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PAUSE VIEWING BUTTON FOR A MULTIPLE-PERSON HOUSEHOLD TO FACILITATE RESUMING LATER

Participating in playback of a media item may be a social experience. For example, multiple users may watch the same video or listen to the same audio via the same device. In another example, multiple users may simultaneously watch the same video or listen to the same audio via separate devices. Making participation in playback of media items a social experience may increase playback times, increase interest by users in participating in playback, and increase user enjoyment.

Media items may be streamed to a device from a server device. Each user may have an account or an identity in an account for streaming media items from the server device. The server device may provide an indication of the temporal location where playback of each media item stopped per account or per identity. Upon user request to resume playback, the server device resumes playback at the temporal location where playback stopped.

If only one user participates in playback in an account or identity and the user does not participate in playback with other users, the server device will resume playback where the user stopped playback. In this scenario, playback is not a social experience and playback times, interest in playback, and user enjoyment may decrease. If each user in a set of users (e.g., a household, users that co-participate in playback) only participates in playback with each other via the same account or identity, the server device will resume playback where the set of users stopped playback. This scenario is a very rigid social experience and does not account for users participating in playback individually, in sub-groups, or with other users outside of the set of users. This may discourage playback and decrease user enjoyment.

Users may co-participate in playback of media items at times and individually participate in playback at other times. Even if users start co-participating in playback, individual users may stop participating in the feedback at different points in time (e.g., one user falls asleep, one user has to leave, etc.). If the first user gets ahead in playback, the second user may try to catch up and may end up passing the first user.

A first user and a second user may participate in playback of a media item via the same account. The first user may participate in playback of the media item without the second user (e.g., watch a video without the second user). In doing so, the first user may participate in the playback of the media item to a first temporal location in the media item beyond a second temporal location in the media item to which the second user participated (e.g., the first user may have watched the first hour of a video and the second user may have only watched the first thirty minutes of the video). Upon resuming playback, playback may begin at the first temporal location and it may be difficult for the second user to identify the second temporal location where the second user stopped. As the second user continues playback (e.g., to catch up), it may be difficult for the second user to identify when playback has reached the first temporal location. The second user may pass the first user while trying to catch up, which then makes it difficult for the first user to find the first temporal location where the first user stopped. This discourages participation in playback and decreases user enjoyment.

If a first user and a second user were to participate in playback of a media item via their own separate accounts or identities with the account, the server device would track their playback individually. The first user could participate in playback of a media item without disrupting the progress of the second user participating in playback of the same media item, as long as the first and second users participate in playback individually. If the first and second

users were to co-participate in playback through the account or identity of the first user, the second user would need to remember where playback left off while co-participating. The accounts or identities would not track co-participation in playback and would not track participation in playback by other users through other accounts or identities. This also discourages co-participation in playback and decreases user enjoyment.

The above and other deficiencies are addressed by providing a pause viewing button to facilitate resuming of media item playback at a later time. The pause-viewing button may be provided for users of a multiple-person household. The pause-viewing button may be provided for users that co-participate in playback (e.g., from the same physical location, from different physical locations). A processing device determines which users are participating in playback of a media item and at which points in time (e.g., temporal locations in the media item) individual users stop participating in the playback. The processing device resumes playback for a user at the temporal location where the user stopped participating in playback. The processing device also provides an indication of where other users have stopped playback. Co-participation in playback is encouraged and catching up with other users without passing other users is facilitated. User enjoyment may be increased by making participating in playback of media items a social experience.

FIGS. 1 and 2 depict flow diagrams for illustrative examples of methods for resuming playback of a media item after co-participating in playback of the media item. The method in FIG. 1 is an example method from the perspective of a device (e.g., server device, media device) that is to provide playback of a media item. The method in FIG. 2 is an example of a user device (e.g., a smartphone, a tablet, a media device, virtual reality (VR) headset, etc.) that is to request playback of a media item. The methods may be performed by processing devices that may

include hardware, software, or a combination of both.

