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(54) **Title:** ARTIFICIAL INTELLIGENCE INTEGRATED INTO A CHAT SYSTEM

(57) **Abstract:** A computer system for an artificial intelligence integrated into a chat system receives a user selection to interact with an artificial persona. The artificial persona is selected from a list of artificial persona that are each customized to a particular function. The computer system receives a user interface indication to feed particular information selected from a conversation into the selected artificial persona.

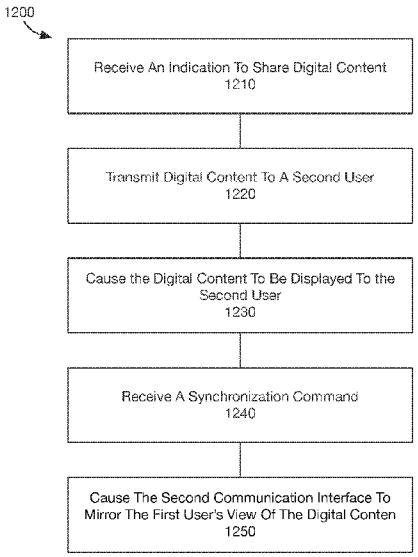

FIG. 12

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ARTIFICIAL INTELLIGENCE INTEGRATED INTO A CHAT SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to U.S. Patent Application No. 18/582,570, filed on February 20, 2024, and entitled "ARTIFICIAL INTELLIGENCE INTEGRATED INTO A CHAT SYSTEM", and claims priority to and the benefit of U.S. Provisional Application No. 63/447,282, filed on February 21, 2023, and entitled "ARTIFICIAL INTELLIGENCE INTEGRATED INTO A CHAT SYSTEM". Each of the aforementioned applications is incorporated by reference herein in their entirety.

BACKGROUND

[0002] A tremendous amount of modern communication occurs over communication interfaces. For example, may people converse with family and friends over SMS texting, MMS texting, proprietary texting platforms (e.g., FACEBOOK MESSENGER™, APPLE MESSAGES™, etc.). Additionally, many businesses communicate over communication interfaces such as ZOOM™, MICROSOFT TEAMS™, or other similar platforms.

[0003] As an increasing amount of communication has been moved to software communication interfaces, tools and functionalities have been added to the various communication platforms in order help facilitate conversation. For example, users can send pictures, videos, audio, documents, files, and other similar content to each other over these platforms. Similarly, some platforms allow a user to share an image of their screen with other participants in order to further facilitate communication. Various other features have been added to enrich a chat experience.

[0004] Despite these advances, there are many additional challenges to be overcome and needs to be met to further address technical limitations associated with communication over software interfaces.

[0005] The subject matter claimed herein is not limited to embodiments that solve any disadvantages or that operate only in environments such as those described above. Rather, this background is only provided to illustrate one exemplary technology area where some embodiments described herein may be practiced.

BRIEF SUMMARY

[0006] In some aspects, the subject matter described herein relates to a computer system for an artificial intelligence integrated into a chat system, including: one or more processors; and one or more computer-readable media having stored thereon executable instructions that when executed by the one or more processors configure the computer system to: receive a user

selection to interact with a selected artificial persona, wherein the selected artificial persona is selected from a list of multiple artificial persona; provide one or more prompts to the selected artificial persona, wherein the one or more prompts are based on user input received by the computer system; display one or more responses to the one or more prompts, the one or more responses including output of the selected artificial persona; receive a user interface indication directed to at least one of the one or more responses to feed content from the at least one of the one or more responses to a target artificial persona from the list of multiple artificial persona; construct an additional prompt based on the content from the at least one of the one or more responses and an additional user input received by the computer system; provide the additional prompt to the target artificial persona; and display an additional response to the additional prompt, the additional response including output of the target artificial persona.

[0007] In some aspects, the subject matter described herein relates to a system, including: one or more processors; and one or more computer-readable recording media having stored thereon executable instructions that are executable by the one or more processors to configure the system to: receive an indication through a first communication interface of a first user device to share digital content with a second user device; cause the digital content to be presented on the first user device via the first communication interface and on the second user device via a second communication interface; when a synchronization mode is determined to be inactive, enable independent user interaction with the digital content via the first communication interface and via the second communication interface such that the second communication interface is configurable to present the digital content on the second user device differently than the first communication interface on the first user device; and after the synchronization mode is determined to be activated, cause presentation of the digital content on the second user device via the second communication interface to be synchronized with presentation of the digital content on the first user device via the first communication interface.

[0008] In some aspects, the subject matter described herein relates to a method, including: receiving an indication through a first communication interface of a first user device to share digital content with a second user device; causing the digital content to be presented on the first user device via the first communication interface and on the second user device via a second communication interface; when a synchronization mode is determined to be inactive, enabling independent user interaction with the digital content via the first communication interface and via the second communication interface such that the second communication interface is configurable to present the digital content on the second user device differently than the first

communication interface on the first user device; and after the synchronization mode is determined to be activated, causing presentation of the digital content on the second user device via the second communication interface to be synchronized with presentation of the digital content on the first user device via the first communication interface.

[0009] This Summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This Summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

[0010] Additional features and advantages will be set forth in the description which follows, and in part will be obvious from the description, or may be learned by the practice of the teachings herein. Features and advantages of the invention may be realized and obtained by means of the instruments and combinations particularly pointed out in the appended claims. Features of the present invention will become more fully apparent from the following description and appended claims or may be learned by the practice of the invention as set forth hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] In order to describe the manner in which the above-recited and other advantages and features can be obtained, a more particular description of the subject matter briefly described above will be rendered by reference to specific embodiments which are illustrated in the appended drawings. Understanding that these drawings depict only typical embodiments and are not therefore to be considered to be limiting in scope, embodiments will be described and explained with additional specificity and detail through the use of the accompanying drawings described below.

[0012] Figure 1 illustrates an embodiment of a system for dynamic syncing of content within a communication interface.

[0013] Figures 2A-2F illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0014] Figures 3A-3J illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0015] Figures 4A-4B illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0016] Figures 5A-5D illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0017] Figures 6A-6D illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0018] Figures 7A-7D illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0019] Figures 8A-8D illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0020] Figures 9A-9D illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0021] Figures 10A-10D illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0022] Figures 11A-11D illustrate user interfaces for a system for dynamic syncing of content within a communication interface.

[0023] Figure 12 illustrates a flow chart of a method for dynamic syncing of content within a communication interface.

[0024] Figures 13A-13C illustrates user interfaces for a system for dynamic syncing of content within a communication interface.

[0025] Figures 14A-14L illustrates user interfaces for a system for interacting with devices and spaces.

[0026] Figures 15A-15D illustrates user interfaces for a system for interacting with devices and spaces.

[0027] Figures 16A-16G illustrates user interfaces for a system for interacting with an artificial intelligence persona within a chat system.

DETAILED DESCRIPTION

[0028] Disclosed embodiments include a computer system for integrating artificial intelligence (AI) into a chat system. For example, disclosed embodiments include innovative ways to interact with an artificial persona (also referred to as a "chat bot") within a text conversation. As AI become increasingly common in day-to-day life there will be an increasing need to develop interfaces with AI that are intuitive and elegant. For instance, at different times, it may be necessary to provide specific information to an artificial persona and/or to interact with the artificial persona in natural ways that do not interrupt normal workflows.

[0029] In at least one embodiment, a computer system is disclosed in which a user enters content into an AI engine via a conversational experience. In response, the AI delivers content based on specific context that the user manually chooses. For example, a disclosed system may

comprise an AI "co-pilot" that brainstorms creative ideas with the user, riffs on ideas with the user, and then summarizes the user's jam sessions into a project, from which the user can use the AI to further fine-tune content and ideas. The AI can also be added to a group brainstorm and keep track of everyone's contributions. In at least one embodiment, an AI may be able to recognize that a team member may be missing from a discussion and step into the role to "fill in" for them. This may be achieved based on how the AI system takes in user inputs and how the input information is fed into the conversation tree.

[0030] Additionally, in at least one embodiment, a user may be able to interact with an AI persona within a chat through one or more particular user interface interactions. For instance, a user may "slide right" on a message in a chat to include it in the context of the user's directions to the AI and into the algorithm. In at least one embodiment, by giving the AI hyper-specific contextual feedback, the user may receive a hyper-focused answer to a query or command given to the AI that is not dependent or affected by any previous conversation history. Additionally, or alternatively a user may be able to provide targeted content to the AI through a "slide left," a long press selecting a particular user interface element, or any number of other user interface interactions.

[0031] In at least one embodiment, over time a user's personality and communication habits are fed into the AI, so that the AI can reply to messages that people send the user on the user's behalf, with reasonable approximation of how the user would answer. Additionally, in at least one embodiment, the user can direct the AI to take the content and responses it generated and push them into a document or workspace, where the user can keep track of it, or make edits to the content.

[0032] Various different communication systems and features of communication systems are disclosed herein. Disclosed embodiments may include or not include AI features are still remain within the scope of the present disclosure.

I. Computer System for Dynamic Syncing of Content

[0033] Figure 1 illustrates an embodiment of a system 100 for dynamic syncing of content within a communication interface. For example, a first user's device 110 (or "user device") may comprise a mobile phone. The first user may desire to share digital content with a second user's device 120 through a network connection 130. The first user may access a communication interface, such as a chat application or web-based chat application, on the first user's device 110. The communication interface can facilitate communication (e.g., near-real-time communication) between the first user's device 110 and other devices, such as a second user's device 120 and/or

additional user devices. Such communications (or near-real-time communications) can take on various forms, such as voice communications, text communications, visual/video communications, avatar or hologram communications, and/or others. The communication interface accessed by the first user's device 110 can additionally, or alternatively, provide a sharing feature that allows the first user to share the digital content with the second user's device 120 over the network connection 130. The sharing feature may comprise a user interface button or menu option. Such inter-device communications (e.g., voice, text, visual/video, digital content sharing, etc.) can take place within interactive sessions in which multiple user devices (e.g., two or more) participate (e.g., chat sessions, voice calls, video calls, extended reality collaborations, and/or others). Each user device can respectively execute or access a communication interface (e.g., a stored application or a web/cloud application) to participate in an interactive session. For example, a first user device may access or execute a first communication interface (or first instance of a communication interface) to participate in an interactive session while a second device may access or execute a second communication interface (or second instance of the same communication interface that is executed or accessed by the first user device, while permitting variations in versions/updates, deployment environments, device hardware, etc.) to participate in the interactive session.

[0034] In at least one embodiment, when the first user shares digital content that is stored on the first user's device 110 with the second user's device 120, a copy of the digital content to transmitted over the network connection 130 to the second user's device 120. The second user's device 120 then stores the digital content locally and allows the second user to independently interact with the digital content.

[0035] The first user may then activate a sync function within the communication interface on the first user's device 110. Activating the sync function may comprise touching a "sync" user interface button. After the sync function is activated, the first user's devices 110 communicates to the second user's device 120 mapping data related to the digital content that is being displayed on the first user's device 110. As used herein "mapping data" refers to a spatial location or temporal location within the digital content that mirrors the digital content as presented on the first user's device. For example, the mapping data may comprise a spatial location such as a pixel offset, zoom level, or some other related spatial aspect of the digital content. Similarly, the mapping data may comprise a temporal location such as a time stamp in a video or audio file.

[0036] Additionally, in at least one embodiment the mapping data comprises multiple layers of spatial location or temporal location data. For example, the first user may be viewing a project

page (described below) that contains multiple video or audio files. The first user may be viewing a particular view that includes both text content and multiple different video or audio files. In response to activating the sync function, the first device may communicate to one or more participating devices mapping data in the form of a scroll offset for the project page and a video file identifier and scrub position for a particular video that the first user is playing from the project page. Accordingly, in at least one embodiment, the mapping data comprises mapping data for multiple different digital assets (e.g., the project page and the video file) that are independent of each other in that the video file and the project may both be executed and utilized independent of each other.

[0037] The first user's devices 110 communicates the mapping data to the second user's device 120, which causes the digital content on the second user's device to mirror the digital content on the first user's device. One will appreciate that in at least one embodiment, the first user's devices 110 need only communicate the mapping data to the second user's device 120 in order to cause the second user's device 120 to mirror the first user's devices 110. In contrast, convention methods may require the utilization of significantly more bandwidth to communicate image data, video data, and/or audio data to mirror the digital content between the two devices.

[0038] In at least one embodiment, the first user is able to limit the ability of the second user to interact with the digital content. For example, the first user may desire to send sensitive or important digital content to the second user. For instance, the first user may be creating a song that they wish the discuss with the second user, but the first user may wish to ensure that after the conversation the second user no longer has access to the digital content. In at least one embodiment, the first user's device 110 can share the digital content to the second user's device 120 in such a way that the second user can only interact with the content during communication with the first user and after the communication, the digital content is deleted.

[0039] For example, the first user's device 110 may be able to send the digital content to the second user's device 120 such that the digital content is only placed within volatile memory on the second user's device 120. Additionally, the digital content may be placed within a software container on the second user's device 120 such that the digital content cannot be copied or otherwise accessed by other software on the second user's device 120. The software container may further be encrypted using a private encryption key stored on the first user's device 110. When the first user's device 110 transmits the digital content to the second user's device 120, the second user's device may communicate a handshake to the first user's device 110. In response to the handshake, the first user's device 110 may communicate a perishable decryption

key to the second user's device 120 that can be used to decrypt the software container. The perishable decryption key may be configured to perish once the communication is ended or at a specific time frame. Once the perishable decryption key expires the second user's device 120 may request a new perishable decryption key from the first user's device 110. The first user is then given a choice as to whether to allow the second user continued access to the digital content.

[0040] In contrast, in at least one embodiment, the digital content is not communicated directly to the second user's device 120. Instead, the digital content is communicated to a server 140 for storage. The second user's device 120 displays to the second user the digital content as presented by the server 140. When the first user activates the sync function, the first user's device communicates mapping data to the server 140. The server 140 may be configured with greater bandwidth availability, memory, and processing power such that the server 140 is able to communicate age data, video data, and/or audio data of the digital content to the second user's device much faster and more efficiently than the first user's device 110 would be able to. As such, in this embodiment, the first user's device 110 communicates mapping data to the server 140, and the server 140 communicates image, video, or audio data to the second user's device 120 such that the second user's device 120 mirrors the first user's device 110.

[0041] Figures 2A-2F illustrate user interfaces 200(a-f) for a system for dynamic syncing of content within a communication interface. The "interfaces" described herein can correspond to graphical user interface displays/screens displayable or presentable via a communication interface, as described hereinabove with reference to Figure 1. Interface 200a depicts a "locker" that stores various projects. As used herein, the "locker" comprises a user interface that presents to the user various projects that are stored on the user's device. A "project" is a space where the user can store collections of multimedia content. It can be used in a variety of ways. A project can be a moodboard, a photo album, a web magazine, a to-do list, a playlist, a product lookbook, etc. The user can also use it like a cloud storage drive, such as Dropbox™ or Google Drive™.

[0042] In Figure 2B, interface 200b depicts an interface for creating a new project. For example, when a user creates a new project, she can add a banner image, title, description, and tags to the project. The user can also add other users as editors who will have access to modify a project. Additionally, the user can also add guests who can only view a project. Similarly, the user can set a project to be private or public.

[0043] In Figure 2C, interface 200c depicts an example of a project screen. In this example, a personal chef has created a page showing her menu and offerings. She can share this with

clients over text message or calls. The chef can tap on the plus sign (+) to add new assets to a project.

[0044] In Figure 2D, interface 200d depicts examples of the types of assets that a user can add to a project. The Media Gallery function opens the photo gallery on the user's phone where she can select photos or videos. Similarly, the Audio function opens an audio library stored on the user's phone, and the Document function opens a Documents library stored on the user's phone where the user can add PDFs, Word docs, PPT, MP3s etc. The user can also add blocks of text and links.

[0045] In Figure 2E, interface 200e depicts a menu to access a project's settings. The user can view the file history, edit a project, or launch a call around the project. The user can also view the administrator, editors, and guests.

[0046] In Figure 2F, interface 200f depicts a screen where the user can reorganize the assets in her project. For example, the user can change the order of project blocks by dragging them to the position she wants.

[0047] Figures 3A-3J illustrate user interfaces for a system for dynamic syncing of content within a communication interface. In particular, Figures 3A-3J illustrate interfaces 300a-300j that depict various embodiments of a call preview feature. The call preview feature allows a user to give someone else a preview of what the user wants to talk about on a call, in the incoming call screen. As will be explained further below, the user can select any multimedia content for a call topic preview, such as a photo, video, document, or webpage.

II. Systems and Interfaces for Dynamic Syncing of Content During Phone Call

[0048] In Figure 3A, interfaces 300a and 300b depict that a user can launch a call from any asset within the disclosed system and show the asset as a call topic preview. For example, in interfaces 300a and 300b a user can long press on an image shared in a chat. The user can then select "Content Call." In Figure 3C, interface 300c depicts an embodiment of an outgoing call screen in response to the user selecting "content call" in interface 300b. In contrast, interface 300d depicts an embodiment of the incoming call screen looks for the receiver of the call. As depicted the receiver is able to see the shared asset before he answers the call.

