to a playback system account, the social-media application may be operable to affect playback of media at a media playback system identified by the playback system account.

[0048] In examples, the network configuration **100** may also include one or more media service provider servers communicatively coupled to the WAN **110**. In general, a given media service provider server may correspond to a media service provider that provides streaming media, such as Internet radio and/or "on-demand" media, to the media playback systems **140**-**142** and/or the computing devices **150**-**154**. A user may subscribe to such a service and register media devices (e.g., a media playback system and/or one or more computing devices) that may at times be used to access the media service. A media service provider server may include similar components as the servers discussed above.

[0049] Generally speaking, the media playback systems **140** and **142** may be any type of media playback system configured to receive and transmit data over a communication network and playback media items. In practice, each media playback system **140** and **142** may include one or more playback devices, as well as additional system devices (e.g., a controller device). An example media playback system is discussed in further detail below with reference to FIG. **2**. It should be understood that the media playback system **140** and the media playback system **142** may be configured similarly or differently and/or may include similar or different devices.

[0050] In general, each computing device **150**-**154** may be any computing device configured to transfer data over a communication network. The computing devices **150**-**154** may each include at least one processor, memory, a graphical display, an input interface, and a network interface, among other components. In some instances, the graphical display and the input interface may be part of the same component (e.g., a touchscreen). The network interface may facilitate data flow between the computing device and another network element, for example, via the WAN **110**. In some examples, one or more of the computing devices **150**-**154** may also include a camera configured to capture image and/or video data. Example computing devices include, but are not limited to, cellular phones, smartphones, PDAs, tablets, laptops, desktop computers, video game consoles, and smart TVs.

[0051] Moreover, the computing devices **150**-**154** may be configured to download, install, and operate an application, such as a media or social-media application. In examples, a given computing device may include a media application provided by the media system server **120** and a social-media application provided by the social-media server **130**, while another computing device may include one or the other application but not both.

[0052] A computing device may be configured to run both applications at the same time or individually. In some examples, the computing devices **150**-**154** may provide to the media system server **120** and/or the social-media server **130** an indication of applications that are installed on a particular computing device. For instance, the computing device **150** may be configured to provide to the media system server **120** an indication that a social-media application is installed. Additionally or alternatively, the computing device **150** may be configured to provide to the social-media server **130** an indication that a media application is installed and/or active or otherwise currently running.

[0053] Furthermore, a computing device may be configured to provide social-media information and/or media playback information to the media system server **120** and/or the social-media server **130**. Such information may then be used by the media system server **120** and/or the social-media

server **130** to help perform some of the operations disclosed in further detail below.

III. Example Media Playback System

[0054] FIG. **2** shows an example configuration of a media playback system **200**. The media playback system **200** as shown is associated with an example home environment having several rooms and spaces, such as for example, a master bedroom, an office, a dining room, and a living room. As shown in the example of FIG. **2**, the media playback system **200** includes playback devices **202-224**, control devices **226** and **228**, and a wired or wireless network router **230**.

[0055] Further discussions relating to the different components of the example media playback system **200** and how the different components may interact to provide a user with a media experience may be found in the following sections. While discussions herein may generally refer to the example media playback system **200**, technologies described herein are not limited to applications within, among other things, the home environment as shown in FIG. **2**. For instance, the technologies described herein may be useful in environments where multi-zone audio may be desired, such as, for example, a commercial setting like a restaurant, mall or airport, a vehicle like a sports utility vehicle (SUV), bus or car, a ship or boat, an airplane, and so on.

a. Example Playback Devices

[0056] FIG. **3** shows a functional block diagram of an example playback device **300**

[0057] that may be configured to be one or more of the playback devices **202-224** of the media playback system **200** of FIG. **2**. The playback device **300** may include a processor **302**, software components **304**, memory **306**, audio processing components **308**, audio amplifier(s) **310**, speaker(s) **312**, and a network interface **314** including wireless interface(s) **316** and wired interface(s) **318**. In one case, the playback device **300** may not include the speaker(s) **312**, but rather a speaker interface for connecting the playback device **300** to external speakers. In another case, the playback device **300** may include neither the speaker(s) **312** nor the audio amplifier(s) **310**, but rather an audio interface for connecting the playback device **300** to an external audio amplifier or audio-visual receiver.

[0058] In one example, the processor **302** may be a clock-driven computing component configured to process input data according to instructions stored in the memory **306**. The memory **306** may be a tangible computer-readable medium configured to store instructions executable by the processor **302**. For instance, the memory **306** may be data storage that can be loaded with one or more of the software components **304** executable by the processor **302** to achieve certain functions. In one example, the functions may involve the playback device **300** retrieving audio data from an audio source or another playback device. In another example, the functions may involve the playback device **300** sending audio data to another device or playback device on a network. In yet another example, the functions may involve pairing of the playback device **300** with one or more playback devices to create a multi-channel audio environment.

[0059] Certain functions may involve the playback device **300** synchronizing playback of audio content with one or more other playback devices. During synchronous playback, a listener will preferably not be able to perceive time-delay differences between playback of the audio content by the playback device **300** and the one or more other playback devices. U.S. Pat. No. 8,234,395 entitled, "System and method for synchronizing operations among a plurality of independently clocked digital data processing devices," which is hereby incorporated by reference, provides in more detail some examples for audio playback synchronization among playback devices.

[0060] The memory **306** may further be configured to store data associated with the playback device **300**, such as one or more zones and/or zone groups the playback device **300** is a part of, audio sources accessible by the playback device **300**, or a playback queue that the playback device **300** (or some other playback device) may be associated with. The data may be stored as one or more state variables that are periodically updated and used to describe the state of the playback device **300**. The memory **306** may also include the data associated with the state of the other devices of the media system, and shared from time to time among the devices so that one or more

of the devices have the most recent data associated with the system. Other embodiments are also possible.