FIGS. 1-2 refer to a media item, but may be applied to any type of media. As described herein, a media item may refer to a single media item or a set of media items. For example, a media item may be a series of videos (e.g., a series of television episodes, a series of films, etc.), a series of audio (e.g., a series of podcasts, chapters in an audio book, a series of books, etc.), a series of screen captures (e.g., levels of gaming videos), a slideshow of images, a VR media item, etc. The media item may be a livestream (e.g., a livestream video or audio) that may be resumed at a later point in time as a recording.

As described herein, a pause viewing button may refer to a graphical element on a user interface, user input via a user device, user input via a remote control for a media device, etc. In other implementations, the methods may not use a pause viewing button. The methods described herein may apply to a multiple-person household, users co-participating in playback (e.g., from the same physical location, from different physical locations), users that are connected via a social network, multiple users of the same account, users that have linked accounts, etc.

Referring to FIG. 1, the processing device provides playback of a media item to a first user and a second user (see FIG. 3A). The processing device may receive a request to provide playback of the media item. The processing device may receive user input that the first user and the second user are participating in the playback. The first user may have a first sub-profile and the second user may have a second sub-profile in the same account.

In one example, the first or second user may provide user input via a media device that both the first and second users are to participate in the playback of the media item. In another example, the first user provides input via a first user device (e.g., smart phone, tablet) and the second user provides input via a second user device that the corresponding user is to participate

in playback of the media item via the media device. In another example, the processing device determines that the first user device of the first user and the second user device of the second user are within a threshold distance of the media device that is to provide playback of the media item. In another example, the processing device determines that the first, second, and media devices are connected via a wireless network (e.g., via a Bluetooth® technology, etc.). The media device may be a television, a smart television, a video streaming device, a computer monitor, a tablet, a smartphone, speakers, smart speakers, automobile speakers, a VR system (e.g., VR headset), etc.

The processing device determines that the first user is not participating in the playback at a first point in time corresponding to a first temporal location in the media item (see FIGS. 3B-C) and that the second user is not participating in the playback at a second point in time corresponding to a second temporal location in the media item (see FIG. 3D). For example, the first user and the second user may start co-participating in playback a set of media items. After co-participating in playback of the first episode and half of the second episode of the set, the first user may stop participating in playback to go to bed. The processing device may place a marker next to the timestamp in the media item where each user (e.g., that has a sub-profile in the same account) has stopped participating in playback of the media item. The processing device may cause the markers to be displayed on the user interface as illustrated in FIGS. 3C-3E.

In one implementation, the first user pauses the playback (e.g., via a pause viewing button for a multiple-person household, via a pause viewing button for co-participating in playback). The first user may provide user input (e.g., via a remote control of a smart television) that the second user has stopped participating (e.g., toggle to the visual representation (e.g., avatar, color, etc.) of the second user to input that the second user stopped participating). The

first user may press pause again to resume playback for the first user. The first user may press stop or pause (e.g., via a pause viewing button) when the first user has finished playback. The processing device may determine the second user is not participating in the playback at the second temporal location in the media item where the first user provided the user input that the second user stopped participating. The processing device may determine the first user is not participating in the playback at the first temporal location in the media item where the first user pressed stop.

In another implementation, a media device (e.g., smart television, a television coupled to a video streaming device, a VR headset, etc.) that provides playback of the media item, a first user device of the first user, and a second user device of the second user are communicatively coupled via a network. For example, the first user device may be executing a first application and the second user device may be executing a second application. The processing device may receive user input via the first and second applications and the processing device may stream the media item via the media device. The processing device may receive first user input via the first user device that the first user has stopped participating in the playback of the media item and second user input via the second user device that the second user device stopped participating in the playback of the media item. The processing device may determine a first temporal location in the media item that corresponds to the first user input and a second temporal location in the media item that corresponds to the second user input.

In another implementation, the processing device receives the geolocation of the first user device of the first user and the second user device of the second user and determines that the first user device and the second user device are within a threshold distance of the media device that is providing playback of the media item. The processing device may subsequently determine that

the first user is not participating in the playback at a first point in time when the first user device is no longer within a threshold distance of the media device (e.g., geolocation exceeds the distance). The first point in time corresponds to a first temporal location in the media item. The processing device may determine a corresponding second temporal location for the second user in response to the second user device no longer being within the threshold distance of the media device.