[0049] In Figures 3E and 3F, interfaces 300e and 300f depict the sharing of a PDF or Word document asset. The outgoing interface 300e and the incoming interface 300f display the respective call screens. In at least one embodiment, the receiver is able to freely and completely interact with the digital content prior to answering the call. For example, the receiver may be able to scroll through and read an entire PDF or Word document asset prior to answering the

call. Similarly, the receiver may be able to play an entire audio file or video file prior to answering the call. Once the receiver answers the call, the system will display the entire document to the receiver. In Figure 3G and 3H, interfaces 300g and 300h depict a video file being shared within a call. The outgoing interface 300g and the incoming interface 300h display the respective call screens. If the receiver answers, he will see the full video file and be able to play the video. In Figure 3I and 3J, interfaces 300i and 300j depict an audio file being shared within a call. The outgoing interface 300i and the incoming interface 300j display the respective call screens for an audio file (MP3, WAV etc.). If the receiver answers, he will be able to play the audio file and listen.

[0050] In at least one embodiment, the disclosed system has a unique way of handling content sharing, presenting, and syncing on phone calls, video calls, or other types of multi-device interactive sessions. The below figures depict how various types of media are shared on a multi-device interactive session (e.g., a call). These features apply to both audio and video calls (and even extended reality calls/sessions) and are not limited to the number of participants. It may work for any call with two or more participants. It may also work for any device or platform that contains a screen or other mechanism for experiencing audio/visual content (e.g., an extended reality device).

[0051] Figures 4A-4B illustrate user interfaces for a system for dynamic syncing of content within a communication interface (e.g., in conjunction with an interactive session facilitated via one or more communication interfaces of one or more devices). Figure 4A depicts an interface 400a that is the UI for a call. The call for which the interface 400a is shown in Figure 4A comprises a type of interactive session in which communications (e.g., near-real-time communications) are shared among at least a first device (associated with a user of the device displaying the interface 400a) and a second device. A user can share content by pressing the "Share +" button on the lower right corner of the screen. Figure 4B depicts an interface 400b that illustrates when the user selects "Share +", the system will display a menu that shows the types of content that can be shared. The depicted types of content for sharing are merely exemplary and may include any number of different digital assets.

[0052] Figures 5A-5D illustrate what it looks like when a caller shares a photo or image with other participants in a synced state (e.g., where a synchronization mode is activated or determined to be activated) and an unsynced state (e.g., where the synchronization mode is inactive or determined to be inactive). Figures 5A and 5B illustrate an embodiment when the sync function is turned off. Specifically, interface 500a depicts a presenter's view with the sync

function turned off. Interface 500b depicts the viewer's screen without the sync button. In at least one embodiment, only the presenter is able to activate the sync function. In contrast, in at least one embodiment, any participant on a call is able to activate the sync function. When sync function is off, all participants can zoom or scroll or pan on the photo to view it however they please.

[0053] Figures 5C and 5D illustrate when sync mode is turned on. As depicted, both interface 500c, 500d now show the status of sync mode turned on. If the presenter zooms in on the photo as shown, the other participants will see the same view in real time (or near-real-time). Note the time stamp on the call is the same on both screens to show that this is simultaneous. When the sync mode is activated, other users (e.g., aside from the owner or presenter) can be prevented from independently interacting with the digital content.

[0054] Figures 6A-6D illustrate what it looks like when a caller shares a video with other participants in synced and unsynced states. In particular, Figures 6A and 6B illustrate when sync mode is turned off. Interface 600a is the presenter's view that includes a button at the top of her screen to control the sync function. Interface 600b is the viewer's screen, which does not have the sync button. When the sync function is off, all participants can view and control playback of the video on their own screen, including scrubbing, skipping, pausing, turning sound on/off, control volume etc. Here, they are viewing different frames of the video at the same point in time (note the timestamp of the call). Figures 6C and 6D illustrate when sync mode is turned on for a video. All participants will snap to the same frame and hear the same audio as the presenter as she controls the playback of the video. Only the presenter's interface 600c has the ability to scrub on the video's timeline, and to turn sound on/off. Note the time stamp on the call is the same on both interface 600c, 600d to show that this is simultaneous.

[0055] Figures 7A-7D shows what it looks like when a caller shares an audio file or audio signal with other participants in synced and unsynced states. Figures 7A and 7B shows when sync mode is turned off. Interface 700a is the presenter's view that includes a button at the top of the screen to control sync mode. Interface 700b is the viewer's screen, which does not have the sync button. When sync mode is off, all participants can listen and control playback of the audio file on their own screen, including scrubbing, pausing, skipping, turning sound on/off, control the volume etc. Here, they are playing different points of the song, at the same point in time.

[0056] Figures 7C and 7D show when sync function is turned on. All participants will snap to the same section of the audio waveform and hear the same audio as the presenter as she controls the playback. Only the presenter's interface 700c will have the ability to scrub across

the audio's timeline. Note the time stamp on the call is the same on both interface 700c, 700d to show that this is simultaneous.

[0057] Figures 8A-8D show what it looks like when a caller shares a document such as a PDF, Word doc, or PowerPoint file with other participants in synced and unsynced states. Figures 8A and 8B show when sync function is turned off. Interface 800a is the presenter's view, which has a button at the top of the screen to control the sync function. Interface 800b is the viewer's screen, which does not have the sync button. When sync mode is off, all participants can view, zoom, scroll, pan, and/or otherwise navigate to different pages of the document at their own pace. Here they are viewing different pages of the document at the same point in time.

[0058] Figures 8C and 8D show when the sync function is turned on. All participants will snap to the same page and mirror the view of the presenter. As the presenter scrolls on interface 800c scrolls, the viewers will also see the document scroll on interface 800d. If the presenter zooms on a specific pixel, the viewers will also see their screen zoom in on the same pixel. Note the time stamp on the call is the same on both screens to show that this is simultaneous.

[0059] Figures 9A-9D show what it looks like when a caller shares a web page with other participants in synced and unsynced states. Figures 9A and 9B show when the sync function is turned off. Interface 900a is the presenter's view, which has a button at the top of the screen to control sync mode. Interface 900b is the viewer's screen, which does not have the sync button. When sync mode is off, all participants can view, zoom and scroll to different parts of the web page at their own pace. Here they are viewing different sections of a webpage feed at the same point in time.

[0060] Figures 9C and 9D show when the sync function is turned on. All participants will snap to the same scrolling position and view of the presenter (shown in interface 900c). As the presenter scrolls, the viewers (shown in interface 900d) will also see the page scroll. If the presenter zooms in on a specific pixel, the viewers will also see their screen zoom in on the same pixel. Note the time stamp on the call is the same on both screens to show that this is simultaneous.

III. Systems and User Interfaces For Shared Project Pages

[0061] Figures 10A-10D show what it looks like when a caller shares a FYI™ Project (or a "project page") with other participants in synced and unsynced states. Figures 10A and 10B show when sync mode is turned off. Interface 1000a is the presenter's view, which has a button at the top of the screen to control sync mode. Interface 1000b is the viewer's screen, which does not

have the sync button. When the sync function is off, all participants can view, scroll, zoom, or select any object in the Project page. Here they are viewing different sections of the Project.

[0062] Figures 10C and 10D show when sync mode is turned on. All participants will snap to the same scrolling position and view as the presenter. As the presenter scrolls (shown in interface 1000c), the viewers (shown in interface 1000d) will also see the page scroll. If the presenter zooms on a specific pixel, the viewers will also see their screen zoom in on the same pixel. Note the time stamp on the call is the same on both screens to show that this is simultaneous.

[0063] An additional feature with projects is that if someone updates the project in real time, such as by adding a new asset or reorganizing blocks on the page, all viewers will also see it update live.

IV. Systems and User Interfaces For Shared Chats

[0064] In at least one disclosed embodiment, when users share content over a call, the content lives on after the call in the users' call history. Files or links that are shared can be accessed in the record of the call and can be viewed and downloaded for further use. Figures 11A-11D illustrate user interfaces for a system for dynamic syncing of content within a chat communication interface. Figures 11A and 11B show how a user can access the details of a completed call and the history of the content that was shared on a call. Interface 1100a shows a chat thread and a large card that represents a call that happened amongst members in the group. Tapping on the card will open a detailed view of the call's content. Interface 1100b shows an alternate way to access call details, via the call logs screen, which shows a list of all the calls the user was on. Tapping on a specific call will also show a detailed view.

[0065] Figures 11C and 11D show the detailed view of a completed call. It shows a list of participants (interface 1100c), and all the content (interface 1100d) that was shared by any participant on the call, including web links, documents, images, videos, audio files, projects, and other multimedia content.

[0066] The following discussion now refers to a number of methods and method acts that may be performed. Although the method acts may be discussed in a certain order or illustrated in a flow chart as occurring in a particular order, no particular ordering is required unless specifically stated, or required because an act is dependent on another act being completed prior to the act being performed.

[0067] Figure 12 illustrates a flow chart of a method 1200 for dynamic syncing of content within a communication interface. The method may include an act 1210 for receiving an

indication from a first user to share digital content with a second user through a first communication interface. Additionally, the method may include an act 1220 of transmitting the digital content to the second user. The transmitted digital content is displayed to the second user within a second communication interface, according to act 1230. The method may also include an act 1240 of receiving a synchronization command from the first user. Further still, the method may include an act 1250 of in response to the synchronization command, cause the second communication interface to mirror the first user's view of the digital content.

V. Systems and User Interfaces For Shared Audio and/or Video Calls

[0068] Figures 13A-13C illustrate various interfaces for a system for dynamic syncing of content within a communication interface. In at least one embodiment, a user is able initiate a callcast. As used herein, a "CallCast" is a live audio chat room where the hosts can also present multimedia content within the chatroom. Audience members may also be able to interact with the digital content independently while in the audio chatroom. For example, if the content is a document, then audience members may be able to scroll through the pages on their own. If the content is a video or audio file, audience members may be able to play the media file and scrub through the content at different points in the timeline of the content. If the content is a photo, the audience member can enlarge the photo and zoom in on any area of the photo.

[0069] Figure 13A depicts an example of a CallCast interface 1300. In the depicted example, the title of the live audio chat room is "Xupermask." This user interface screen shows the standard elements of an audio chat room, with two speakers featured at the top of the room, and audience members listed underneath the speakers. A menu bar is shown at the bottom of the screen where users can access other actions.

[0070] Figure 13B depicts an example of a CallCast interface 1310 with added media files. On depicted interface, the added elements of "Files" 1312 are illustrated, shown underneath the speakers. The speakers in this audio chat room can choose to share files during their session by accessing a button to share media, from the menu bar. In the example shown in Figure 13B, two files have been shared by the speakers, a picture file and an MP3 file. Any person listening in the chat room may be able to open the files (within the interface of the room) and view them at their own pace and under their own control.

[0071] Figure 13C depicts an interface 1320 showing an open media file (in this case the picture file from interface 1310) from a CallCast session. Audience members may be able to open files shared during a CallCast session and interact with the file at their own pace and under their own control. A file may be any type of digital content. In this example, it is a photo. But it could

also be a video, audio file, document, or web link. Files may also be linked to web pages where users can further interact with content. For example, a photo may be hyperlinked to a page where users can purchase goods or services or perform other actions. As another example, a file could also be a digital music album, where users may only access the album via participation in a live CallCast and be able to purchase the album only through their participation in the CallCast.

[0072] As explained above, one or more participants in the CallCast may have the ability to activate a sync mode that causes all of the other participants in the CallCast to view the initiating user's screen. Similar to that explained above, when a participant initiates the mode, that participant's device communicates mapping data to the other participant devices in the CallCast. The other participant devices use the mapping data to render the same view that the initiating participant is viewing. In at least one embodiment, the ability to initiate the sync mode is reserved to only specific participants. For example, in some instances, only participants with ownership rights over a given file may have the ability to initiate a sync mode for that file. Whereas other viewers may just have viewer rights on the file and be prohibited from initiating the sync mode.

[0073] In an additional or alternative embodiment, the disclosed system provides improved annotation functionalities. For example, users may be familiar with leaving annotations on documents, to provide feedback to the document creator on what edits need to be made. Examples include track changes in word processing documents and leaving comments or sticky notes in the margins.

[0074] Disclosed embodiments improve upon this system. For example, consider a video file that is shared amongst a team of video editors. To provide better feedback on changes that need to be made on specific frames of the video, an editor can select a frame from the video's timeline and leave an audio message that is mapped to the timestamp of that frame, instead of written comments. The audio message that is captured will be saved as a new audio file that is linked to the original file to be edited. There can be a visual marker on the timeline UI of the video file to show that an audio comment has been left at a specific timestamp.

[0075] Similarly, audio annotations can be left on a picture file. A user may select a specific pixel of the picture file to leave an annotation. There would be visual markers to show where audio comments have been left. In both examples, the system maps audio annotations to specific locations in a document such as timestamps and pixels, rather than layering audio over the whole document.

[0076] Similar functionality can also extend to documents. For example, users may be familiar with presenting documents on a conference call via screensharing. Some services also allow participants to mark up or add annotations to the screen, to provide feedback to other members on the call. However, usually these markups are captured as overlays on the screen content and saved as screenshots, which limits the file to the content displayed on the screen of the user performing the markup, rather than the scope of the whole file. In at least one embodiment, the markup is saved along with all the content of the original file in question, rather than just a screenshot of whatever is displayed from the marker's view.

[0077] For example, if a 3-page document is shared on a call and visually marked up with notes and annotations during the call, the participants will have the ability to save the entire document as one file that shows all the markups on all pages, instead of having to download multiple screenshots of the file in various sections. Another example is marking up a photo shared on a call. One participant on the call may zoom into the photo to leave a more detailed markup. When the markup is saved as a new file, it will show the annotations within the context of the entire image, and not just a screenshot of the zoomed-in view. Users may also be able to leave audio annotations on a file during calls. An audio annotation will be saved as a new file but linked to the original file being edited via a record in the user's call history within the conference call application.

[0078] In additional or alternative embodiment, the system is configured to combine a conference call interface with a media player and audio recording interface. For example, while on a conference call, one user may be sharing and playing an MP3 music file, while another user may be recording audio of their voice through their own device microphone, speaking over the playback of the music file from user one. Additional participants on the call may also be speaking over the playback audio. The end result is the creation of a new audio file that seamlessly mixes the audio captured from multiple devices and participants during a conference call with the pre-existing audio file being played on the call, which, for example, could be a backing track to a song. The audio may be communicated at a high-enough bitrate that the fidelity of the sound is on par with that of a studio recording and mixing environment. This may provide a novel way for groups of people to create original audio content together over a phone call instead of having to coordinate in a studio environment.

[0079] Further, in additional or alternative embodiments, the system provides a unique interface and system where users may store important personal documents such as IDs, insurance cards, and credit cards in a digital form that is tied to their user profile on a messenger

service. In contrast to conventional systems, in at least one embodiment, the wallet is tied to a user's profile in a messenger app that can use the history of the user's contacts and communication history to verify the user's identity. The system may also log interactions from the wallet on a blockchain. An interaction could include making a transaction on a credit card, or opening a user profile on the app to show a form of ID. In the case of showing an ID, a timestamp and geolocation is added to every event where the ID is opened. In some cases, the user may be prompted to call a contact to verify their identity before proceeding. The selected contact may be selected based upon a trust record that indicates that the selected contact has previously accurately identified other individuals. The contact that is called may take an additional step to verify that the user called and spoke to them, instead of someone who may have stolen access to the user's account.

VI. Systems and User Interfaces For Personified Spaces and AI Personas

[0080] In further embodiments, the system provides for the personification of objects and spaces. In particular, disclosed embodiments provide for the personification of objects and spaces, within the context of a messenger app, so that a user can message objects and spaces with the intent to control IOT devices, or any device that can be accessed via a network connection. Spaces, as used herein, are physical spaces that contain a collection of controllable devices. For example, a user's home, office, and/or car can be a space. Each space contains a collection of devices that control the environment within the space, such as lights, thermostats, or other electronics.

[0081] Within the context of a messenger app, a user can add their home, office, car, or any space or device as a "contact" and be able to chat with them, in order to control devices within the space, or to monitor the space for activities. The following screens illustrate how this experience will work.

[0082] Figure 14A depicts a user interface 1400 that shows a typical user profile screen for a messenger app. The user may be able to add 'spaces' to their account, in the same way they would be able to add other accounts, such as social media accounts or payment methods.

[0083] Figure 14B depicts a user interface 1410 that shows a user can add multiple spaces to their account. This example screen shows all the spaces they have added (Office and Home), and an option to add a new space. Figure 14C depicts a user interface 1420 that shows when a user adds a new space, the user can name it, add a banner image, and other details. The user can also add contacts to the space, to give other users access to controlling the specified space.

[0084] Figure 14D depicts a user interface 1430 that shows spaces are considered contacts that the user can converse with, so the spaces may appear in the user's list of chats and conversations. In the example screen above, the user can see "Office" and "Home" in the list of chats. Figure 14E depicts a user interface 1440 that shows an example of how a user can filter a conversation list to view spaces only.

[0085] Figure 14F depicts a user interface 1450 that shows the user may be able to send messages to their space in order to control devices within the space or gather information about the environment within the space. The user may be able to communicate with the space using natural language conversation. In this example the user can speak to the space in a conversational way, and vice versa. The space may reply to the user in a natural manner, via integration with an AI/NLU module and API integrations with devices in the space, such as a thermostat. In this example, the user is asking to set the temperature at their space called "Office", and the office may respond once that action is completed.