[0061] The audio processing components **308** may include one or more digital-to-analog converters (DAC), an audio preprocessing component, an audio enhancement component or a digital signal processor (DSP), and so on. In one embodiment, one or more of the audio processing components **308** may be a subcomponent of the processor **302**. In one example, audio content may be processed and/or intentionally altered by the audio processing components **308** to produce audio signals. The produced audio signals may then be provided to the audio amplifier(s) **310** for amplification and playback through speaker(s) **312**. Particularly, the audio amplifier(s) **310** may include devices configured to amplify audio signals to a level for driving one or more of the speakers **312**. The speaker(s) **312** may include an individual transducer (e.g., a "driver") or a complete speaker system involving an enclosure with one or more drivers. A particular driver of the speaker(s) **312** may include, for example, a subwoofer (e.g., for low frequencies), a mid-range driver (e.g., for middle frequencies), and/or a tweeter (e.g., for high frequencies). In some cases, each transducer in the one or more speakers **312** may be driven by an individual corresponding audio amplifier of the audio amplifier(s) **310**. In addition to producing analog signals for playback by the playback device **300**, the audio processing components **308** may be configured to process audio content to be sent to one or more other playback devices for playback.

[0062] Audio content to be processed and/or played back by the playback device **300** may be received from an external source, such as via an audio line-in input connection (e.g., an auto-detecting 3.5 mm audio line-in connection) or the network interface **314**.

[0063] The network interface **314** may be configured to facilitate a data flow between the playback device **300** and one or more other devices on a data network. As such, the playback device **300** may be configured to receive audio content over the data network from one or more other playback devices in communication with the playback device **300**, network devices within a local area network, or audio content sources over a wide area network such as the Internet. In one example, the audio content and other signals transmitted and received by the playback device **300** may be transmitted in the form of digital packet data containing an Internet Protocol (IP)-based source address and IP-based destination addresses. In such a case, the network interface **314** may be configured to parse the digital packet data such that the data destined for the playback device **300** is properly received and processed by the playback device **300**.

[0064] As shown, the network interface **314** may include wireless interface(s) **316** and wired interface(s) **318**. The wireless interface(s) **316** may provide network interface functions for the playback device **300** to wirelessly communicate with other devices (e.g., other playback device(s), speaker(s), receiver(s), network device(s), control device(s), controller device(s) within a data network the playback device **300** is associated with) in accordance with a communication protocol (e.g., any wireless standard including IEEE 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac, 802.15, 4G mobile communication standard, and so on). The wired interface(s) **318** may provide network interface functions for the playback device **300** to communicate over a wired connection with other devices in accordance with a communication protocol (e.g., IEEE 802.3). While the network interface **314** shown in FIG. **3** includes both wireless interface(s) **316** and wired interface(s) **318**, the network interface **314** may in some embodiments include only wireless interface(s) or only wired interface(s).

[0065] In one example, the playback device **300** and one other playback device may be paired to play two separate audio components of audio content. For instance, playback device **300** may be configured to play a left channel audio component, while the other playback device may be configured to play a right channel audio component, thereby producing or enhancing a stereo effect of the audio content. The paired playback devices (also referred to as "bonded playback devices") may further play audio content in synchrony with other playback devices.

[0066] In another example, the playback device **300** may be sonically consolidated with one or

more other playback devices to form a single, consolidated playback device. A consolidated playback device may be configured to process and reproduce sound differently than an unconsolidated playback device or playback devices that are paired, because a consolidated playback device may have additional speaker drivers through which audio content may be rendered. For instance, if the playback device **300** is a playback device designed to render low frequency range audio content (i.e. a subwoofer), the playback device **300** may be consolidated with a playback device designed to render full frequency range audio content. In such a case, the full frequency range playback device, when consolidated with the low frequency playback device **300**, may be configured to render only the mid and high frequency components of audio content, while the low frequency range playback device **300** renders the low frequency component of the audio content. The consolidated playback device may further be paired with a single playback device or yet another consolidated playback device.

[0067] By way of illustration, SONOS, Inc. presently offers (or has offered) for sale certain playback devices including a "PLAY: 1," "PLAY: 3," "PLAY: 5," "PLAYBAR," "CONNECT: AMP," "CONNECT," and "SUB." Any other past, present, and/or future playback devices may additionally or alternatively be used to implement the playback devices of example embodiments disclosed herein. Additionally, it is understood that a playback device is not limited to the example illustrated in FIG. **3** or to the SONOS product offerings. For example, a playback device may include a wired or wireless headphone. In another example, a playback device may include or interact with a docking station for personal mobile media playback devices. In yet another example, a playback device may be integral to another device or component such as a television, a lighting fixture, or some other device for indoor or outdoor use.

b. Example Playback Zone Configurations

[0068] Referring back to the media playback system **200** of FIG. **2**, the environment may have one or more playback zones, each with one or more playback devices. The media playback system **200** may be established with one or more playback zones, after which one or more zones may be added, or removed to arrive at the example configuration shown in FIG. **2**. Each zone may be given a name according to a different room or space such as an office, bathroom, master bedroom, bedroom, kitchen, dining room, living room, and/or balcony. In one case, a single playback zone may include multiple rooms or spaces. In another case, a single room or space may include multiple playback zones.

[0069] As shown in FIG. **2**, the balcony, dining room, kitchen, bathroom, office, and bedroom zones each have one playback device, while the living room and master bedroom zones each have multiple playback devices. In the living room zone, playback devices **204**, **206**, **208**, and **210** may be configured to play audio content in synchrony as individual playback devices, as one or more bonded playback devices, as one or more consolidated playback devices, or any combination thereof. Similarly, in the case of the master bedroom, playback devices **222** and **224** may be configured to play audio content in synchrony as individual playback devices, as a bonded playback device, or as a consolidated playback device.