In another implementation, the first user device, the second user device, and the media device are communicatively coupled to the same wireless network (e.g., via a Bluetooth® technology, etc.). The processing device may subsequently determine that the first user is not participating in the playback at a first point in time when the first user device is no longer communicatively coupled to the same wireless network as the media device. The first point in time corresponds to a first temporal location in the media item. The processing device may determine a corresponding second temporal location for the second user in response to the second user device no longer being communicatively coupled to the wireless network.

The processing device receives a request (e.g., via a user device, via the media device) to resume the playback of the media item for the first user (see FIG. 3E). The processing device may receive the request via the first user device of the first user (e.g., and not receive user input from any other user devices of other users). The processing device may receive the request and determine that the first user device is within a threshold distance of the media device that is to provide playback. The processing device may receive the request and determine that the first user device is communicatively coupled via a network to the media device.

The processing device is to provide the playback of the media item from the first temporal location (e.g., in response to receiving the request for playback for the first user). In

response to determining the playback is for the first user, the processing device may determine the furthest temporal location to which the first user participated or co-participated in playback of the media item. In response to determining the playback is for the first user, the processing device may determine the temporal location of the media item from the most recent marker corresponding to the first user for the media item.

The processing device is to provide an indication that the playback has reached the second temporal location (in response to playback reaching the second temporal location, see FIG. 3F). During playback of the media item via the media device from the first temporal location, the processing device may cause a user interface to display the duration of the playback, the current temporal location in playback, and the temporal location where each of the other users stopped participating in the playback (see FIG. 3F). During playback of the media item, the processing device may cause the media device to display a prompt that playback has reached the second temporal location. The first user may stop participating in the playback of the media item until the second user can co-participate in the playback with the first user.

By resuming playback at the first temporal location and displaying an indication of reaching the second temporal location, the processing device facilitates catching up and co-participating in playback of media items.

Referring to FIG. 2, the processing device transmits a first request for playback of a media item for a first user and a second user. The first request may be transmitted to a server device that streams media items. The first request may include information of an account of the first user and/or second user. The first user may have a first sub-profile and the second user may have a second sub-profile in the same account. The first user may have a first account and the second user may have a second account that is linked to the first account. In response to the first

request, the server device is to provide playback of the media item. The playback may be via a media device (e.g., a smart television that the first and second users are simultaneously watching). The playback may be via multiple media devices (e.g., via a first media device and via a second media device, via the first user device and via the second user device) via which the first user and the second user are to participate simultaneously The one or more media devices may display a user interface indicating who is participating, the duration of the media item, and the current playback location (see FIG. 3A).

The processing device provides, during playback, user input that the first user is not participating in the playback at a first point in time corresponding to a first temporal location. The user input may be via a pause viewing button (e.g., for a multiple-person household). The second user is to continue participating in the playback until a second point in time corresponding to a second temporal location. Markers may be placed in the user interface indicating the first temporal location of the first user and the second temporal location of the second location (see FIGS. 3C-D).

The processing device transmits a second request to resume the playback of the media item for the first user, where the playback is to be resumed from the first temporal location. The request may be transmitted via the first user device or via the media device. The playback may be resumed via the same device that transmitted the second request.

The processing device receives an indication that the playback has reached the second temporal location in response to the playback reaching the second temporal location. A visual indication may be displayed via a user interface indicating playback has reached the second temporal location (see FIG. 3F). The processing device may transmit a third request to continue playback beyond the second temporal location (e.g., in response to receiving user input to

continue playback, in response to not receiving user input within a threshold amount of time).

FIGS. 3A-3F are example graphical interfaces for resuming playback of a media item after co-participating in playback of the media item.

Referring to FIG. 3A, a device (e.g., media device, user device, etc.) may display a user interface that displays an indication of which users are to participate in playback of the media item (e.g., "first user and second user are participating in playback"), an graphical element indicating the duration of the media item, and a marker indicating current playback relative to the duration of the media item. The user interface in FIG. 3A may be displayed in response to receiving a request for playback of a media item for first and second users.