[0086] Figures 14G-14I depict user interfaces 1460, 1470, 1480 that show a series of behavior of adding a space to a group chat. User interface 1460, in Figure 14G, shows a typical group chat UI with 3 participants ("You, Lilly, Isaac"). Figure 14H depicts a user interface 1470 that details of a group chat, including the current participants. Tapping on "Add Participant" will add new members. Figure 14I depicts a user interface 1480 that shows when the user presses on the "Add Participant" button, the user will see a list of contacts. The user's spaces will also appear in the list. In this example, the user can add "The FYI Office" to this group chat.

[0087] Figure 14J depicts a user interface 1490 that shows after the user selects "The FYI Office" to add to a group chat, the user can also select which rooms or subspaces to allow other group chat members to control. Here, only "Conference Room" is selected. The other members of the chat will only be able to communicate with the Conference Room. Figure 14K depicts a user interface 1492 that shows once a user adds THE FYI OFFICE to this group chat, the other members will be able to interact with it as well. The other members can be able to control devices in the designated space by chatting with it. The other members can be able to control only the devices or subspaces in which the owner or admin gave them permissions for. The owner or admin of the space would be able to modify these permissions at any point in time. Figure 14L depicts a user interface 1494 that shows when the user looks at the group details screen again, the user will now see THE FYI OFFICE in the list of participants.

[0088] Group chats that include a space can unlock new ways to communicate, as well as innovative ways for controlling devices. Adding AI speech recognition, image recognition, facial

recognition, machine learning and other data analysis to the chat enables very powerful and dynamic new ways to control devices, for a richer and smoother user experience. For example, a user may be hosting a guest at the user's house. The user can add the guest to a group chat with the house. Within the chat, the user can ask the guest to share a photo of himself, so that the house may recognize his face and be able to let him into the house when he arrives, by controlling a smart lock. The house can also add the guest's face to the security camera software, so that cameras will also recognize this person as a guest and not an intruder. The guest may also send a picture of his car in the chat, so that the house recognizes this vehicle for access to the garage. This system incorporates image recognition and facial recognition so that spaces in the chat can recognize relevant people and objects. The system may also enable objects to recognize voices. Users should be able to leave voice messages to objects, and objects can discern users based on their voice. After the guest is done with their stay, the user can inform the house that the guest is leaving, and the house can remove the guest from access to the property.

[0089] In the context of an office, the user can add certain employees to a group chat with a space such as a conference room. The employees could then book time in the conference room or ask when there are open times available. Employees may also tell the conference room what kind of A/V setup they need for their meeting or what they would like the temperature of the room to be, etc. The user may also be able to add multiple spaces or objects to a group chat, and they may be able to communicate and interact with each other. For example, consider the following use case of adding the user's house and the user's car to a group chat. The car can communicate in the chat, that it is within a certain distance of the house. The house can then take that cue to turn on the lights or heating or other appliances, moments before the car arrives. Accordingly, in at least one embodiment where a user would want to share information between different spaces, objects and devices, the user can put them on a group chat.

[0090] Figure 15A depicts a user interface 1500 that shows that aside from controlling spaces via chat, the user will also be able to access a control panel view for each space, which can show all the devices within the space. In this view, the user can access direct device controls. Figure 15B depicts a user interface 1510 that shows the control panel can also be filtered by room or subspace (bedroom, kitchen, garage etc.). Each room shows the specific devices contained in each room.

[0091] Figure 15C depicts a user interface 1520 that shows the user can also view individual devices or groups of devices in detail, and access deeper controls for them. This is an example of

a detail screen for controlling a cluster of lights in a Bedroom, whereby a user can control each light in the cluster and set overall brightness for the cluster. Figure 15D depicts a user interface 1530 that shows users can also add new devices to their space. The user interface 1530 depicts a sample selection of devices a user can add to a space. A device can be any object that is controllable remotely via a network connection.

[0092] The examples described herein relate to the personification of a building that contains multiple devices that can be controlled remotely, but any individual object may be treated in the same way. As such, any object or device in which a user would want to control or interact with remotely could be treated as a "contact". Any object that can be controlled remotely via a network connection can be added as a "contact". Other examples could include robotic companions such as a robot pet, robot helper, or robotic/autonomous vehicle.

[0093] Further, disclosed embodiments may be integrated into a number of different spaces. Examples of spaces can also extend beyond homes, offices, or buildings. A space can also be a car. A car can contain multiple devices and sensors that a user would want to control remotely, such as unlocking the car or trunk doors, or monitoring security cameras mounted on or inside the car. Examples of spaces could include but are not limited to buildings, individual rooms, automobiles, boats, planes, other vehicles, any other structures or compartments with discernible boundaries.

[0094] Figures 16A-16G illustrates user interfaces for a system for interacting with an artificial intelligence persona within a chat system. Figure 16A depicts a user interface that provides a user with the ability to start a chat. The user is given options to start a chat with any individual, a group chat, or to start a chat with an AI Persona (also referred to herein as a "Smart Persona" or "artificial persona"). An AI Persona can conceptually correspond to an AI chatbot or a software application configured to simulate human-like conversation based on received input. An AI Persona can utilize natural language processing (NLP), machine learning (ML), and/or artificial intelligence (AI) algorithms to process, interpret, and generate responses to user inputs through text and/or voice. An AI chatbot can implement one or more natural language understanding components, dialogue management components, natural language generation components, learning mechanisms, and/or integration layers. Figure 16B depicts a user interface that displays options for different types of AI Personas. The depicted AI Personas include AI Personas that are customized to "get digital things done," answer general questions, and/or ask car questions. One will appreciate that these are merely exemplary AI Personas. In at least one embodiment, additional or alternative Persona AIs may be presented. For example, AI Personas

can be created that are customized for respective subject matter domains (e.g., financial matters, legal matters, interacting with IoT devices, and various other customizations). In some embodiments, customized AI Personas are provided with or trained using unique datasets (e.g., training datasets), such as dataset specific to cars. In some embodiments, customized AI Personas are provided with access to unique APIs and/or permissions, such as APIs and/or permissions to interoperate with IoT devices. Further, In some embodiments, customized AI Personas are provided with unique artificial personalities, such as unique biasing towards particular writing voices, seriousness or silliness, and other similar personality attributes.

[0095] Figure 16C depicts an example of a user chatting with an AI Persona (e.g., the "FYI.AI" Persona). In this example, the user provides a prompt that asks the AI Persona to "Write some marketing copy for the launch of our social media app for dogs and keep it under twenty words." In response, the AI Persona provides a response to the user with three different options for the marketing copy. The response can comprise output of the AI Persona (e.g., output of the NLP, ML, and/or AI algorithms/models associated with the AI persona based on processing of the received prompt as input). Figure 16D depicts a user responding to the AI Persona's response by replying to the AI Persona's suggestions and requesting "edgier" options. Of note, in at least one embodiment, replying to the particular response allows the AI Persona more specifically focus on the content within the AI Persona's previous response and the user's reply message. In at least one embodiment, a user can reply to a message from the AI Persona that was several messages ago. The ability to reply to a particular message allows the user to provide hyper-contextual data to the AI Persona and to filter out the intermediate messages.

[0096] Figure 16D depicts an example of the AI Persona responding to the user's prompt to provide edgier options. In response, the AI Persona provides the user with edgier options for the marketing copy. Figure 16E depicts an example of the user providing further hyper-contextual feedback to the AI Persona. In particular, the user replies to the AI Persona's edgier proposals by indicating that the user likes the first proposal and would like the AI Persona to add more features to the description.

[0097] Figure 16F depicts an example of the AI Persona responding with a revised version of the option that the user selected in Figure 16E. Figure 16G depicts an option provided in the user interface in response to a long press on the response from the AI persona shown in Figure 16G (or other type of user interface indication directed to the response shown in Figure 16G, such as swipe input, gesture input, voice input, gaze input, input selecting one or more buttons/elements directed to construction of hyper-contextual prompt, etc.). In response to the

long press (or other user interface indication), the user is provided with an option to ask the AI Persona about the content of the selected material. For instance, if the user selects "ASK FYI.AI", the user may be prompted to provide additional user input (e.g., in the form of voice or text input, similar to that shown in Figure 16E, which displays a selected previous response of the FYI.AI Persona in conjunction with a text entry field), and the additional user input may be used in conjunction with the selected material to construct an additional prompt for the FYI.AI Persona to process as input. In at least one embodiment, this allows the user to feed the content into the AI Persona for hyper contextual processing. Further, in at least one embodiment, the feature may allow the user to send the content to a different AI Persona (e.g., a different AI Persona from the list of multiple AI Personas shown in Figure 16B; for instance, a long press on a response from an AI Persona can enable users to select from multiple AI Personas to use as a target AI Persona to receive an additional prompt constructed using the selected content from a previous AI Persona response and the additional user input noted above). For example, the user may work on a project with a lyric writing AI Persona. Once the user has reached an acceptable point on the lyrics, the user may send the selected lyrics to a music writing AI. Further, the user may be able to send the selected lyrics to a genre-specific AI Persona.

[0098] In at least one embodiment, during the time that the user interacts with any AI Persona within the system, a user-specific AI Persona is monitoring the conversations and data. The user-specific AI Persona may train itself to be responsive to the user's commands and personalities, such that the user-specific AI attempts to mimic the user. The user may give the user-specific AI Persona permission to participate in group chats with other individuals on the user's behalf. The user may be able to place particular permissions and limits on the user-specific AI Persona such that the AI Persona is not able to share particular personal information of the user or participate in agreements on behalf of the user.

[0099] At least some embodiments disclosed herein can be characterized by the following clauses:

[0100] Clause 1. A computer system for an artificial intelligence integrated into a chat system, comprising: one or more processors; and one or more computer-readable media having stored thereon executable instructions that when executed by the one or more processors configure the computer system to: receive a user selection to interact with a selected artificial persona, wherein the selected artificial persona is selected from a list of multiple artificial persona; provide one or more prompts to the selected artificial persona, wherein the one or more prompts are based on user input received by the computer system; display one or more

responses to the one or more prompts, the one or more responses comprising output of the selected artificial persona; receive a user interface indication directed to at least one of the one or more responses to feed content from the at least one of the one or more responses to a target artificial persona from the list of multiple artificial persona; construct an additional prompt based on the content from the at least one of the one or more responses and an additional user input received by the computer system; provide the additional prompt to the target artificial persona; and display an additional response to the additional prompt, the additional response comprising output of the target artificial persona.

[0101] Clause 2. The computer system of clause 1, wherein each artificial persona of the list of multiple artificial persona is associated with a respective subject matter domain, a respective training dataset, a respective set of permissions, or a respective artificial personality.

[0102] Clause 3. The computer system of clause 1, wherein the target artificial persona comprises the selected artificial persona.

[0103] Clause 4. The computer system of clause 1, wherein the target artificial persona comprises an artificial persona from the list of multiple artificial persona that is different from the selected artificial persona.

[0104] Clause 5. A system, comprising: one or more processors; and one or more computer-readable recording media having stored thereon executable instructions that are executable by the one or more processors to configure the system to: receive an indication through a first communication interface of a first user device to share digital content with a second user device; cause the digital content to be presented on the first user device via the first communication interface and on the second user device via a second communication interface; when a synchronization mode is determined to be inactive, enable independent user interaction with the digital content via the first communication interface and via the second communication interface such that the second communication interface is configurable to present the digital content on the second user device differently than the first communication interface on the first user device; and after the synchronization mode is determined to be activated, cause presentation of the digital content on the second user device via the second communication interface to be synchronized with presentation of the digital content on the first user device via the first communication interface.

[0105] Clause 6. The system of clause 5, wherein the indication through the first communication interface of the first user device to share the digital content with the second

user device is based on selection of a share command through the first communication interface or based on selection of the digital content through the first communication interface.

[0106] Clause 7. The system of clause 5, wherein the digital content comprises one or more images, one or more videos, one or more audio signals, one or more documents, one or more web pages, or one or more project pages.

[0107] Clause 8. The system of clause 5, wherein user interaction with the digital content comprises zooming, scrolling, panning, playing, pausing, scrubbing, skipping, controlling volume, page navigation, of the digital content or of one or more components of the digital content.

[0108] Clause 9. The system of clause 5, wherein the executable instructions are executable by the one or more processors to configure the system to receive the indication and cause the digital content to be presented on the first user device and on the second user device in conjunction with an interactive session in which the first user device and the second user device participate.

[0109] Clause 10. The system of clause 9, wherein the interactive session facilitates near-real-time voice, video, or text communications between users of at least the first user device and the second user device.

[0110] Clause 11. The system of clause 5, wherein, after the synchronization mode is determined to be activated, the presentation of the digital content on the second user device via the second communication interface is based on user interaction with the digital content via the first communication interface on the first user device.

[0111] Clause 12. The system of clause 5, wherein the executable instructions are executable by the one or more processors to configure the system to, after the synchronization mode is determined to be activated, prevent independent user interaction with the digital content via the second communication interface of the second user device.

[0112] Clause 13. The system of clause 5, wherein the synchronization mode is determined to be activated based on selection of a sync function through the first communication interface.

[0113] Clause 14. A method, comprising: receiving an indication through a first communication interface of a first user device to share digital content with a second user device; causing the digital content to be presented on the first user device via the first communication interface and on the second user device via a second communication interface; when a synchronization mode is determined to be inactive, enabling independent user interaction with the digital content via the first communication interface and via the second communication interface such that the second communication interface is configurable to present the digital

content on the second user device differently than the first communication interface on the first user device; and after the synchronization mode is determined to be activated, causing presentation of the digital content on the second user device via the second communication interface to be synchronized with presentation of the digital content on the first user device via the first communication interface.

[0114] Clause 15. The method of clause 14, wherein the indication through the first communication interface of the first user device to share the digital content with the second user device is received after selection of a share command through the first communication interface and selection of the digital content through the first communication interface.

[0115] Clause 16. The method of clause 14, wherein the digital content comprises one or more images, one or more videos, one or more audio signals, one or more documents, one or more web pages, or one or more project pages.

[0116] Clause 17. The method of clause 14, wherein user interaction with the digital content comprises zooming, scrolling, panning, playing, pausing, scrubbing, skipping, controlling volume, page navigation, of the digital content or of one or more components of the digital content.

[0117] Clause 18. The method of clause 14, wherein receiving the indication and causing the digital content to be presented on the first user device and on the second user device are performed in conjunction with an interactive session in which the first user device and the second user device participate.

[0118] Clause 19. The method of clause 18, wherein the interactive session facilitates near-real-time voice, video, or text communications between users of at least the first user device and the second user device.

[0119] Clause 20. The method of clause 14, wherein, after the synchronization mode is determined to be activated, the presentation of the digital content on the second user device via the second communication interface is based on user interaction with the digital content via the first communication interface on the first user device.

VII. Conclusion

[0120] Further, the methods may be practiced by a computer system including one or more processors and computer-readable media such as computer memory. In particular, the computer memory may store computer-executable instructions that when executed by one or more processors cause various functions to be performed, such as the acts recited in the embodiments.

[0121] Computing system functionality can be enhanced by a computing systems' ability to be interconnected to other computing systems via network connections. Network connections may include, but are not limited to, connections via wired or wireless Ethernet, cellular connections, or even computer to computer connections through serial, parallel, USB, or other connections. The connections allow a computing system to access services at other computing systems and to quickly and efficiently receive application data from other computing systems.

[0122] Interconnection of computing systems has facilitated distributed computing systems, such as so-called "cloud" computing systems. In this description, "cloud computing" may be systems or resources for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, services, etc.) that can be provisioned and released with reduced management effort or service provider interaction. A cloud model can be composed of various characteristics (e.g., on-demand self-service, broad network access, resource pooling, rapid elasticity, measured service, etc.), service models (e.g., Software as a Service ("SaaS"), Platform as a Service ("PaaS"), Infrastructure as a Service ("IaaS"), and deployment models (e.g., private cloud, community cloud, public cloud, hybrid cloud, etc.).

[0123] Cloud and remote based service applications are prevalent. Such applications are hosted on public and private remote systems such as clouds and usually offer a set of web-based services for communicating back and forth with clients.

[0124] Many computers are intended to be used by direct user interaction with the computer. As such, computers have input hardware and software user interfaces to facilitate user interaction. For example, a modern general-purpose computer may include a keyboard, mouse, touchpad, camera, etc. for allowing a user to input data into the computer. In addition, various software user interfaces may be available.

[0125] Examples of software user interfaces include graphical user interfaces, text command line-based user interface, function key or hot key user interfaces, and the like.

[0126] Disclosed embodiments may comprise or utilize a special purpose or general-purpose computer including computer hardware, as discussed in greater detail below. Disclosed embodiments also include physical and other computer-readable media for carrying or storing computer-executable instructions and/or data structures. Such computer-readable media can be any available media that can be accessed by a general purpose or special purpose computer system. Computer-readable media that store computer-executable instructions are physical storage media. Computer-readable media that carry computer-executable instructions are

transmission media. Thus, by way of example, and not limitation, embodiments of the invention can comprise at least two distinctly different kinds of computer-readable media: physical computer-readable storage media and transmission computer-readable media.