[0070] In one example, one or more playback zones in the environment of FIG. **2** may each be playing different audio content. For instance, the user may be grilling in the balcony zone and listening to hip hop music being played by the playback device **202** while another user may be preparing food in the kitchen zone and listening to classical music being played by the playback device **214**. In another example, a playback zone may play the same audio content in synchrony with another playback zone. For instance, the user may be in the office zone where the playback device **218** is playing the same rock music that is being playing by playback device **202** in the balcony zone. In such a case, playback devices **202** and **218** may be playing the rock music in synchrony such that the user may seamlessly (or at least substantially seamlessly) enjoy the audio content that is being played out-loud while moving between different playback zones. Synchronization among playback zones may be achieved in a manner similar to that of

synchronization among playback devices, as described in previously referenced U.S. Pat. No. 8,234,395.

[0071] As suggested above, the zone configurations of the media playback system **200** may be dynamically modified, and in some embodiments, the media playback system **100** supports numerous configurations. For instance, if a user physically moves one or more playback devices to or from a zone, the media playback system **200** may be reconfigured to accommodate the change(s). For instance, if the user physically moves the playback device **202** from the balcony zone to the office zone, the office zone may now include both the playback device **218** and the playback device **202**. The playback device **202** may be paired or grouped with the office zone and/or renamed if so desired via a control device such as the control devices **226** and **228**. On the other hand, if the one or more playback devices are moved to a particular area in the home environment that is not already a playback zone, a new playback zone may be created for the particular area.

[0072] Further, different playback zones of the media playback system **200** may be dynamically combined into zone groups or split up into individual playback zones. For instance, the dining room zone and the kitchen zone **214** may be combined into a zone group for a dinner party such that playback devices **212** and **214** may render audio content in synchrony. On the other hand, the living room zone may be split into a television zone including playback device **204**, and a listening zone including playback devices **206**, **208**, and **210**, if the user wishes to listen to music in the living room space while another user wishes to watch television.

c. Example Control Devices

[0073] FIG. **4** shows a functional block diagram of an example control device **400** that may be configured to be one or both of the control devices **226** and **228** of the media playback system **200**. As shown, the control device **400** may include a processor **402**, memory **404**, a network interface **406**, and a user interface **408**. In one example, the control device **400** may be a dedicated controller for the media playback system **200**.

[0074] In another example, the control device **400** may be a network device on which media application software is installed, such as an iPhone™, iPad™ or any other smart phone, tablet or network device (e.g., a networked computer such as a PC or Mac™). In examples, the media application may take the form of a media playback system controller application operable to control a media playback system. In yet another example, the media application may be operable to cause the control device **400** to obtain media (e.g., from a given media service provider associated with the media application) independent from a media playback system and may also be operable as a control device of a media playback system.

[0075] The processor **402** may be configured to perform functions relevant to facilitating user access, control, and configuration of the media playback system **200**. The memory **404** may be configured to store instructions executable by the processor **402** to perform those functions.

[0076] The memory **404** may also be configured to store the media playback system controller application software and other data associated with the media playback system **200** and the user.

[0077] In one example, the network interface **406** may be based on an industry standard (e.g., infrared, radio, wired standards including IEEE 802.3, wireless standards including IEEE 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac, 802.15, 4G mobile communication standard, and so on). The network interface **406** may provide a means for the control device **400** to communicate with other devices in the media playback system **200**. In one example, data and information (e.g., such as a state variable) may be communicated between control device **400** and other devices via the network interface **406**. For instance, playback zone and zone group configurations in the media playback system **200** may be received by the control device **400** from a playback device or another network device, or transmitted by the control device **400** to another playback device or network device via the network interface **406**. In some cases, the other network device may be another control device.

[0078] Playback device control commands such as volume control and audio playback control may

also be communicated from the control device **400** to a playback device via the network interface **406**. As suggested above, changes to configurations of the media playback system **200** may also be performed by a user using the control device **400**. The configuration changes may include adding/removing one or more playback devices to/from a zone, adding/removing one or more zones to/from a zone group, forming a bonded or consolidated player, separating one or more playback devices from a bonded or consolidated player, among others. Accordingly, the control device **400** may sometimes be referred to as a controller, whether the control device **400** is a dedicated controller or a network device on which media playback system controller application software is installed.

[0079] The user interface **408** of the control device **400** may be configured to facilitate user access and control of the media playback system **200**, by providing a controller interface such as the controller interface **500** shown in FIG. **5**. The controller interface **500** includes a playback control region **510**, a playback zone region **520**, a playback status region **530**, a playback queue region **540**, and an audio content sources region **550**. The user interface **500** as shown is just one example of a user interface that may be provided on a network device such as the control device **400** of FIG. **4** (and/or the control devices **226** and **228** of FIG. **2**) and accessed by users to control a media playback system such as the media playback system **200**. Other user interfaces of varying formats, styles, and interactive sequences may alternatively be implemented on one or more network devices to provide comparable control access to a media playback system.

[0080] The playback control region **510** may include selectable (e.g., by way of touch or by using a cursor) icons to cause playback devices in a selected playback zone or zone group to play or pause, fast forward, rewind, skip to next, skip to previous, enter/exit shuffle mode, enter/exit repeat mode, enter/exit cross fade mode. The playback control region **510** may also include selectable icons to modify equalization settings, and playback volume, among other possibilities.

[0081] The playback zone region **520** may include representations of playback zones within the media playback system **200**. In some embodiments, the graphical representations of playback zones may be selectable to bring up additional selectable icons to manage or configure the playback zones in the media playback system, such as a creation of bonded zones, creation of zone groups, separation of zone groups, and renaming of zone groups, among other possibilities.

[0082] For example, as shown, a "group" icon may be provided within each of the graphical representations of playback zones. The "group" icon provided within a graphical representation of a particular zone may be selectable to bring up options to select one or more other zones in the media playback system to be grouped with the particular zone. Once grouped, playback devices in the zones that have been grouped with the particular zone will be configured to play audio content in synchrony with the playback device(s) in the particular zone. Analogously, a "group" icon may be provided within a graphical representation of a zone group. In this case, the "group" icon may be selectable to bring up options to deselect one or more zones in the zone group to be removed from the zone group. Other interactions and implementations for grouping and ungrouping zones via a user interface such as the user interface **500** are also possible. The representations of playback zones in the playback zone region **520** may be dynamically updated as playback zone or zone group configurations are modified.