Referring to FIG. 3B, the user interface may update the indication of which users are participating in the playback (e.g., "first user stopped participating in playback) and may update the marker location indicating current playback relative to the duration of the media item (e.g., to what temporal location the playback has reached). The user interface in FIG. 3B may be displayed in response to the first user stopping participating in playback.

Referring to FIG. 3C, the user interface may update the indication of which users are participating in the playback (e.g., "second user is participating in playback"), display a first marker indicating a first temporal location of the media item corresponding to the point in time that the first user stopped participating in the playback relative to the duration, and update the marker indicating current playback relative to the duration of the media item. The user interface in FIG. 3C may be displayed in response to the second user continuing participating in playback.

Referring to FIG. 3D, the user interface may update the indication of which users are participating in the playback (e.g., "second user stopped participating in playback), display the first marker, and display a second marker indicating a second temporal location of the media

item corresponding to the point in time that the second user stopped participating in the playback relative to the duration of the media item. The user interface in FIG. 3D may be displayed in response to the second user stopping participating in playback.

Referring to FIG. 3E, the user interface may update the indication of which users are participating in the playback (e.g., “first user is resuming playback”), display the marker indicating current playback to correspond to the first temporal location, and display the second temporal location. The user interface in FIG. 3E may be displayed in response to the first user resuming participating in playback.

Referring to FIG. 3F, the user interface may update the indication of which users are participating in the playback (e.g., “first user is participating in playback), display the marker indicating current playback relative to the duration of the media item, and display a visual indication that playback has reached the second temporal location (e.g., “you are caught up with the second user”). The user interface in FIG. 3F may be displayed in response to the first user reaching the second temporal location.

ABSTRACT

A method for resuming playback of a media item after user co-participation in playback of the media item is described. A processing device provides playback of a media item to a first user and a second user. The processing device determines that the first user is not participating in the playback at a first point in time corresponding to a first temporal location in the media item and that the second user is not participating in the playback at a second point in time corresponding to a second temporal location in the media item. The processing device receives a request to resume the playback of the media item for the first user. The processing device provides the playback of the media item from the first temporal location. The processing device provides an indication that the playback has reached the second temporal location.

Keywords: content, media, audio, music, song, video, movie, shows, serial, episode, season, book, eBook, digital file, multimedia, advertisement, ad, commercial, MP4, WMV, profile, account, user, name, ID, login, user characteristics/interests/preferences, timestamp, time, period, duration, time-interval, position, bookmark, indicate, show, specify, highlight, mark, notification, notify, gesture, present, pause, stop, end, cease, halt, terminate, discontinue, abort, suspend, leave, left off, navigate away, resume, restart, reopen, recommence, start again, begin again, proceed again, return to, continue with, carry on with, pick up where one left off, screen, display, LCD, LED, OLED, TFT, show, present, appear, watch, see, view, light emitting diode, liquid crystal display, RGB laser, fiber, coupled RGB LED, color, converted LED, interface, user interface, UI, GUI, graphical user interface