[0127] Physical computer-readable storage media includes RAM, ROM, EEPROM, CD-ROM or other optical disk storage (such as CDs, DVDs, etc.), magnetic disk storage or other magnetic storage devices, or any other medium which can be used to store desired program code means in the form of computer-executable instructions or data structures and which can be accessed by a general purpose or special purpose computer.

[0128] A "network" is defined as one or more data links that enable the transport of electronic data between computer systems and/or modules and/or other electronic devices. When information is transferred or provided over a network or another communications connection (either hardwired, wireless, or a combination of hardwired or wireless) to a computer, the computer properly views the connection as a transmission medium. Transmissions media can include a network and/or data links which can be used to carry program code in the form of computer-executable instructions or data structures, and which can be accessed by a general purpose or special purpose computer. Combinations of the above are also included within the scope of computer-readable media.

[0129] Further, upon reaching various computer system components, program code means in the form of computer-executable instructions or data structures can be transferred automatically from transmission computer-readable media to physical computer-readable storage media (or vice versa). For example, computer-executable instructions or data structures received over a network or data link can be buffered in RAM within a network interface module (e.g., a "NIC"), and then eventually transferred to computer system RAM and/or to less volatile computer-readable physical storage media at a computer system. Thus, computer-readable physical storage media can be included in computer system components that also (or even primarily) utilize transmission media.

[0130] Computer-executable instructions comprise, for example, instructions and data which cause a general-purpose computer, special purpose computer, or special purpose processing device to perform a certain function or group of functions. The computer-executable instructions may be, for example, binaries, intermediate format instructions such as assembly language, or even source code. Although the subject matter has been described in language specific to structural features and/or methodological acts, it is to be understood that the subject matter defined in the appended claims is not necessarily limited to the described features or acts

described above. Rather, the described features and acts are disclosed as example forms of implementing the claims.

[0131] Those skilled in the art will appreciate that the invention may be practiced in network computing environments with many types of computer system configurations, including, personal computers, desktop computers, laptop computers, message processors, hand-held devices, multi-processor systems, microprocessor-based or programmable consumer electronics, network PCs, minicomputers, mainframe computers, mobile telephones, PDAs, pagers, routers, switches, and the like. The invention may also be practiced in distributed system environments where local and remote computer systems, which are linked (either by hardwired data links, wireless data links, or by a combination of hardwired and wireless data links) through a network, both perform tasks. In a distributed system environment, program modules may be located in both local and remote memory storage devices.

[0132] Alternatively, or in addition, the functionality described herein can be performed, at least in part, by one or more hardware logic components. For example, and without limitation, illustrative types of hardware logic components that can be used include Field-programmable Gate Arrays (FPGAs), Program-specific Integrated Circuits (ASICs), Program-specific Standard Products (ASSPs), System-on-a-chip systems (SOCs), Complex Programmable Logic Devices (CPLDs), etc.

[0133] The present invention may be embodied in other specific forms without departing from its spirit or characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

CLAIMS

What is claimed is:

1. A computer system for an artificial intelligence integrated into a chat system, comprising:

one or more processors; and

one or more computer-readable media having stored thereon executable instructions that when executed by the one or more processors configure the computer system to:

receive a user selection to interact with a selected artificial persona, wherein the selected artificial persona is selected from a list of multiple artificial persona;

provide one or more prompts to the selected artificial persona, wherein the one or more prompts are based on user input received by the computer system;

display one or more responses to the one or more prompts, the one or more responses comprising output of the selected artificial persona;

receive a user interface indication directed to at least one of the one or more responses to feed content from the at least one of the one or more responses to a target artificial persona from the list of multiple artificial persona;

construct an additional prompt based on the content from the at least one of the one or more responses and an additional user input received by the computer system;

provide the additional prompt to the target artificial persona; and

display an additional response to the additional prompt, the additional response comprising output of the target artificial persona.

2. The computer system of claim 1, wherein each artificial persona of the list of multiple artificial persona is associated with a respective subject matter domain, a respective training dataset, a respective set of permissions, or a respective artificial personality.

3. The computer system of claim 1, wherein the target artificial persona comprises the selected artificial persona.

4. The computer system of claim 1, wherein the target artificial persona comprises an artificial persona from the list of multiple artificial persona that is different from the selected artificial persona.

5. A system, comprising:

one or more processors; and

one or more computer-readable recording media having stored thereon executable instructions that are executable by the one or more processors to configure the system to:

receive an indication through a first communication interface of a first user device to share digital content with a second user device;

cause the digital content to be presented on the first user device via the first communication interface and on the second user device via a second communication interface;

when a synchronization mode is determined to be inactive, enable independent user interaction with the digital content via the first communication interface and via the second communication interface such that the second communication interface is configurable to present the digital content on the second user device differently than the first communication interface on the first user device; and

after the synchronization mode is determined to be activated, cause presentation of the digital content on the second user device via

the second communication interface to be synchronized with presentation of the digital content on the first user device via the first communication interface.

6. The system of claim 5, wherein the indication through the first communication interface of the first user device to share the digital content with the second user device is based on selection of a share command through the first communication interface or based on selection of the digital content through the first communication interface.

7. The system of claim 5, wherein the digital content comprises one or more images, one or more videos, one or more audio signals, one or more documents, one or more web pages, or one or more project pages.

8. The system of claim 5, wherein user interaction with the digital content comprises zooming, scrolling, panning, playing, pausing, scrubbing, skipping, controlling volume, page navigation, of the digital content or of one or more components of the digital content.

9. The system of claim 5, wherein the executable instructions are executable by the one or more processors to configure the system to receive the indication and cause the digital content to be presented on the first user device and on the second user device in conjunction with an interactive session in which the first user device and the second user device participate.

10. The system of claim 9, wherein the interactive session facilitates near-real-time voice, video, or text communications between users of at least the first user device and the second user device.

11. The system of claim 5, wherein, after the synchronization mode is determined to be activated, the presentation of the digital content on the second user device via the second communication interface is based on user interaction with the digital content via the first communication interface on the first user device.

12. The system of claim 5, wherein the executable instructions are executable by the one or more processors to configure the system to, after the synchronization mode is determined to be activated, prevent independent user interaction with the digital content via the second communication interface of the second user device.

13. The system of claim 5, wherein the synchronization mode is determined to be activated based on selection of a sync function through the first communication interface.

14. A method, comprising:

receiving an indication through a first communication interface of a first user device to share digital content with a second user device;

causing the digital content to be presented on the first user device via the first communication interface and on the second user device via a second communication interface;

when a synchronization mode is determined to be inactive, enabling independent user interaction with the digital content via the first communication interface and via the second communication interface such that the second communication interface is configurable to present the digital content on the second user device differently than the first communication interface on the first user device; and

after the synchronization mode is determined to be activated, causing presentation of the digital content on the second user device via the second communication interface to be synchronized with presentation of the digital content on the first user device via the first communication interface.

15. The method of claim 14, wherein the indication through the first communication interface of the first user device to share the digital content with the second user device is received after selection of a share command through the first communication interface and selection of the digital content through the first communication interface.

16. The method of claim 14, wherein the digital content comprises one or more images, one or more videos, one or more audio signals, one or more documents, one or more web pages, or one or more project pages.

17. The method of claim 14, wherein user interaction with the digital content comprises zooming, scrolling, panning, playing, pausing, scrubbing, skipping, controlling volume, page navigation, of the digital content or of one or more components of the digital content.

18. The method of claim 14, wherein receiving the indication and causing the digital content to be presented on the first user device and on the second user device are performed in conjunction with an interactive session in which the first user device and the second user device participate.

19. The method of claim 18, wherein the interactive session facilitates near-real-time voice, video, or text communications between users of at least the first user device and the second user device.

20. The method of claim 14, wherein, after the synchronization mode is determined to be activated, the presentation of the digital content on the second user device via the second communication interface is based on user interaction with the digital content via the first communication interface on the first user device.