[0083] The playback status region **530** may include graphical representations of audio content that is presently being played, previously played, or scheduled to play next in the selected playback zone or zone group. The selected playback zone or zone group may be visually distinguished on the user interface, such as within the playback zone region **520** and/or the playback status region **530**. The graphical representations may include track title, artist name, album name, album year, track length, and other relevant information that may be useful for the user to know when controlling the media playback system via the user interface **500**.

[0084] The playback queue region **540** may include graphical representations of audio content in a playback queue associated with the selected playback zone or zone group. In some embodiments,

each playback zone or zone group may be associated with a playback queue containing information corresponding to zero or more audio items for playback by the playback zone or zone group. For instance, each audio item in the playback queue may comprise a uniform resource identifier (URI), a uniform resource locator (URL) or some other identifier that may be used by a playback device in the playback zone or zone group to find and/or retrieve the audio item from a local audio content source or a networked audio content source, possibly for playback by the playback device.

[0085] In one example, a playlist may be added to a playback queue, in which case information corresponding to each audio item in the playlist may be added to the playback queue. In another example, audio items in a playback queue may be saved as a playlist. In a further example, a playback queue may be empty, or populated but "not in use" when the playback zone or zone group is playing continuously streaming audio content, such as Internet radio that may continue to play until otherwise stopped, rather than discrete audio items that have playback durations. In an alternative embodiment, a playback queue can include Internet radio and/or other streaming audio content items and be "in use" when the playback zone or zone group is playing those items. Other examples are also possible.

[0086] When playback zones or zone groups are "grouped" or "ungrouped," playback queues associated with the affected playback zones or zone groups may be cleared or re-associated. For example, if a first playback zone including a first playback queue is grouped with a second playback zone including a second playback queue, the established zone group may have an associated playback queue that is initially empty, that contains audio items from the first playback queue (such as if the second playback zone was added to the first playback zone), that contains audio items from the second playback queue (such as if the first playback zone was added to the second playback zone), or a combination of audio items from both the first and second playback queues. Subsequently, if the established zone group is ungrouped, the resulting first playback zone may be re-associated with the previous first playback queue, or be associated with a new playback queue that is empty or contains audio items from the playback queue associated with the established zone group before the established zone group was ungrouped. Similarly, the resulting second playback zone may be re-associated with the previous second playback queue, or be associated with a new playback queue that is empty, or contains audio items from the playback queue associated with the established zone group before the established zone group was ungrouped. Other examples are also possible.

[0087] Referring back to the user interface **500** of FIG. **5**, the graphical representations of audio content in the playback queue region **540** may include track titles, artist names, track lengths, and other relevant information associated with the audio content in the playback queue. In one example, graphical representations of audio content may be selectable to bring up additional selectable icons to manage and/or manipulate the playback queue and/or audio content represented in the playback queue. For instance, a represented audio content may be removed from the playback queue, moved to a different position within the playback queue, or selected to be played immediately, or after any currently playing audio content, among other possibilities. A playback queue associated with a playback zone or zone group may be stored in a memory on one or more playback devices in the playback zone or zone group, on a playback device that is not in the playback zone or zone group, and/or some other designated device.

[0088] The audio content sources region **550** may include graphical representations of selectable audio content sources from which audio content may be retrieved and played by the selected playback zone or zone group. Discussions pertaining to audio content sources may be found in the following section.

d. Example Audio Content Sources

[0089] As indicated previously, one or more playback devices in a zone or zone group may be configured to retrieve for playback audio content (e.g. according to a corresponding URI or URL for the audio content) from a variety of available audio content sources. In one example, audio

content may be retrieved by a playback device directly from a corresponding audio content source (e.g., a line-in connection). In another example, audio content may be provided to a playback device over a network via one or more other playback devices or network devices.

[0090] Example audio content sources may include a memory of one or more playback devices in a media playback system such as the media playback system **200** of FIG. **2**, local music libraries on one or more network devices (such as a control device, a network-enabled personal computer, or a networked-attached storage (NAS), for example), streaming audio services providing audio content via the Internet (e.g., the media service servers **135-145**), or audio sources connected to the media playback system via a line-in input connection on a playback device or network devise, among other possibilities.

[0091] In some embodiments, audio content sources may be regularly added or removed from a media playback system such as the media playback system **200** of FIG. **2**. In one example, an indexing of audio items may be performed whenever one or more audio content sources are added, removed or updated. Indexing of audio items may involve scanning for identifiable audio items in all folders/directory shared over a network accessible by playback devices in the media playback system, and generating or updating an audio content database containing metadata (e.g., title, artist, album, track length, among others) and other associated information, such as a URI or URL for each identifiable audio item found. Other examples for managing and maintaining audio content sources may also be possible.

[0092] The above discussions relating to playback devices, controller devices, playback zone configurations, and media content sources provide only some examples of operating environments within which functions and methods described below may be implemented. Other operating environments and configurations of media playback systems, playback devices, and network devices not explicitly described herein may also be applicable and suitable for implementation of the functions and methods.

IV. Methods and Systems for Indicating an Association between a Social-Media Account and a Media Playback System

[0093] As discussed above, in some examples, a social-media server may facilitate the exchange of data between computing devices associated with respective social-media accounts. The exchanged data may be used to associate a media playback system (or a playback system account corresponding to the media playback system) with a social-media account, and/or to provide an indication of playback operations of a media playback system corresponding to the playback system account.

[0094] Methods and systems disclosed herein may be implemented within an environment that includes one or more of the example network configuration **100** of FIG. **1**, the example media playback system **200** of FIG. **2**, the playback device **300** of FIG. **3**, the control device **400** of FIG. **4**, and the example controller interface **500** of FIG. **5**.