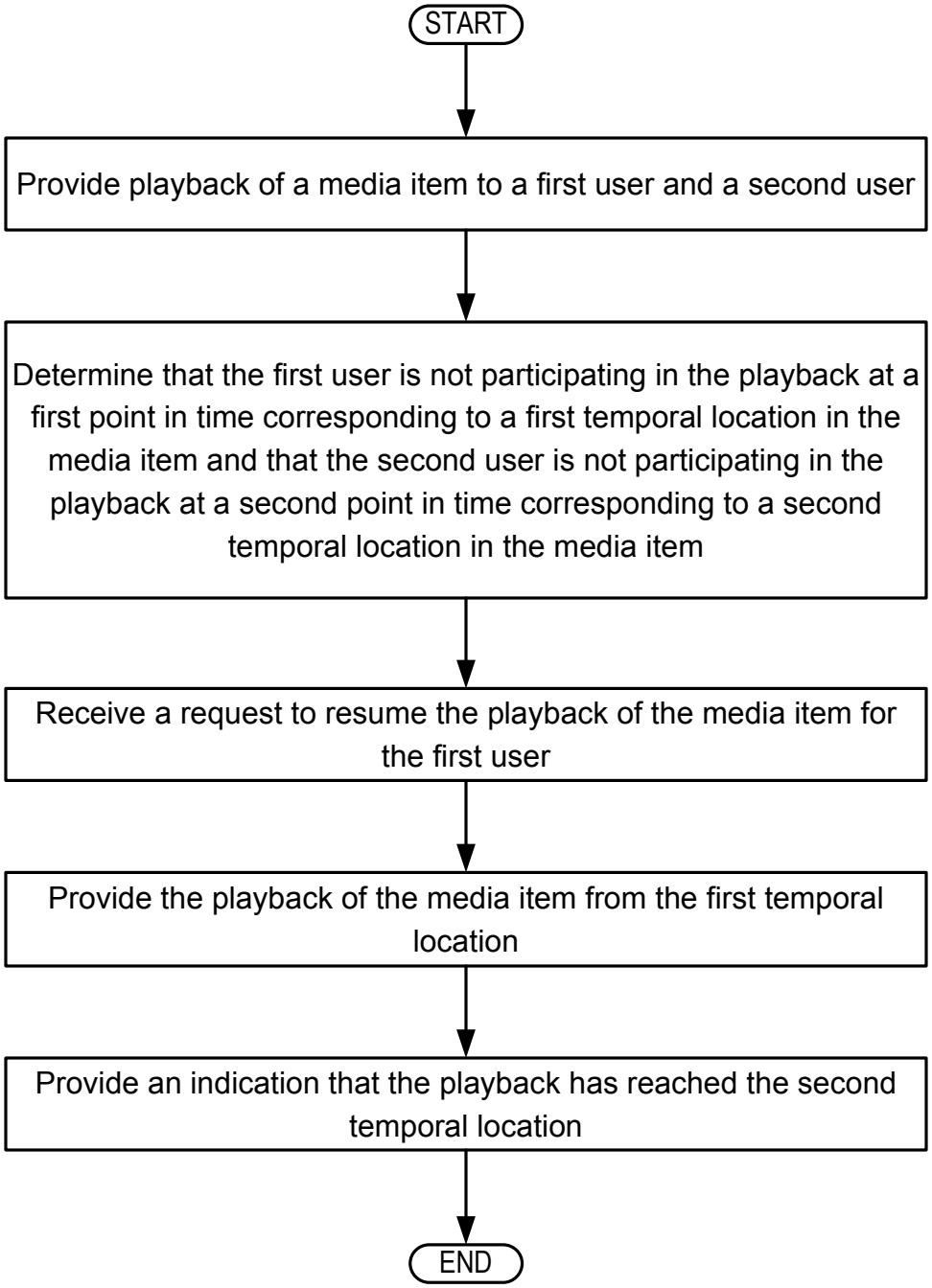
START
Provide playback of a media item to a first user and a second user
Determine that the first user is not participating in the playback at a first point in time corresponding to a first temporal location in the media item and that the second user is not participating in the playback at a second point in time corresponding to a second temporal location in the media item
Receive a request to resume the playback of the media item for the first user
Provide the playback of the media item from the first temporal location
Provide an indication that the playback has reached the second temporal location
END