22947.11.1A

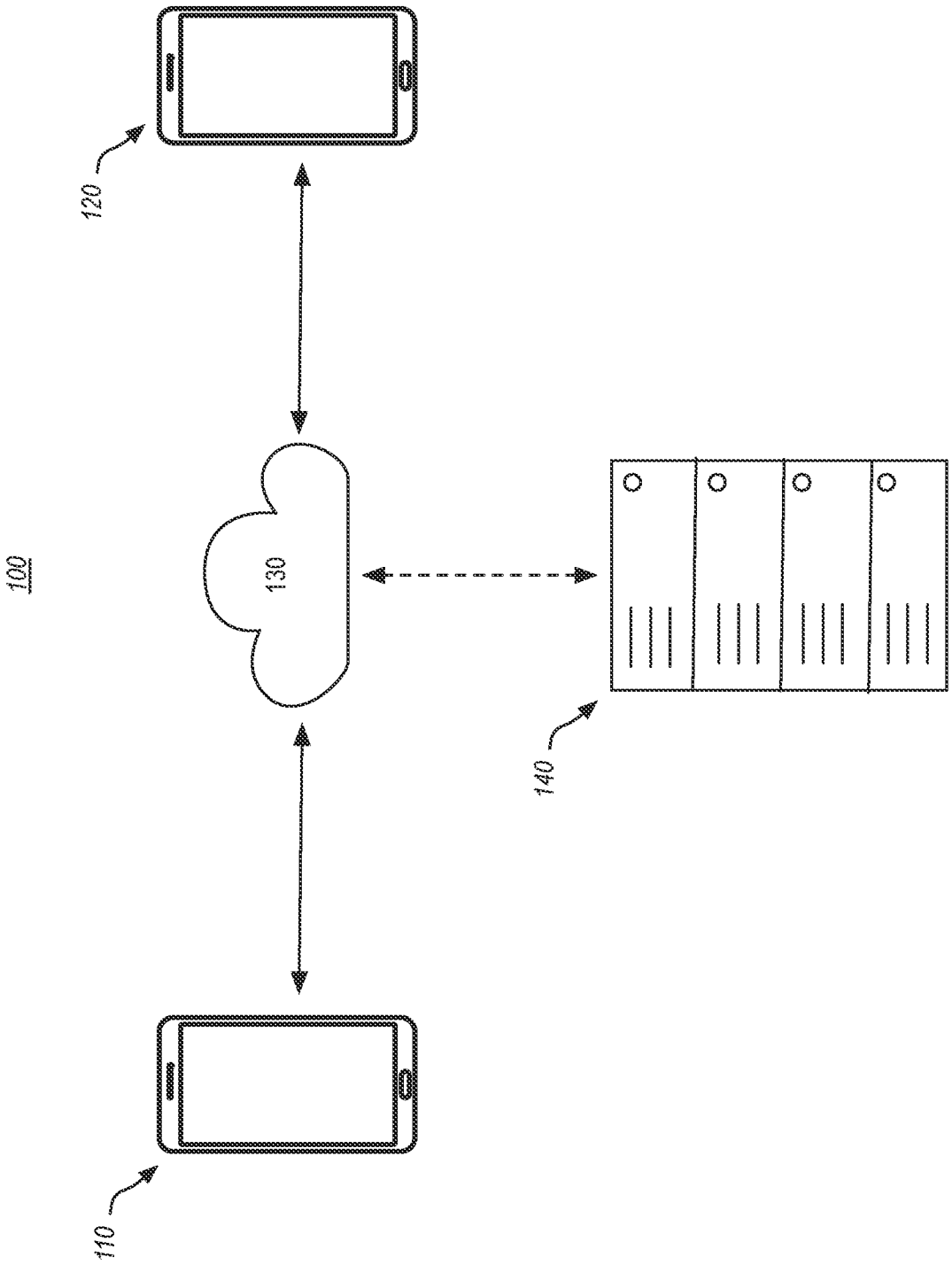

FIG. 1

22947.11.1A

200a

FIG. 2A

200b

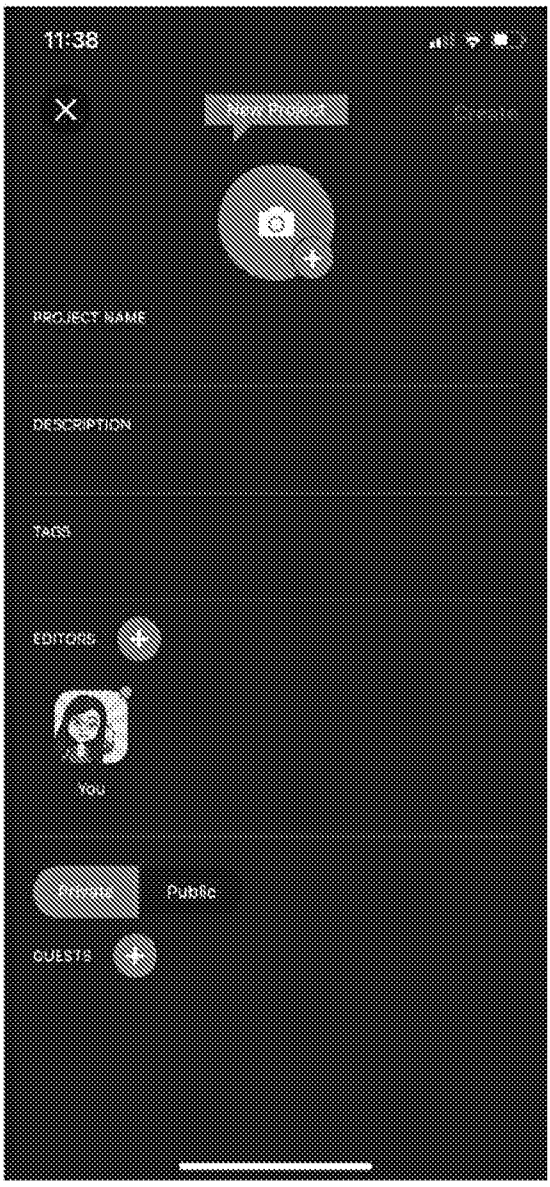

FIG. 2B

22947.11.1A

200c

FIG. 2C

200d

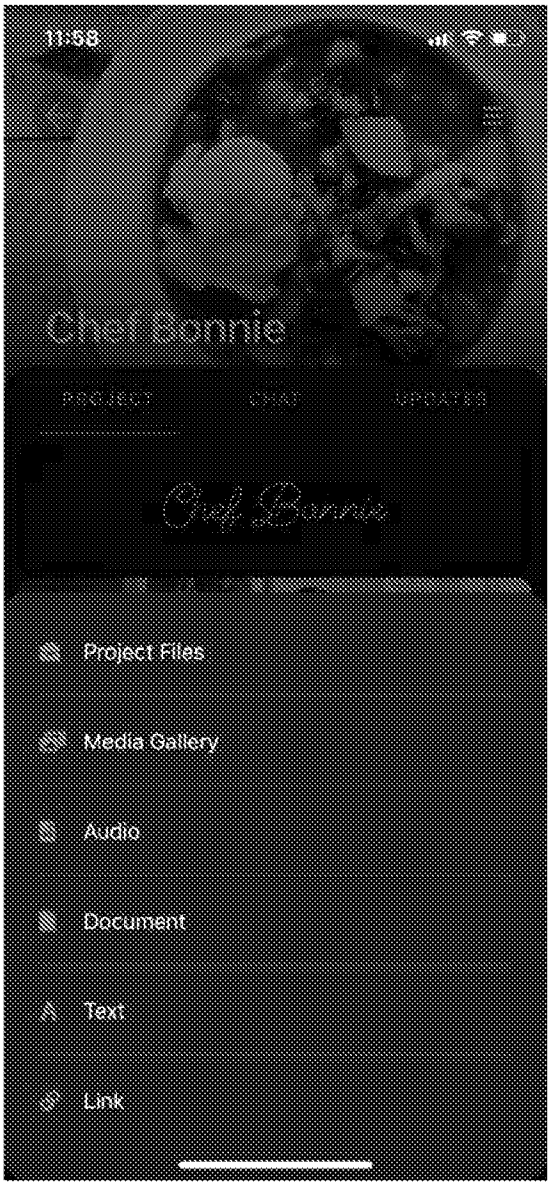

FIG. 2D

22947.11.1A

200e

FIG. 2E

200f

FIG. 2F

22947.11.1A

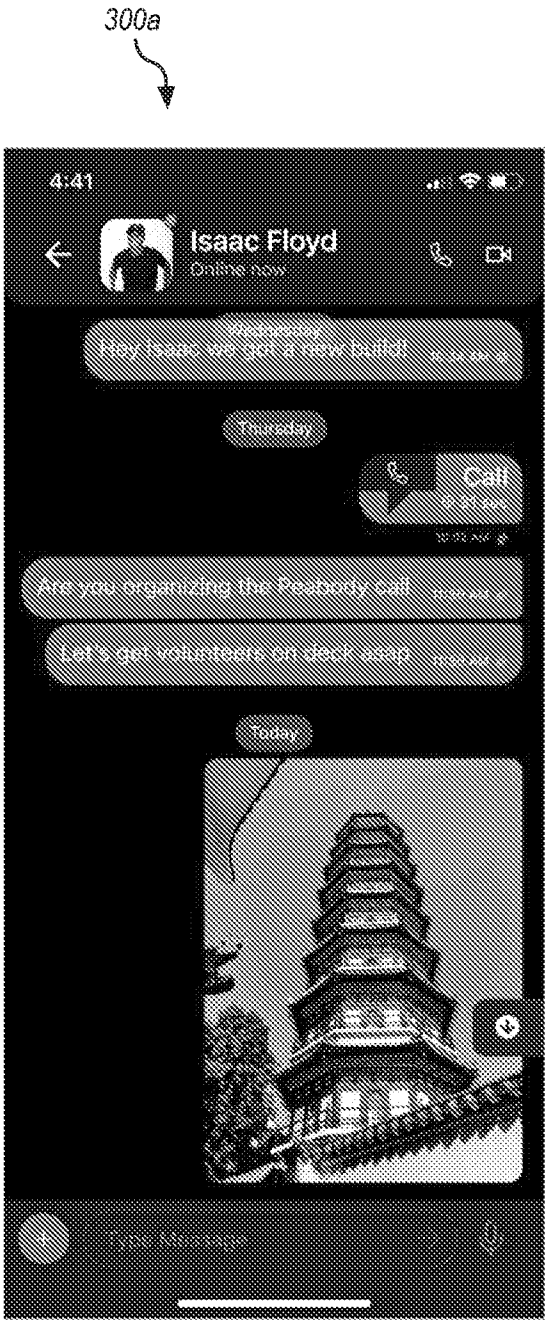

FIG. 3A

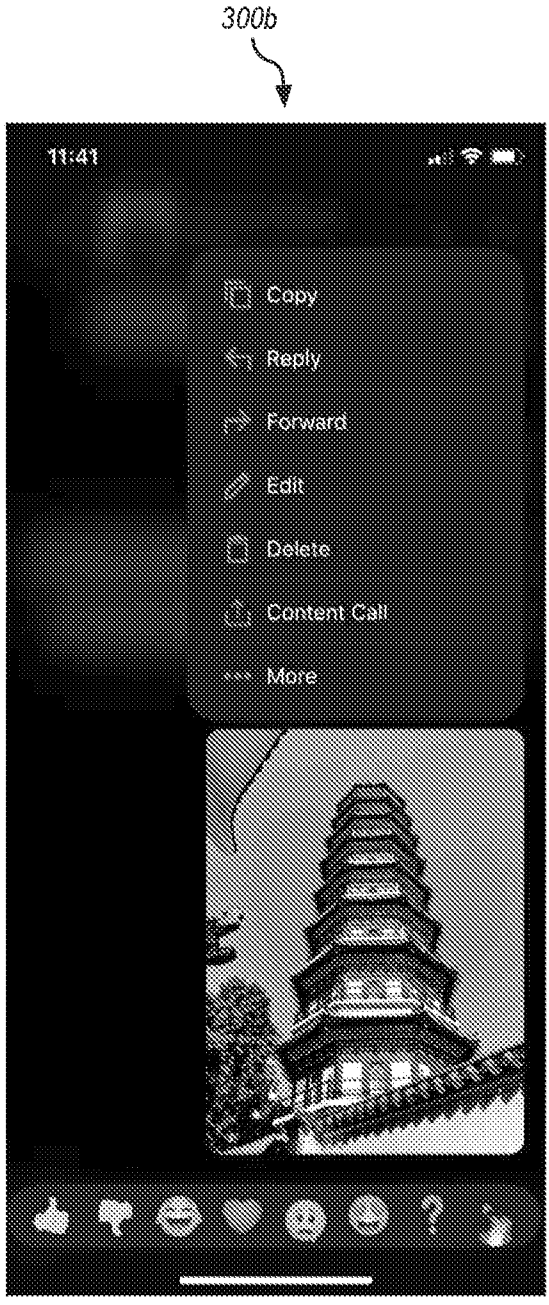

FIG. 3B

22947.11.1A

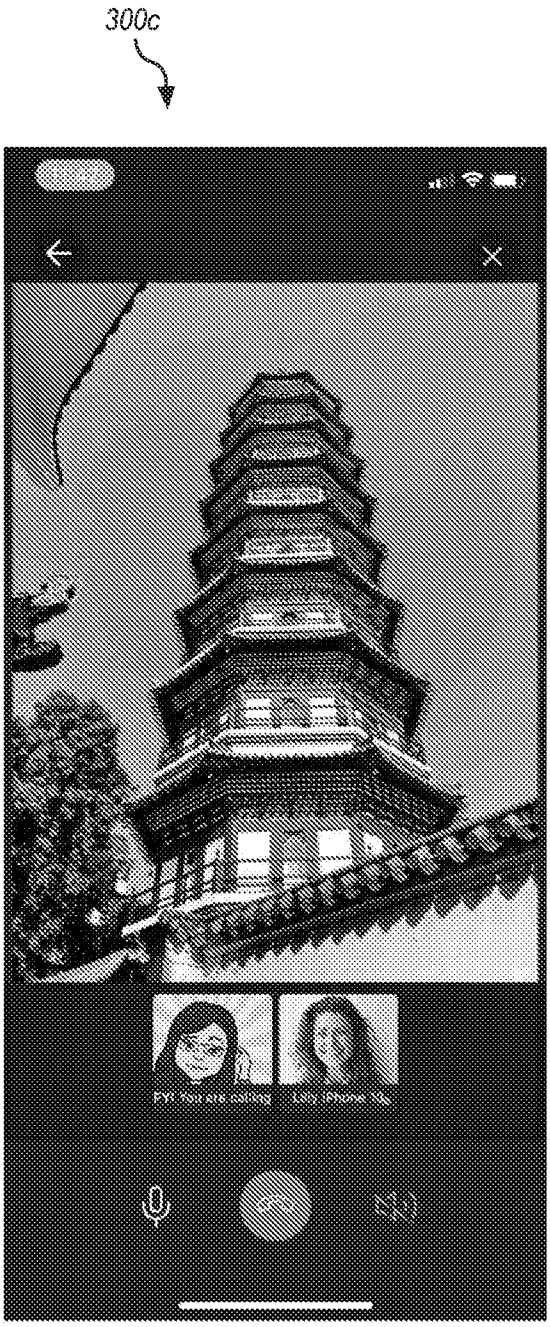

FIG. 3C

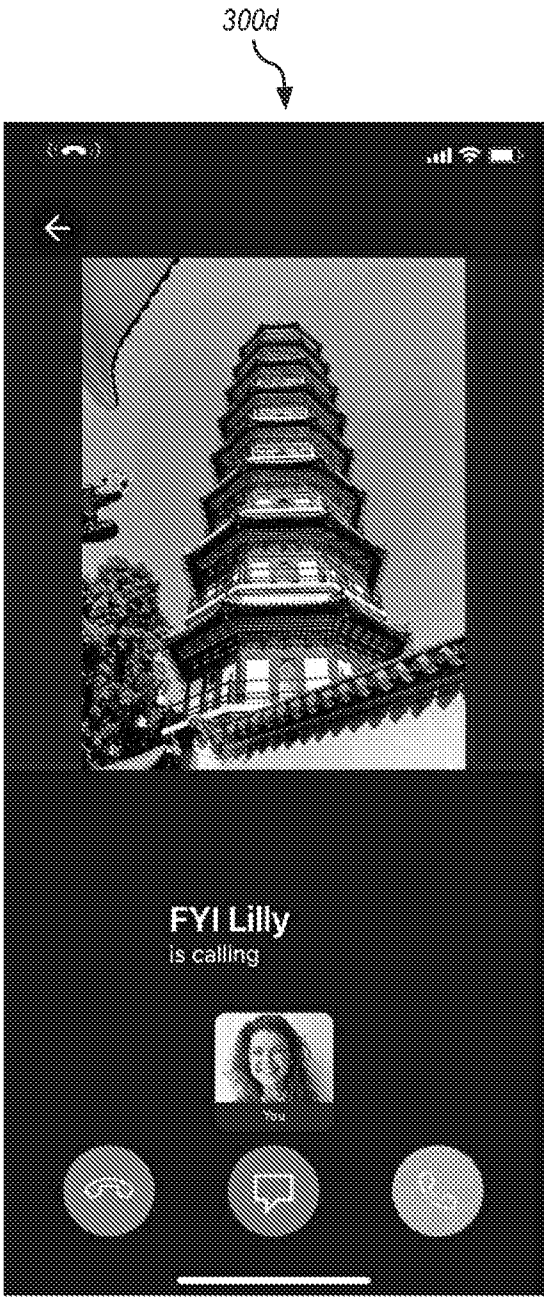

FIG. 3D

22947.11.1A

300e

FIG. 3E

300f

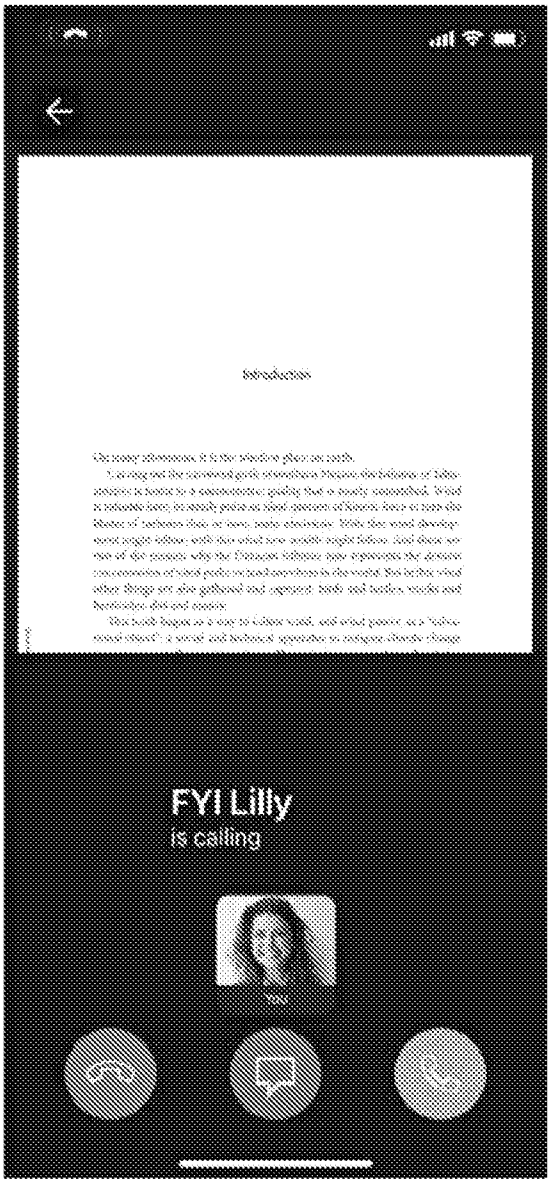