[0095] For methods **600** and **700** of FIGS. **6** and **7**, and other processes and methods disclosed herein, the flowcharts show functionality and operation of one possible implementation of present embodiments. In this regard, each block may represent a module, a segment, or a portion of program code, which includes one or more instructions executable by a processor for implementing specific logical functions or steps in the process. The program code may be stored on any type of computer-readable medium, for example, such as a storage device including a disk or hard drive. The computer-readable medium may include non-transitory computer-readable medium, for example, such as computer-readable media that stores data for short periods of time like register memory, processor cache and Random Access Memory (RAM). The computer-readable medium may also include non-transitory media, such as secondary or persistent long term storage, like read only memory (ROM), optical or magnetic disks, compact-disc read only memory (CD-ROM), for example. The computer-readable media may also be any other volatile or non-volatile storage systems. The computer-readable medium may be considered a computer-readable storage medium,

for example, or a tangible storage device. In addition, for the methods **600** and **700** and other processes and methods disclosed herein, each block in FIGS. **6** and **7** may represent circuitry that is wired to perform the specific logical functions in the process.

[0096] Furthermore, although the blocks are illustrated in sequential order, these blocks may also be performed in parallel, and/or in a different order than those described herein. Also, the various blocks may be combined into fewer blocks, divided into additional blocks, and/or removed based upon the desired implementation.

[0097] For clarity, the methods may be described herein with reference to FIGS. **8** and

[0098] **9**. It should be understood, however, that this is for purposes of example and explanation only and that the operations of the methods should not be limited by these figures.

[0099] Referring now to FIG. **6**, at block **602** the method **600** involves receiving, by a social-media computing system from a first computing device, a first message indicating that a media playback system is associated with a first social-media account. In some cases, the media playback system can be accessed using one or more playback system accounts. In some examples, the first message may also indicate that a playback system account corresponding to the media playback system is associated with the first social-media account. In some examples, the media playback system may include at least two playback devices configured to play back media content in synchrony.

[0100] In some examples, block **602** may be performed in response to, or otherwise after, various operations. For instance, the social-media computing system (e.g., social-media server **130**) may send a query message to the media system server **120** and/or media playback devices **140** or **142**. The query message may represent a request for information regarding whether any media playback devices associated with social-media accounts corresponding to the social-media server **130** are playing back media content. The social-media server **130** may forward such query messages that originate from computing devices (e.g., computing device **150-154**) as well. In another example, the computing device **152** may be communicatively coupled to the media playback system **140** and may send the query message to the media playback system **140** directly. The computing device **152** may also execute applications respectively corresponding to the social-media server **130** (e.g., a social-media application) and the media system server **120** (e.g., a media playback application). The social-media application may query the media playback application for such information. Other examples are possible.

[0101] As an example, the social-media computing system may include the social-media server **130** of FIG. **1**. In various examples, the social-media computing system may include a single computing device or a collection of networked computing devices configured to perform the functionality of the social-media server **130** described above with regard to FIG. **1**.

[0102] The first computing device may take the form of any of the computing devices **150-154** discussed above. In one example, the first computing device is a control device included as part of the media playback system **140**. In this example, the first computing device may be configured to control the media playback system **140**. The media playback system **140** may be the media playback system associated with the first social-media account.

[0103] Generally, the first computing device may include any computing device that is (i) authenticated by the media system server **120** (or a media playback system) as being associated with the media playback system and (ii) authenticated with the social-media server **130** as being associated with the first social-media account. For example, the first computing device may include any of the computing devices **150-154**, or a computing device (e.g., a control device) of the media playback systems **140** or **142**. Example computing devices include, but are not limited to, cellular phones, smartphones, PDAs, tablets, laptops, desktop computers, video game consoles, and smart TVs.

[0104] The first social-media account may include an account of a social-media service provider that operates the social-media server **130**. For example the first social-media account may be associated with a given subscriber profile of the social-media service as described above with

regard to FIG. **1**. The playback system account may include an account of a provider that operates the media system server **120** as described above in regard to FIG. **1**. The playback system account may correspond to the media playback system (e.g., the media playback system **140**).

[0105] The first message sent by the first computing device to the social-media server **130** may include any data that indicates the association of the media playback system (or the playback system account) with the first social-media account. For example, the first message may include sign-in credentials corresponding to the first social-media account and/or an indication of the media playback system (e.g., HHID) that is associated with the first social-media account.

[0106] At block **604**, the method **600** involves, based on the received first message, sending, from the social-media computing system to a second computing device associated with a second social-media account, a second message indicating that the media playback system is associated with the first social-media account. (The second message may also indicate that the playback system account is associated with the first social-media account.)

[0107] For example, the social-media server **130** may send the second message to any of the computing devices **150-154**. The second computing device may be authenticated by the social-media server **130** as being associated with the second social-media account (e.g., by the social-media server **130** receiving sign-in credentials corresponding to the second social-media account). The second message may include any data that indicates that the media playback system is associated with the first social-media account (or that the playback system account is associated with the first social-media account). For example, the second message may include a media playback system identifier (e.g., HHID) and/or data identifying the first social-media account (e.g., a username associated with the first social-media account). In one example, the second computing device may cause display of an indication (perhaps within a display of the second computing device) of the association between the media playback system and the first social-media account (e.g. indications **806** and **906** of FIGS. **8** and **9**, respectively). The second computing device may also cause display of an indication of an association between the playback system account and the first social-media account.

[0108] Additional operations may be carried out with or in addition to the method **600**. It should be understood that the below discussed operations are not necessary to perform the method **600**.

[0109] Prior to sending the second message, the social-media server **130** may determine whether the second social-media account is associated with a media playback system. For example, the social-media server **130** may search a database for data indicating an association between the second social-media account and a media playback system. If the second social-media account is association with a media playback system, the social-media server **130** may send the second message to the second computing device. In some examples, if the social-media server **130** determines that the second social-media account is not associated with a media playback system, the social-media server **130** may refrain from sending the second message.

[0110] Prior to sending the second message, the social-media server **130** may receive a third message (e.g., from the media system server **120**, the media playback system **140**, or the first computing device). The third message need not be received from the same computing device from which the first message was received. The third message may include information that is later included in the second message sent to the second computing device.