FIG. 1

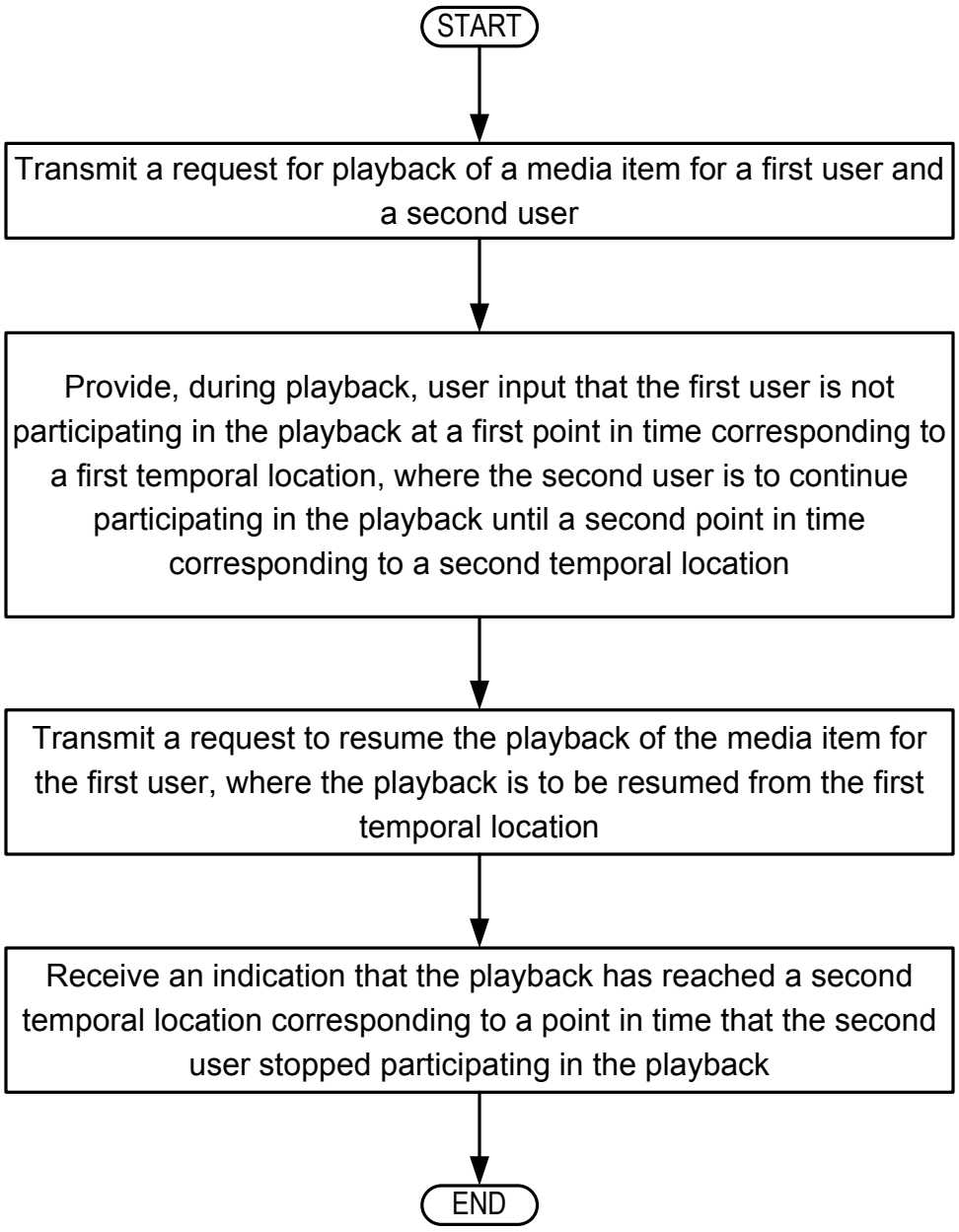
START
Transmit a request for playback of a media item for a first user and a second user
Provide, during playback, user input that the first user is not participating in the playback at a first point in time corresponding to a first temporal location, where the second user is to continue participating in the playback until a second point in time corresponding to a second temporal location
Transmit a request to resume the playback of the media item for the first user, where the playback is to be resumed from the first temporal location
Receive an indication that the playback has reached a second temporal location corresponding to a point in time that the second user stopped participating in the playback
END