FIG. 3F

22947.11.1A

300g

FIG. 3G

300h

FIG. 3H

22947.11.1A

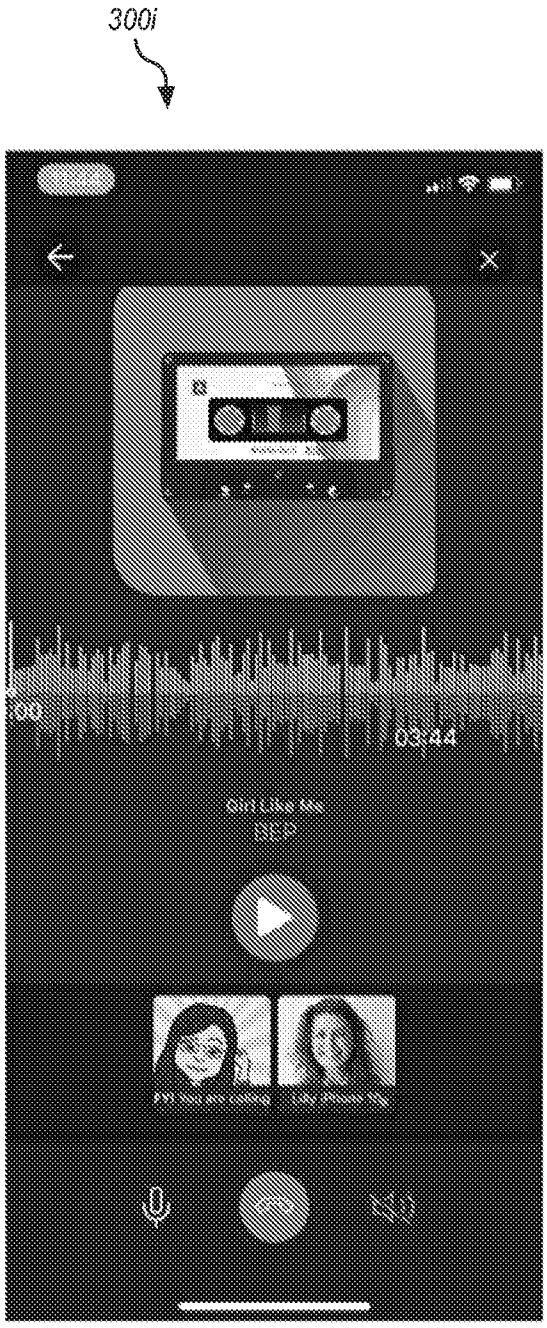

FIG. 3I

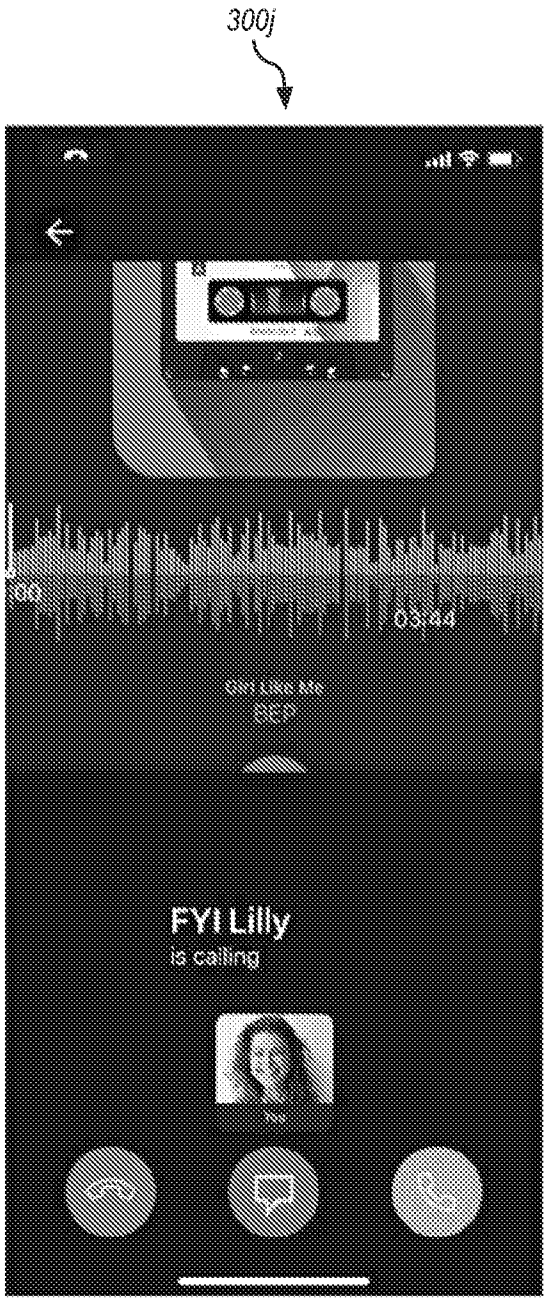

FIG. 3J

22947.11.1A

400a

FIG. 4A

400b

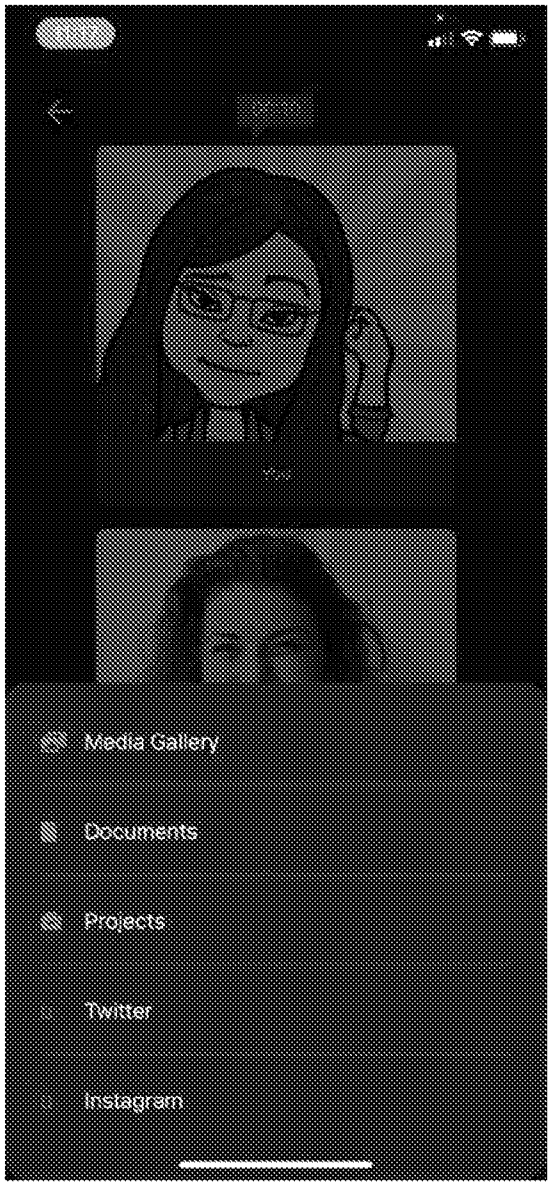

FIG. 4B

22947.11.1A

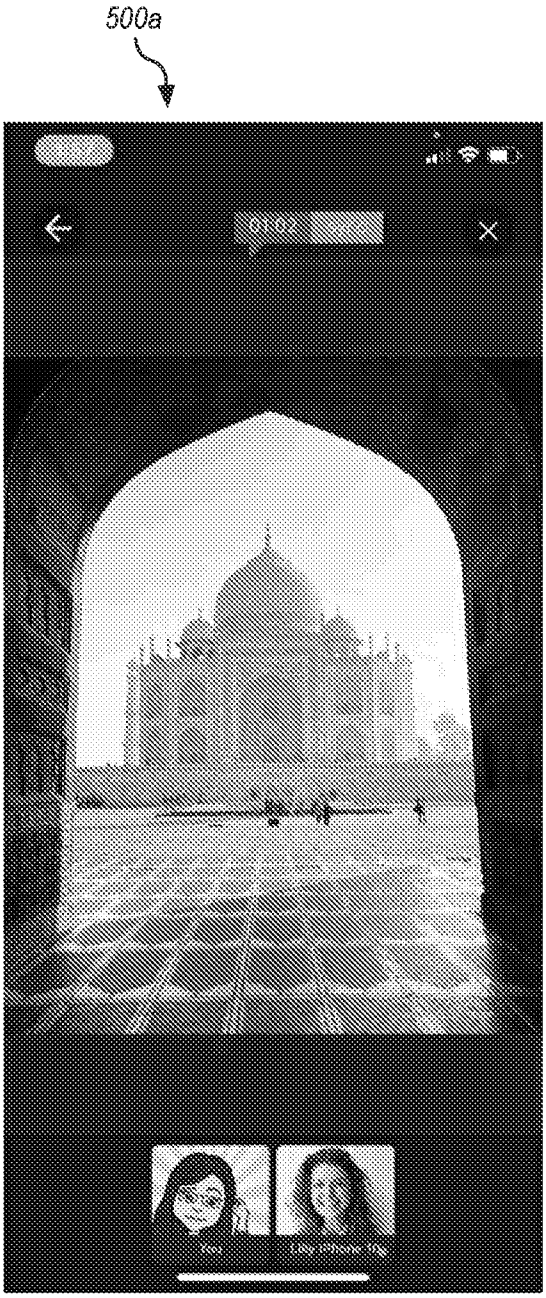

FIG. 5A

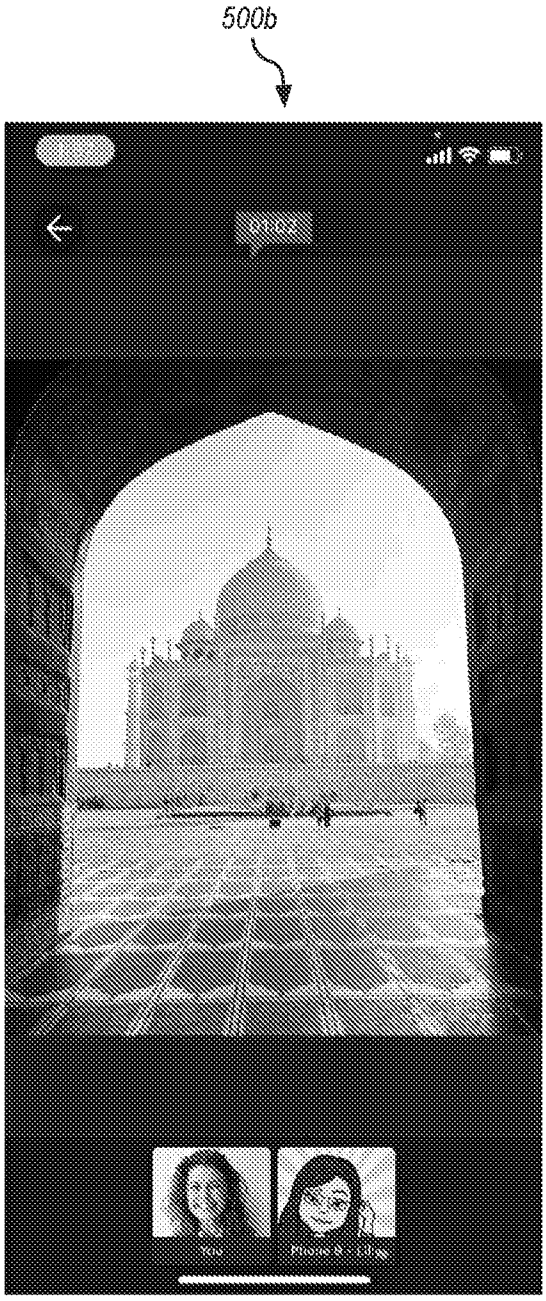

FIG. 5B

22947.11.1A

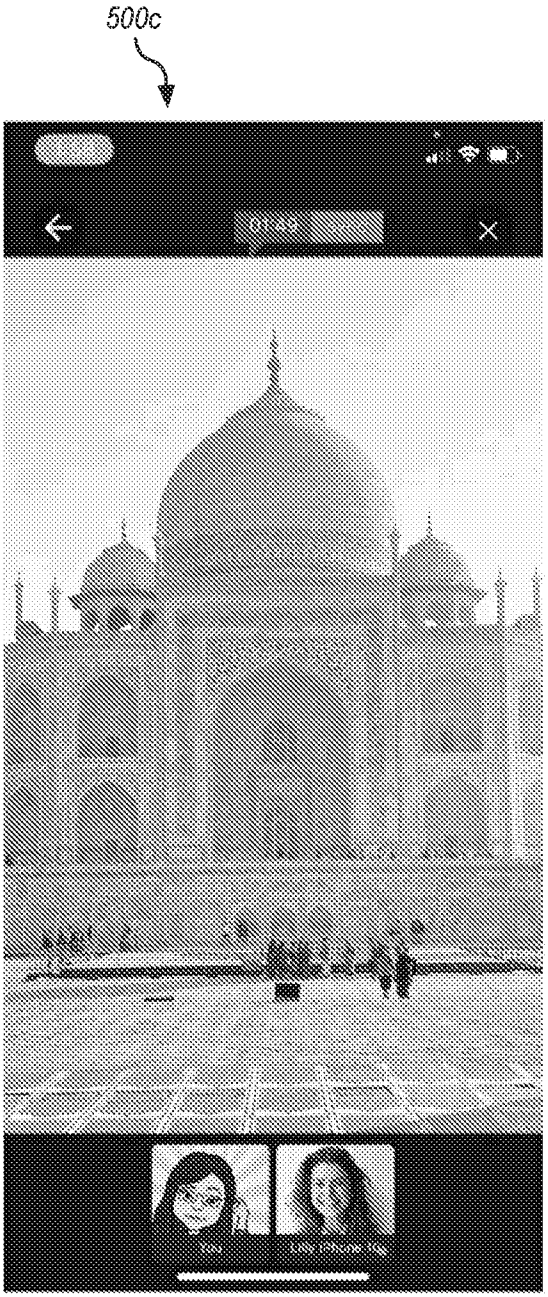

FIG. 5C

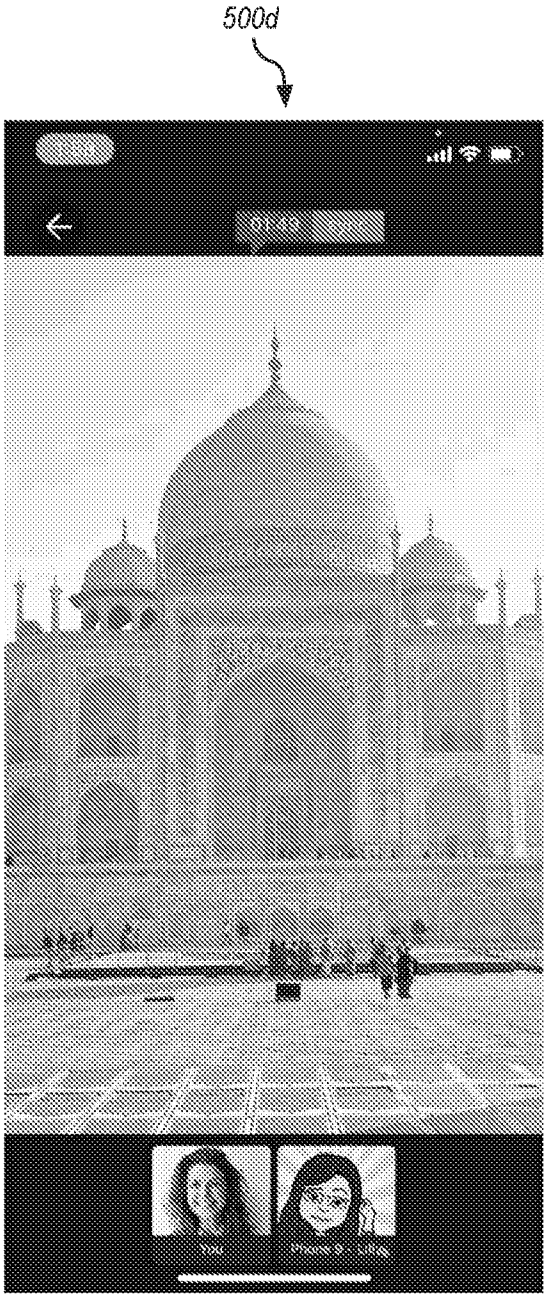

FIG. 5D

22947.11.1A

FIG. 6A

FIG. 6B

22947.11.1A

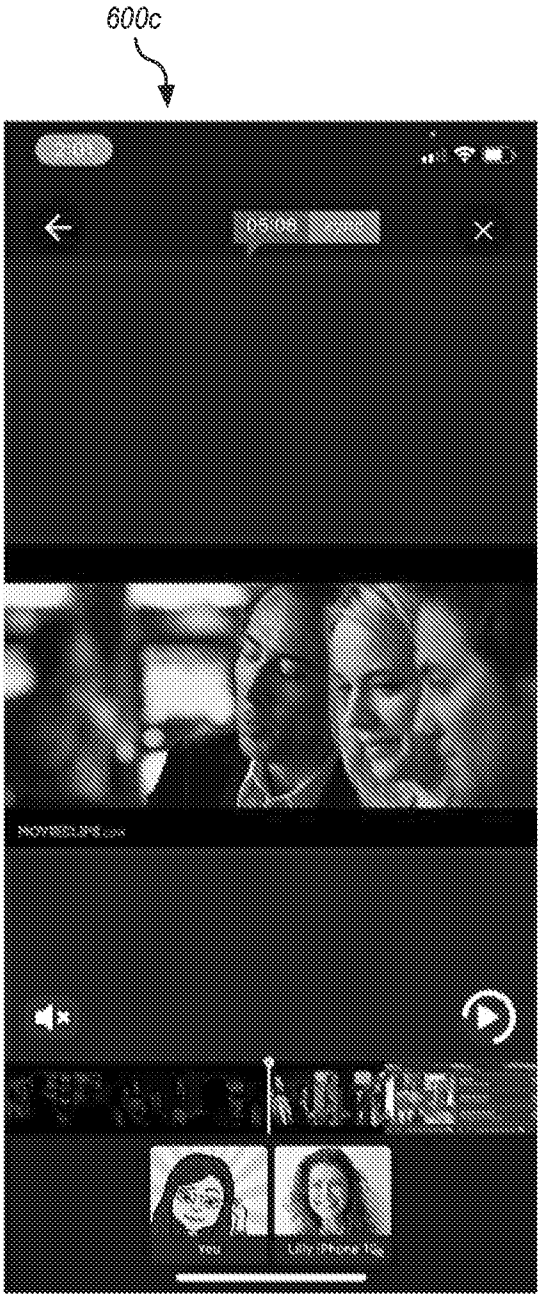

FIG. 6C