[0111] For example, the third message may indicate that the media playback system (e.g., the media playback system **140**) is playing back media content. In some examples, the third message may also identify the media content that the media playback system is playing back. For example, the third message may indicate that the media playback system is playing back "Song A" by "Artist B." Accordingly, in some examples the second message (sent by the social-media server **130** to the second computing device) may indicate that the media playback system is playing back "Song A" by "Artist B." This information may be indicated by an indicator displayed by the second computing device (e.g., indicator **906** of FIG. **9**).

[0112] Alternatively, the third message may indicate that the media playback system is not playing back media content. In this example, the third message may also identify media content that the media playback system was previously playing back, such as "Song A" by "Artist B." Accordingly, in some examples the second message (sent by the social-media server **130** to the second computing device) may indicate that the media playback system associated with the first social-media account is not playing back media content, but may identify media content that the media playback system was previously playing back. For example, the second message may indicate that the media playback system was playing back "Song A" by "Artist B" at a previous time (e.g., the second message may indicate that "Song A" by "Artist B" was the last media content played back by the media playback system). This information may be indicated by an indicator displayed by the second computing device (e.g., indicator **806** of FIG. **8**).

[0113] Further operations may include, prior to receiving the third message, sending a request for a message indicating whether the media playback system is playing back media content; and after sending the request, receiving the third message. For example, the social-media server **130** may send the request to a control device of the media playback system **140**, to the media system server **120**, or any of the computing devices **150**-**154**. The social-media server **130** may then receive the third message from whichever computing device (e.g., the media system server **120**, computing devices **150**-**154**, or a control device of the media playback system **140**) the request was sent to.

[0114] Referring to FIG. **7**, block **702** of the method **700** involves receiving from a social-media server, by a computing device associated with a first social-media account, a message indicating that a media playback system is associated with a second social-media account. (The message may also indicate that a playback system account corresponding to the media playback system is associated with the second social-media account.)

[0115] One or more operations may be performed before the computing device receives the message. One such operation may involve the computing device registering or otherwise associating with a social-media account. Referring to FIG. **1** as an example, the process of associating the computing device with the first social-media account may include the social-media server **130** authenticating the computing device (e.g., the computing device **150**) by receiving, from the computing device, sign-in credentials corresponding to the first social-media account.

[0116] The computing device **150** may receive the message from the social-media server **130**. The message may include any data indicating the association between (i) the media playback system (e.g., the media playback system **140**) (ii) and the second social-media account. For example, the social-media server **130** may receive data from a (second) computing device (e.g., the computing device **152** or a control device of the media playback system **140**) indicating the association between the media playback system and the second social-media account. The social-media server **130** may authenticate the second computing device by receiving, from the second computing device, sign-in credentials corresponding to the second social-media account and/or receiving an identifier (e.g., HHID) of the media playback system.

[0117] In various examples, the message received by the computing device may also indicate that the media playback system is playing back media content and/or may identify the media content that the media playback system is playing back. Alternatively, the received message may indicate that the media playback system is not playing back media content and/or may identify media content that the media playback system was playing back at a previous time. For example, the received message may indicate media content that the media playback system last played back.

[0118] At block **704**, the method **700** involves, based on the received message, causing display, by the computing device, of an indication of the association between the media playback system and the second social-media account. (The displayed indication may also indicate an association between the playback system account and the second social-media account.) The displayed indication may be displayed by a display of the computing device associated with the first social-media account. In examples, the displayed indication may take the form of a graphic (e.g., a

particular icon), text, and/or particular colors or other characteristics that are indicative of a social-media account being associated with a media playback system. That is, the displayed indication may help identify to a user "friends" that have a media playback system that is linked with their respective social-media account.

[0119] Referring to FIG. **8** as an example, a display of the computing device may resemble display **800** which reads "USER X" at a first row **802** and "USER Y" at a second row **804**. The displayed text "USER X" and "USER Y" may each represent social-media accounts that are included in a "friend list" corresponding to the first social-media account. Based on receiving the message, the computing device may display indication **806** within the first row **802**. The indication **806** may indicate that the playback system account and/or a corresponding media playback system are associated with the second social-media account (e.g., "USER X").

[0120] In some examples, the received message may indicate that the media playback system is not playing back media content and/or identify media content that was previously played back by the media playback system. The indication **806** may be "greyed out" or otherwise indicate that the media playback system is not currently playing back media content. For example, the indication **806** may also include displayed text, such as "Previously Played Back Song A by Artist B." As a point of comparison, the second row **804** of the display **800** might not include an indication of an association between a social-media account "USER Y" and a media playback system. In other examples, the displayed text shown in FIG. **9** may not be visible until a user "hovers over" (e.g., with a cursor or one of the user's fingers) the indication **906**.

[0121] In another example, the received message may indicate that the media playback system is playing back media content and/or identify the media content being played back by the media playback system. Referring to FIG. **9** as an example, the indication **906** of the display **900** may indicate that the media playback system is playing back media content, perhaps via a dashed line encircling the indication **906** or via other imagery or animation that distinguishes the indication **906** from the indication **806** of FIG. **8** (e.g., displaying indication **906** so that indication **906** is not "greyed out"). The indication **906** may further identify the media content that the media playback system is playing back. For example, the indication **906** may include text reading "Playing Back Song A by Artist B," and in some examples, the text may be visible when a user hovers over the indication **1006**.

[0122] Additional operations may be carried out with or in addition to the method **700**. It should be understood that the below discussed operations are not necessary to perform the method **700**.

[0123] An additional operation may include detecting an input representing a selection (or hover over) of the displayed indication; and based on detecting the input (or hover over), causing display of an indication of information related to at least one playback operation of the media playback system.