FIG. 2

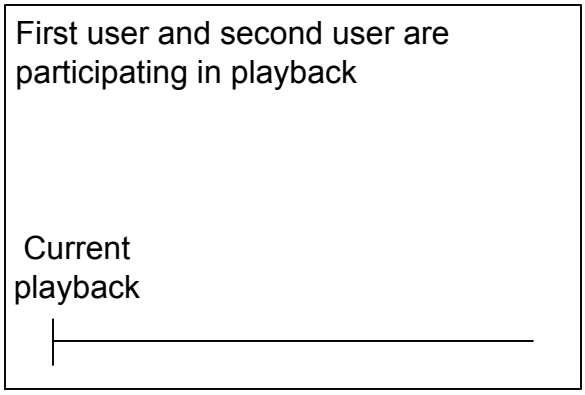

FIG. 3A

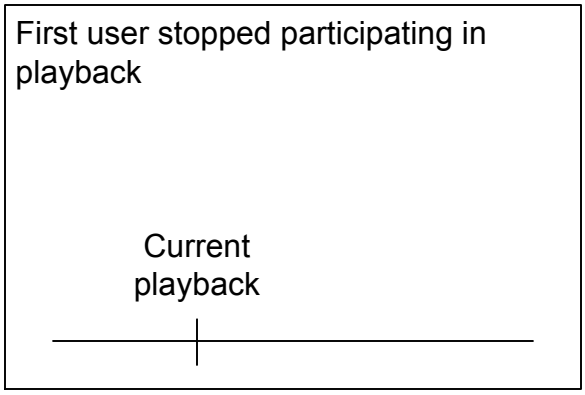

FIG. 3B

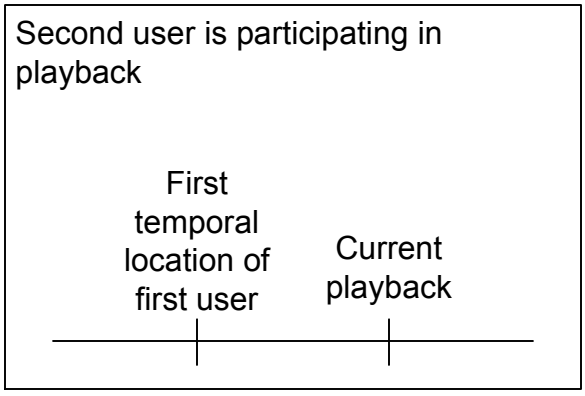

FIG. 3C

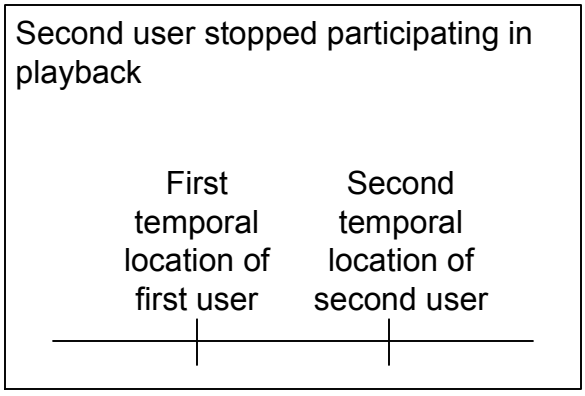

FIG. 3D

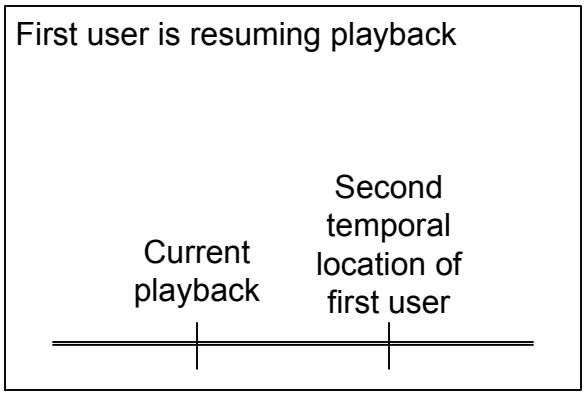

FIG. 3E

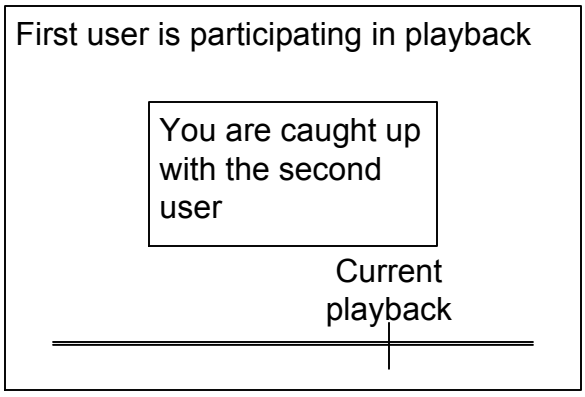

FIG. 3F