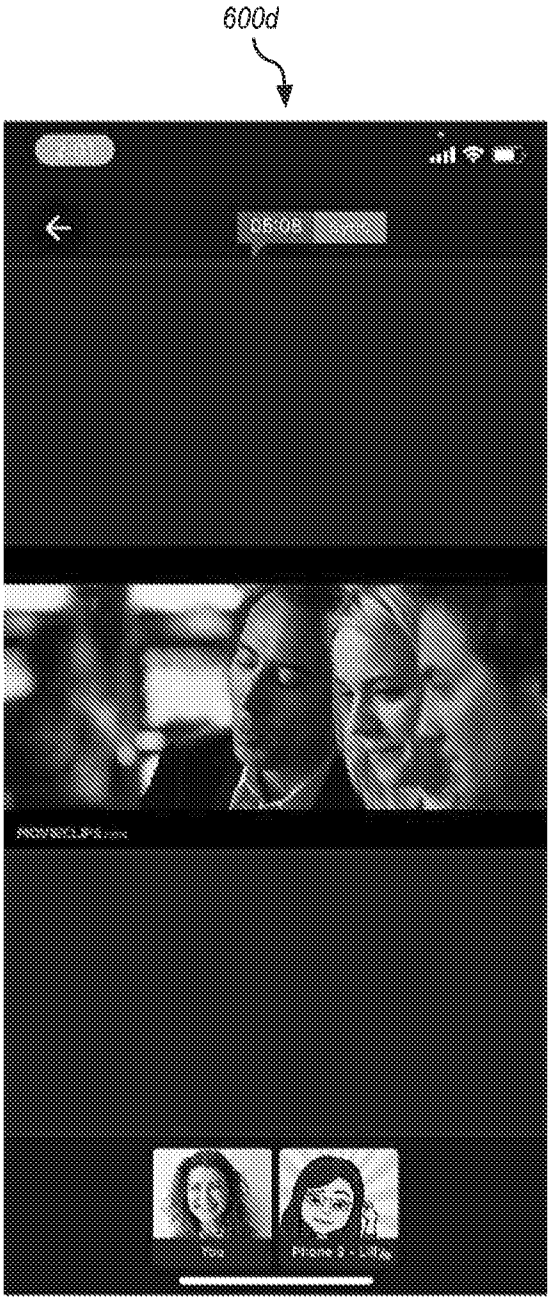

FIG. 6D

22947.11.1A

700a

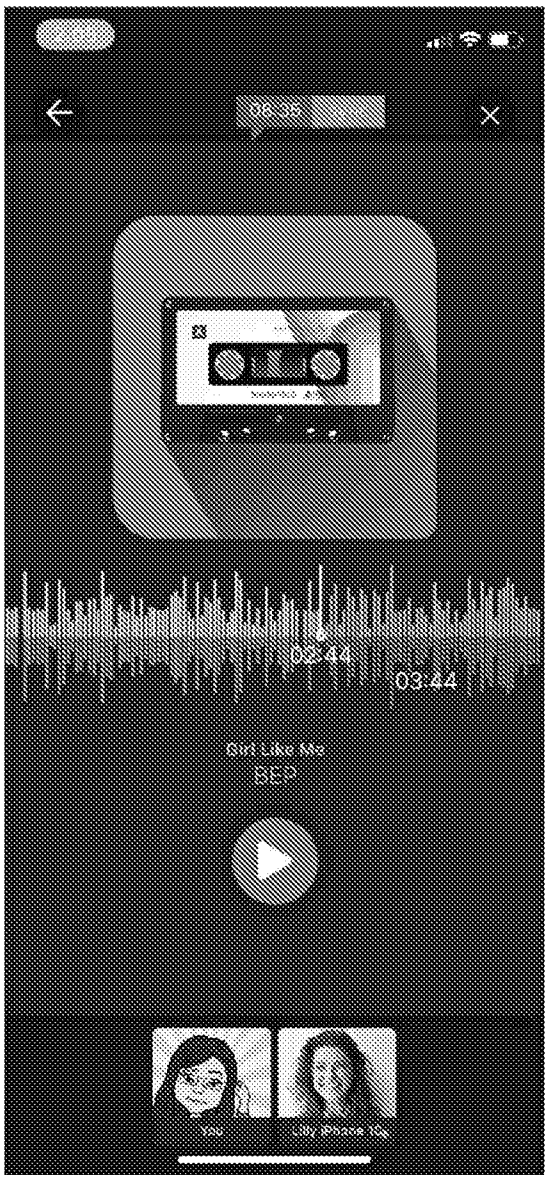

FIG. 7A

700b

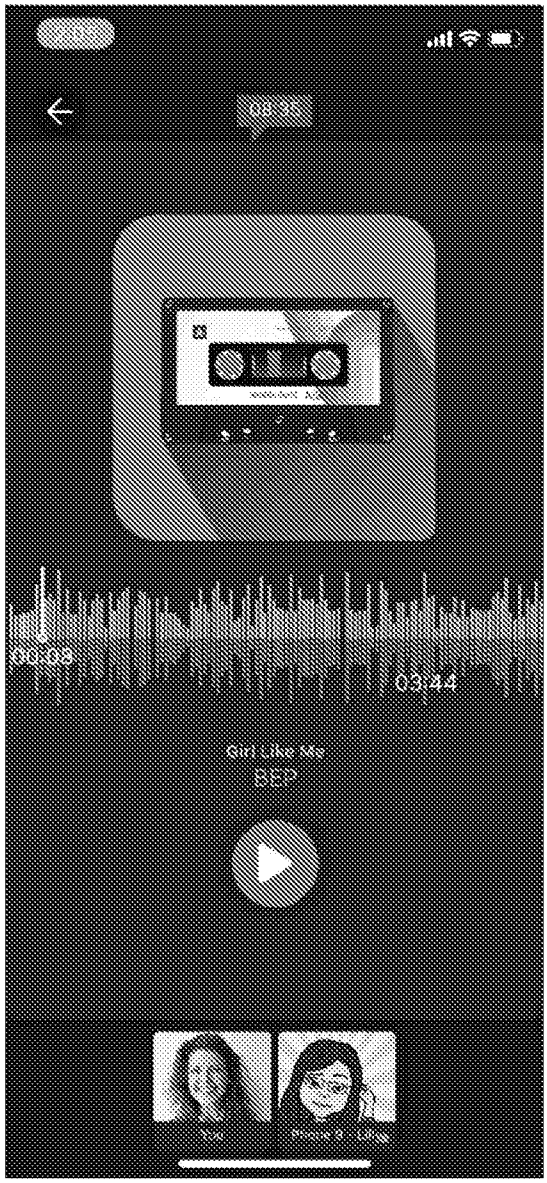

FIG. 7B

22947.11.1A

700c

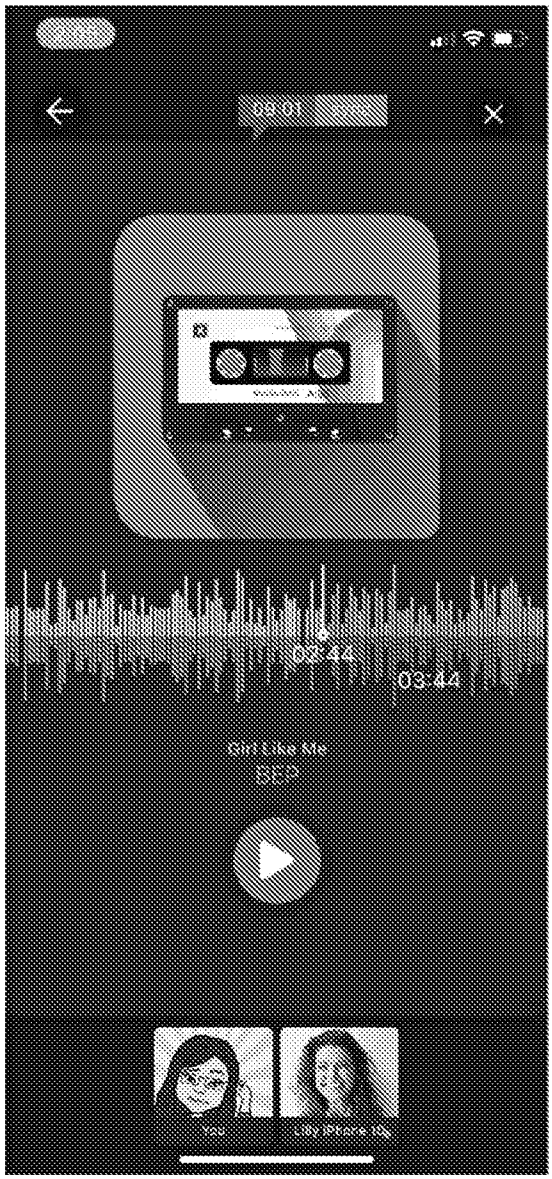

FIG. 7C

700d

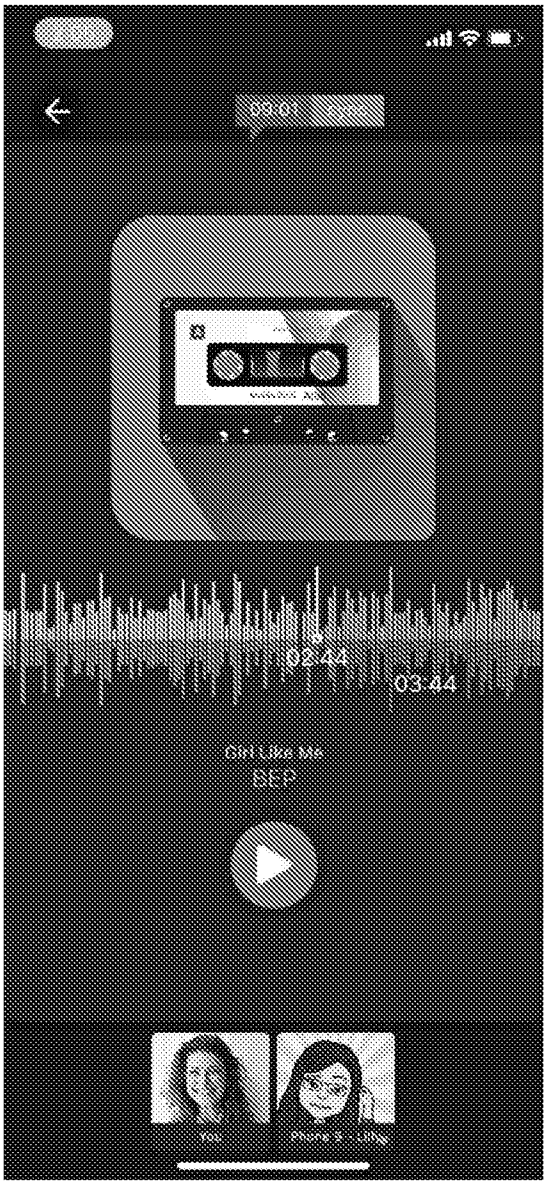

FIG. 7D

22947.11.1A

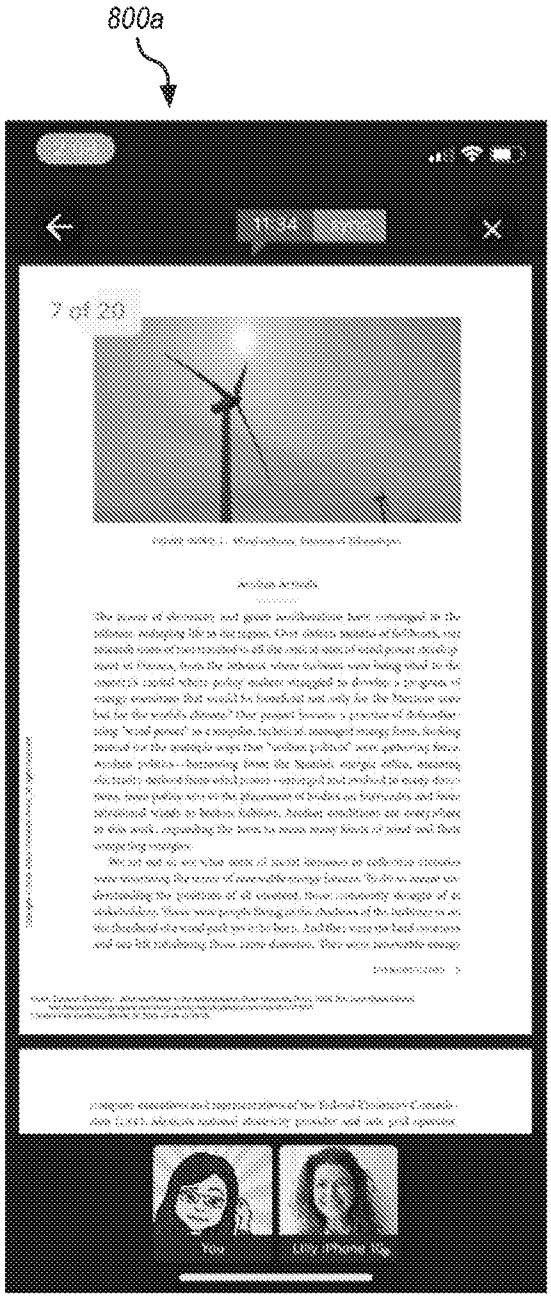

FIG. 8A

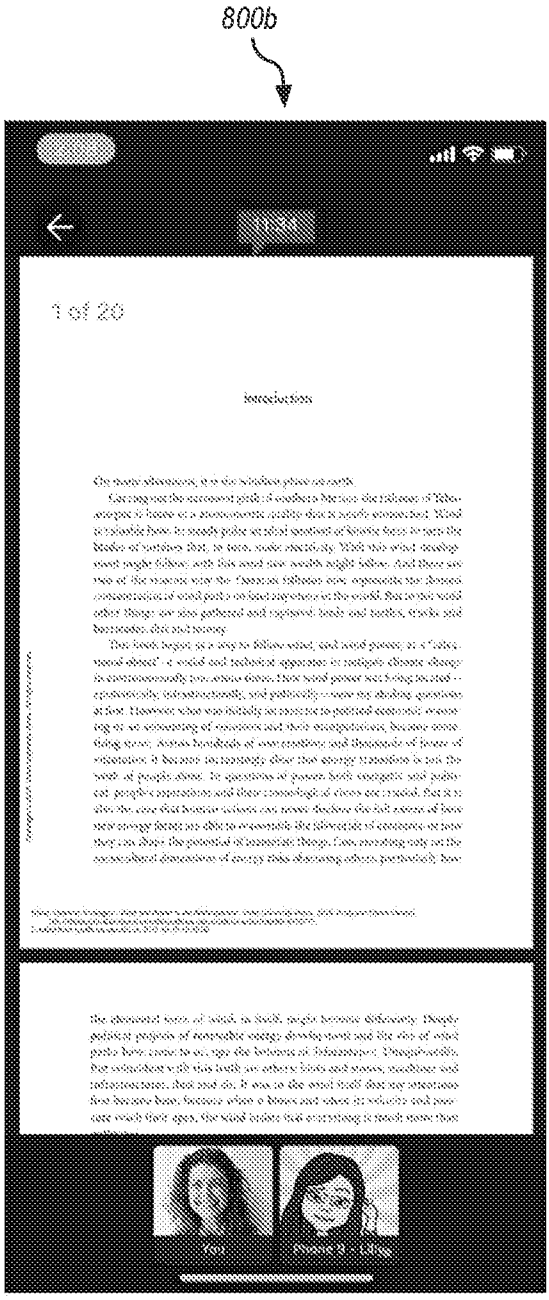

FIG. 8B

22947.11.1A

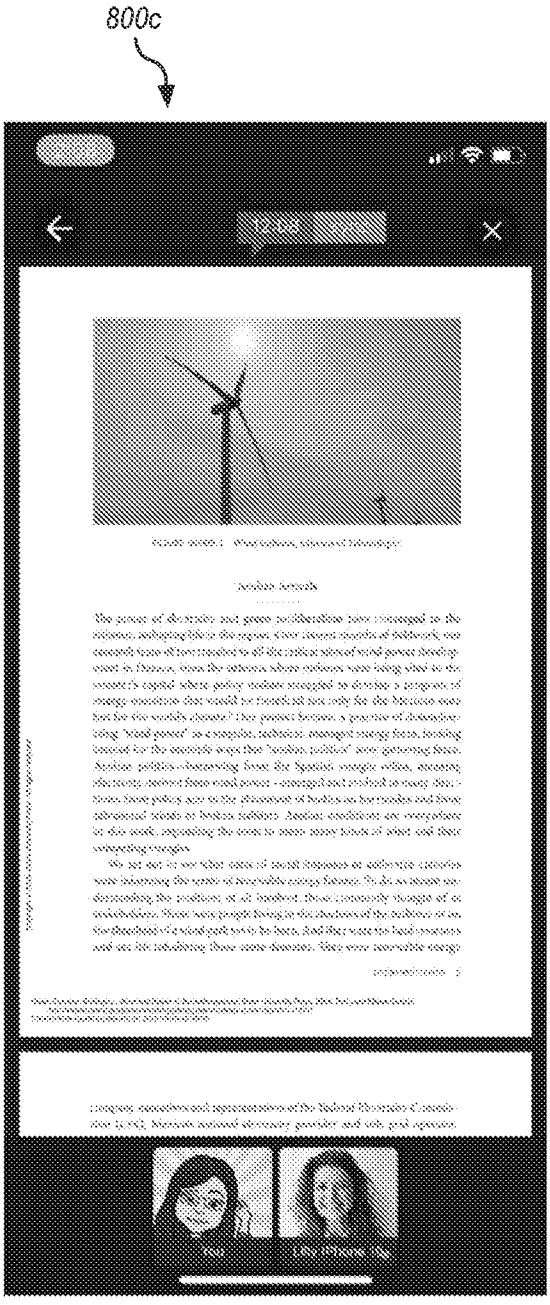

FIG. 8C

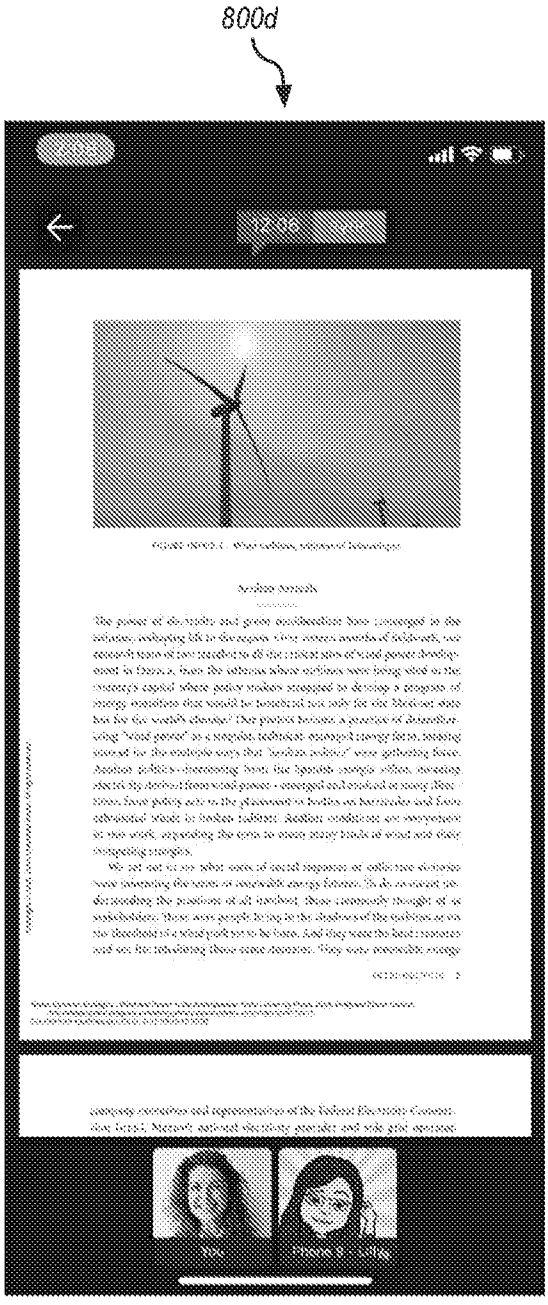

FIG. 8D

22947.11.1A

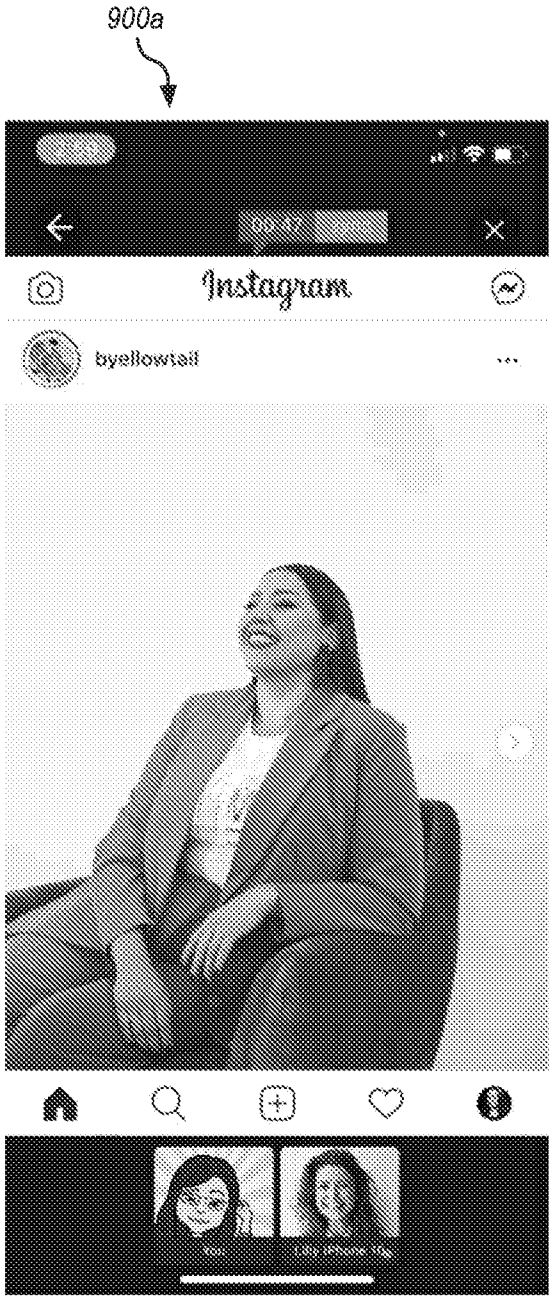