[0124] In one example, the received message further indicates a source of a media item that the media playback system plays back, and the computing device may cause display of an indication of the source of the media item that the media playback system plays back. For example, displayed text may accompany the indication **906** of FIG. **9** (not shown). The displayed text may indicate that the source of the media item is a particular media service provider, a file stored within a local area network that includes the media playback system, and/or a hardwired "line-in" source that outputs an audio signal to be received by an input port of the media playback system for playback, as the case may be.

[0125] In another example, the received message further indicates a playback zone of the media playback system where the media item is being played back. Accordingly, displayed text accompanying indicator **906** of FIG. **9** may include example phrases such as "Playing Back Song A by Artist B in Playback Zone C" depending on which playback zone the media item is being played back at.

[0126] For example, the computing device may receive input indicating intended movement of a

pointer **908** (e.g., a mouse pointer). The input may cause the pointer **908** to be displayed over the indication **906**, in a manner that indicates a selection of the indication **906**. In response to the detected input, the computing device may cause display of the text "Playing Back Song A by Artist B."

[0127] In another example, detecting the input or hover over may cause a pop-up menu to be displayed. The pop-up menu may include options for additional information to be displayed. For example, one option may be for the computing device to cause display of a list of the last ten items of media content played back by the media playback system. Another option may include the computing device playing back one or more of the items of media content from the list. The computing device may then receive additional input indicating a command to perform such operations.

[0128] In yet another example, after the computing device detects an input or hover over at the displayed indication, the computing device may cause display of an option to play back at a (perhaps second) media playback system associated with the computing device, the media content that is being played by the (first) media playback system. For example, referring back to FIG. **9**, the computing device may cause display of an option to cause a (second) media playback system associated with the computing device to play back "Song A by Artist B." In some examples, the (second) media playback system may play back that song in synchrony with the media playback system associated with "User X." In other examples, the (second) media playback system may play back that song independently. Other examples are also possible.

[0129] It will be understood by one of ordinary skill in the art that this disclosure includes numerous other embodiments. While some examples described herein may refer to functions performed by given actors such as "users," "subscribers," and/or other entities, it should be understood that this is for purposes of explanation only. The claims should not be interpreted to require action by any such example actor unless explicitly required by the language of the claims themselves.

VI. Conclusion

[0130] The description above discloses, among other things, various example systems, methods, apparatus, and articles of manufacture including, among other components, firmware and/or software executed on hardware. It is understood that such examples are merely illustrative and should not be considered as limiting. For example, it is contemplated that any or all of the firmware, hardware, and/or software aspects or components can be embodied exclusively in hardware, exclusively in software, exclusively in firmware, or in any combination of hardware, software, and/or firmware. Accordingly, the examples provided are not the only way(s) to implement such systems, methods, apparatus, and/or articles of manufacture.

[0131] In one aspect, a method is provided. The method involves receiving, by a social-media computing system from a first computing device, a first message indicating that a media playback system is associated with a first social-media account; and based on the received first message, sending, to a second computing device associated with a second social-media account, a second message indicating that the media playback system is associated with the first social-media account.

[0132] In another aspect, a social-media computing system is provided. The social-media computing system includes a processor and a non-transitory computer-readable medium storing instructions that when executed by the processor, cause the social-media computing system to perform functions. The functions include receiving, from a first computing device, a first message indicating that a media playback system is associated with a first social-media account; and based on the received first message, sending, to a second computing device associated with a second social-media account, a second message indicating that the media playback system is associated with the first social-media account.

[0133] In yet another aspect, a non-transitory computer-readable medium is provided. The non

transitory computer-readable medium stores instructions that when executed by a social-media computing system cause the social-media computing system to perform functions. The functions include receiving, from a first computing device, a first message indicating that a media playback system is associated with a first social-media account; and based on the received first message, sending, to a second computing device associated with a second social-media account, a second message indicating that the media playback system is associated with the first social-media account.

[0134] In yet another aspect, a method is provided. The method includes receiving from a social-media computing system, by a computing device associated with a first social-media account, a message indicating that a media playback system is associated with a second social-media account; and based on the received message, causing display, by the computing device, of an indication of the association between the media playback system and the second social-media account.

[0135] In yet another aspect, a computing device associated with a first social-media account is provided. The computing device includes a processor and a non-transitory computer-readable medium that stores instructions that when executed by the processor cause the computing device to perform functions. The functions include receiving from a social-media computing system, a message indicating that a media playback system is associated with a second social-media account; and based on the received message, causing display of an indication of the association between the media playback system and the second social-media account.

[0136] In yet another aspect, a non-transitory computer-readable medium is provided. The non-transitory computer-readable medium stores instructions that when executed by a computing device associated with a first social-media account cause the computing device to perform functions. The functions include receiving from a social-media computing system, a message indicating that a media playback system is associated with a second social-media account; and based on the received message, causing display of an indication of the association between the media playback system and the second social-media account.

[0137] Additionally, references herein to "embodiment" means that a particular feature, structure, or characteristic described in connection with the embodiment can be included in at least one example embodiment of an invention. The appearances of this phrase in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. As such, the embodiments described herein, explicitly and implicitly understood by one skilled in the art, can be combined with other embodiments.

[0138] The specification is presented largely in terms of illustrative environments, systems, procedures, steps, logic blocks, processing, and other symbolic representations that directly or indirectly resemble the operations of data processing devices coupled to networks. These process descriptions and representations are typically used by those skilled in the art to most effectively convey the substance of their work to others skilled in the art. Numerous specific details are set forth to provide a thorough understanding of the present disclosure. However, it is understood to those skilled in the art that certain embodiments of the present disclosure can be practiced without certain, specific details. In other instances, well known methods, procedures, components, and circuitry have not been described in detail to avoid unnecessarily obscuring aspects of the embodiments. Accordingly, the scope of the present disclosure is defined by the appended claims rather than the forgoing description of embodiments.

[0139] When any of the appended claims are read to cover a purely software and/or firmware implementation, at least one of the elements in at least one example is hereby expressly defined to include a tangible, non-transitory medium such as a memory, DVD, CD, Blu-ray, and so on, storing the software and/or firmware.

Claims

1. A computing system comprising: at least one processor; at least one non-transitory computer-readable medium comprising program instructions that are executable by the at least one processor such that the computing system is configured to: receive, from a first media playback system, an indication of a media item to be played back by the first media playback system, wherein the first media playback system is authenticated with the computing system via a first set of credentials corresponding to a first account; identify at least one second media playback system, wherein the second media playback system is authenticated with the computing system via a second set of credentials corresponding to a second account, wherein the second set of credentials is different from the first set of credentials, and wherein the second account is associated with the first account; send, to the second media playback system, data corresponding to the media item and to the first media playback system; and cause the first media playback system and the second media playback system to play back the media item in synchrony.

2. The computing system of claim 1, wherein the at least one non-transitory computer-readable medium further comprises program instructions that are executable by the at least one processor such that the computing system is configured to: before receiving the indication of the media item from the first media playback system: receive, from the first media playback system, the first set of credentials corresponding to the first account, and authenticate the first media playback system based on receiving the first set of credentials.

3. The computing system of claim 1, wherein the at least one non-transitory computer-readable medium further comprises program instructions that are executable by the at least one processor such that the computing system is configured to: before sending the data corresponding to the media item to the second media playback system: receive, from the second media playback system, the second set of credentials corresponding to the second account, and authenticate the second media playback system based on receiving the second set of credentials.

4. The computing system of claim 1, wherein the data corresponding to the media item and to the first media playback system comprises data identifying the media item and data identifying the first media playback system.

5. The computing system of claim 1, wherein the data corresponding to the media item and to the first media playback system comprises a unique identifier associated with the first media playback system.

6. The computing system of claim 1, wherein the at least one non-transitory computer-readable medium further comprises program instructions that are executable by the at least one processor such that the computing system is configured to: cause a display device associated with the second media playback system to display, based on the data corresponding to the media item and to the first media playback system, an indication corresponding to the first media playback system and the media item.

7. The computing system of claim 6, wherein the at least one non-transitory computer-readable medium further comprises program instructions that are executable by the at least one processor such that the computing system is configured to: receive, via the indication, a command to start playback of the media item; wherein causing the first media playback system and the second media playback system to play back the media item in synchrony comprises causing the first media playback system and the second media playback system to play back the media item in synchrony based on the command.

8. The computing system of claim 1, wherein the at least one non-transitory computer-readable medium further comprises program instructions that are executable by the at least one processor such that the computing system is configured to: receive, from a first device associated with the first account, data corresponding to a comment associated with the media item; and send, to a

second device associated with the second account, the data corresponding to the comment associated with the media item; and cause the second device to provide the comment based on the data corresponding to the comment.

9. The computing system of claim 1, wherein the computing system provides a media sharing service and wherein the first account and the second account are accounts of a media service that is different from the media sharing service provided by the computing system.

10. The computing system of claim 1, wherein the first account and the second account are accounts of a media service provided by the computing system.

11. A non-transitory computer-readable medium having stored thereon instructions executable by one or more processors to cause a computing system to perform functions comprising: receiving, from a first media playback system, an indication of a media item to be played back by the first media playback system, wherein the first media playback system is authenticated with the computing system via a first set of credentials corresponding to a first account; identifying at least one second media playback system, wherein the second media playback system is authenticated with the computing system via a second set of credentials corresponding to a second account, wherein the second set of credentials is different from the first set of credentials, and wherein the second account is associated with the first account; sending, to the second media playback system, data corresponding to the media item and to the first media playback system; and causing the first media playback system and the second media playback system to play back the media item in synchrony.

12. The non-transitory computer-readable medium of claim 11, wherein the functions further comprise: before receiving the indication of the media item from the first media playback system: receiving, from the first media playback system, the first set of credentials corresponding to the first account, and authenticating the first media playback system based on receiving the first set of credentials.

13. The non-transitory computer-readable medium of claim 11, wherein the functions further comprise: before sending the data corresponding to the media item to the second media playback system: receiving, from the second media playback system, the second set of credentials corresponding to the second account, and authenticating the second media playback system based on receiving the second set of credentials.

14. The non-transitory computer-readable medium of claim 11, wherein the data corresponding to the media item and to the first media playback system comprises data identifying the media item and data identifying the first media playback system.

15. The non-transitory computer-readable medium of claim 11, wherein the data corresponding to the media item and to the first media playback system comprises a unique identifier associated with the first media playback system.

16. The non-transitory computer-readable medium of claim 11, wherein the functions further comprise: causing a display device associated with the second media playback system to display, based on the data corresponding to the media item and to the first media playback system, an indication corresponding to the first media playback system and the media item.

17. The non-transitory computer-readable medium of claim 16, wherein the functions further comprise: receiving, via the indication, a command to start playback of the media item; wherein causing the first media playback system and the second media playback system to play back the media item in synchrony comprises causing the first media playback system and the second media playback system to play back the media item in synchrony based on the command.

18. The non-transitory computer-readable medium of claim 11, wherein the functions further comprise: receiving, from a first device associated with the first account, data corresponding to a comment associated with the media item; sending, to a second device associated with the second account, the data corresponding to the comment associated with the media item; and causing the second device to provide the comment based on the data corresponding to the comment.

19. A method performed by a computing system, the method comprising: receiving, from a first media playback system, an indication of a media item to be played back by the first media playback system, wherein the first media playback system is authenticated with the computing system via a first set of credentials corresponding to a first account; identifying at least one second media playback system, wherein the second media playback system is authenticated with the computing system via a second set of credentials corresponding to a second account, wherein the second set of credentials is different from the first set of credentials, and wherein the second account is associated with the first account; sending, to the second media playback system, data corresponding to the media item and to the first media playback system; and causing the first media playback system and the second media playback system to play back the media item in synchrony.

20. The method of claim 19, further comprising: before receiving the indication of the media item from the first media playback system: receiving, from the first media playback system, the first set of credentials corresponding to the first account, and authenticating the first media playback system based on receiving the first set of credentials.