FIG. 9A

FIG. 9B

22947.11.1A

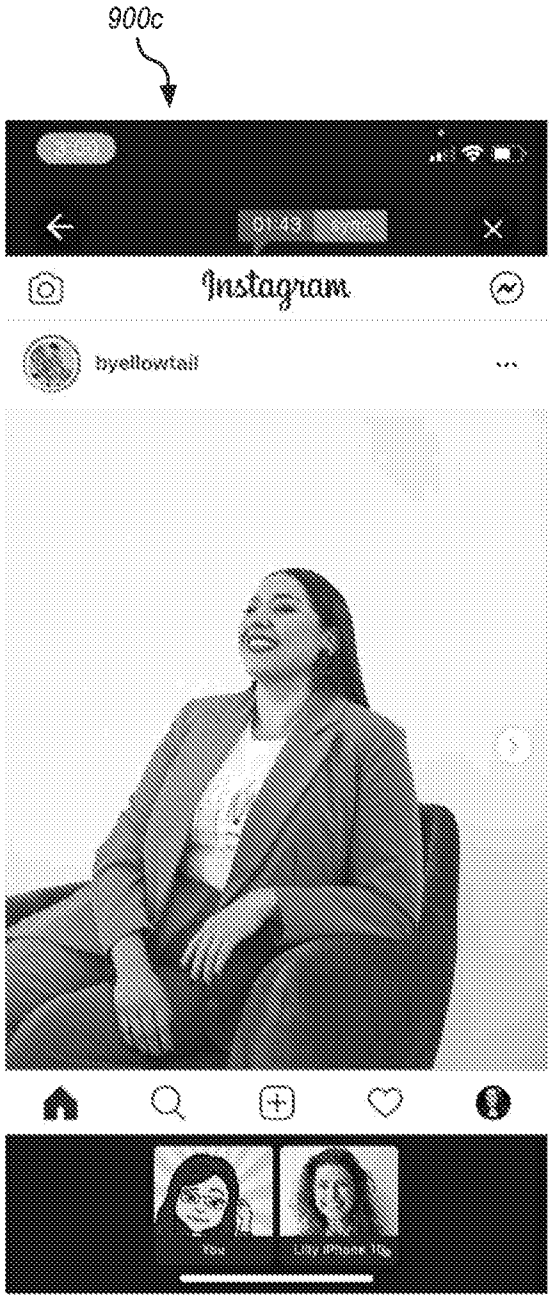

FIG. 9C

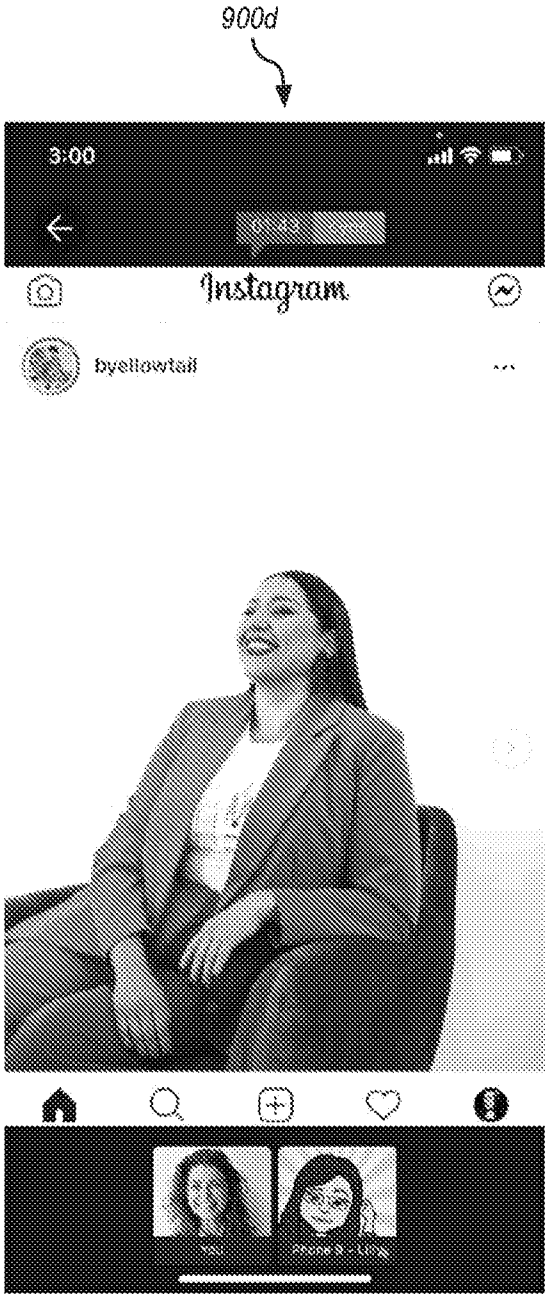

FIG. 9D

22947.11.1A

1000a

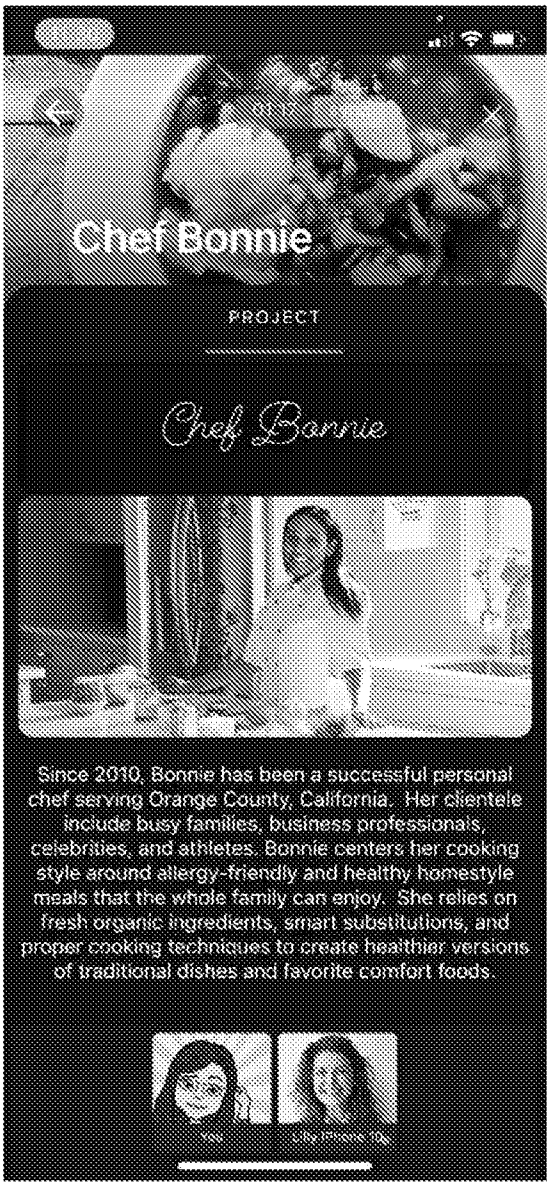

FIG. 10A

1000b

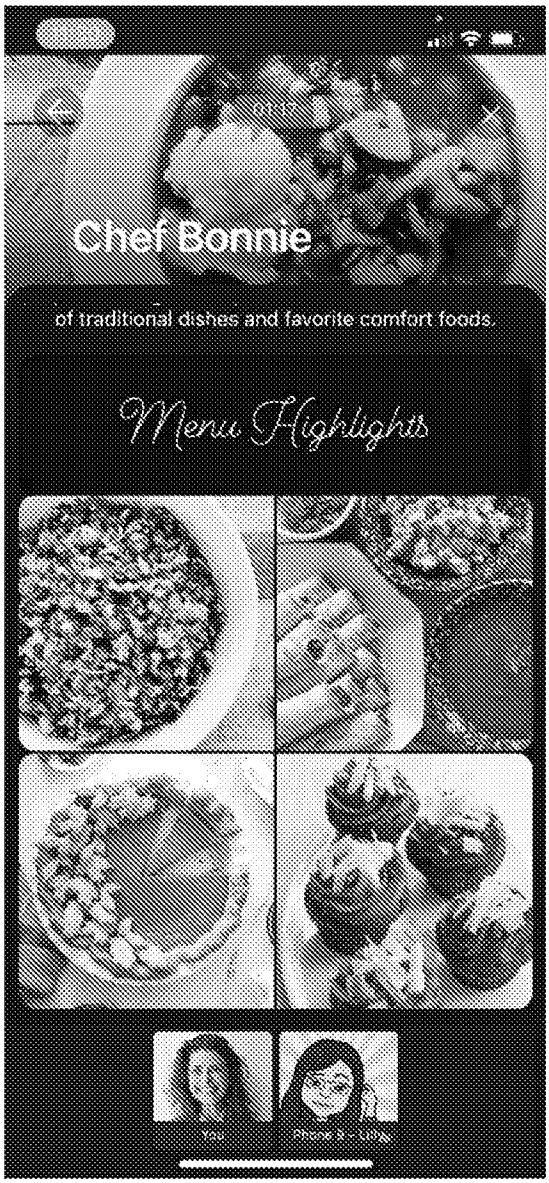

FIG. 10B

22947.11.1A

1000c

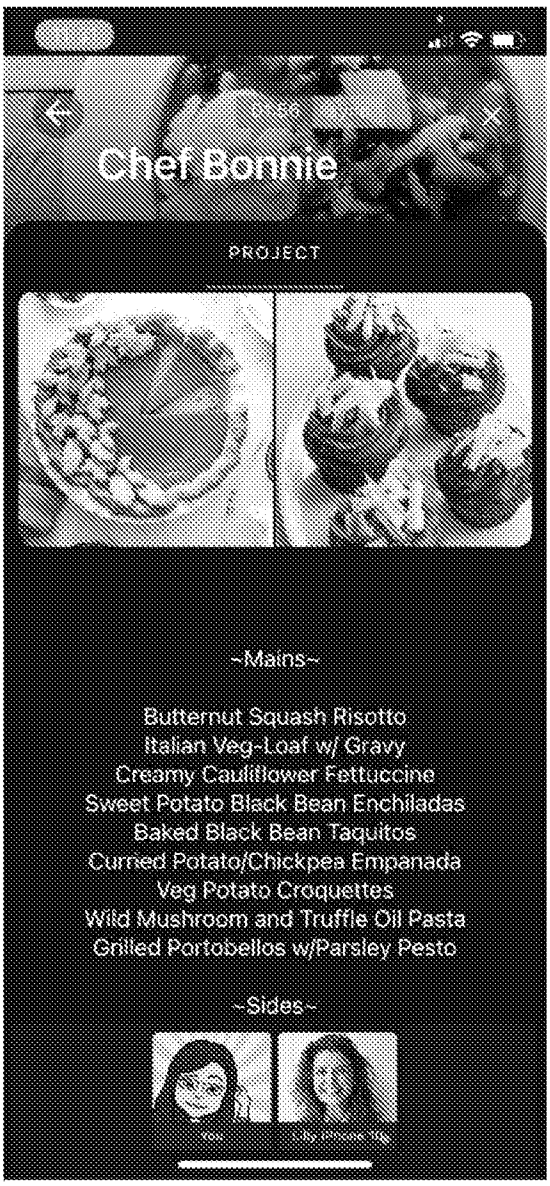

FIG. 10C

1000d

FIG. 10D

22947.11.1A

1100a

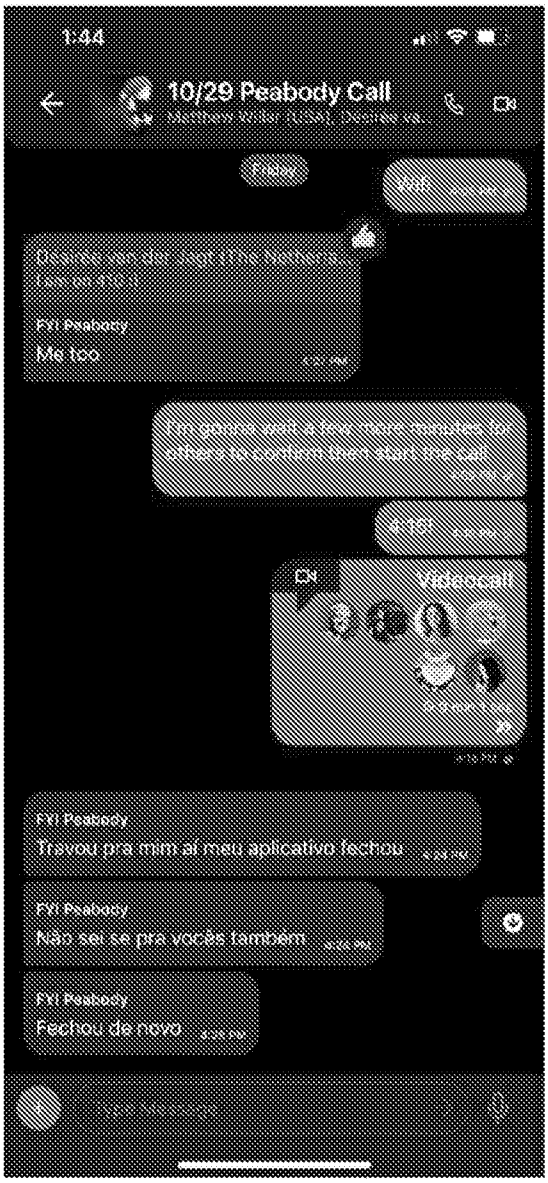

FIG. 11A

1100b

FIG. 11B

22947.11.1A

1100c

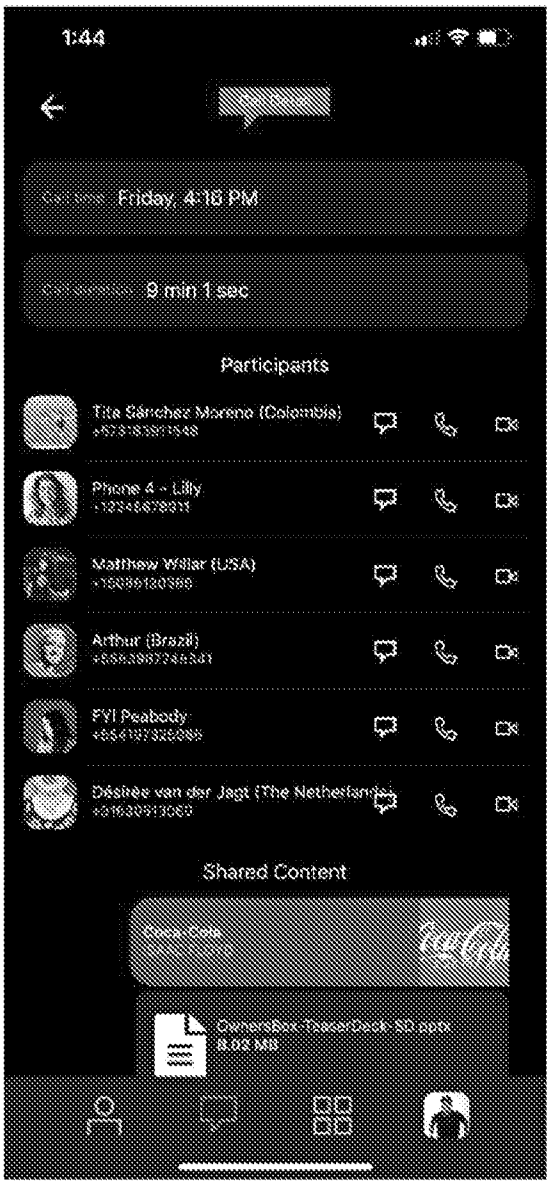

FIG. 11C

1100d

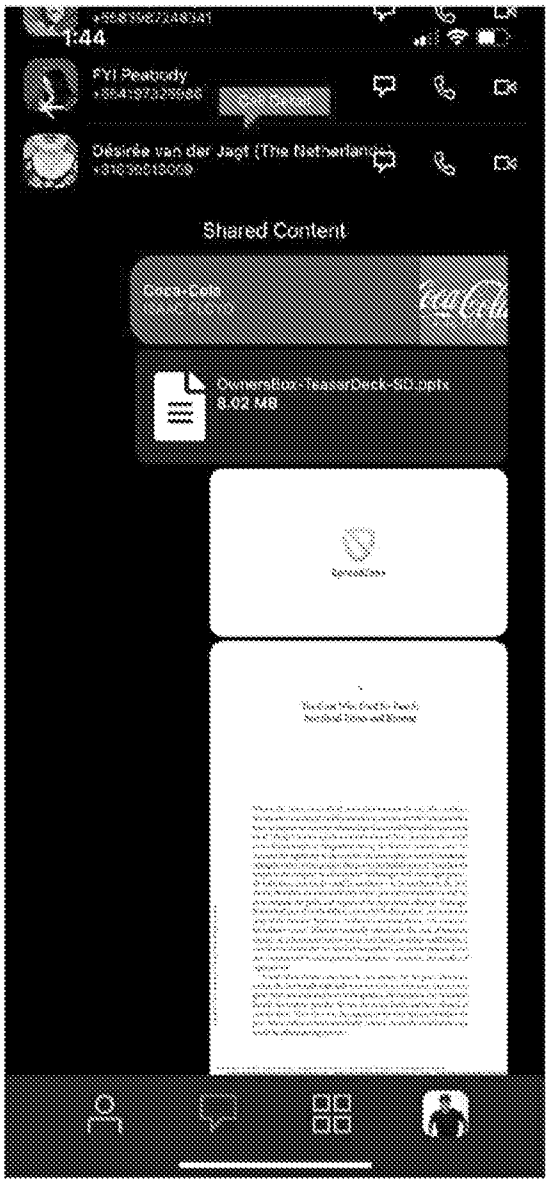

FIG. 11D

22947.11.1A

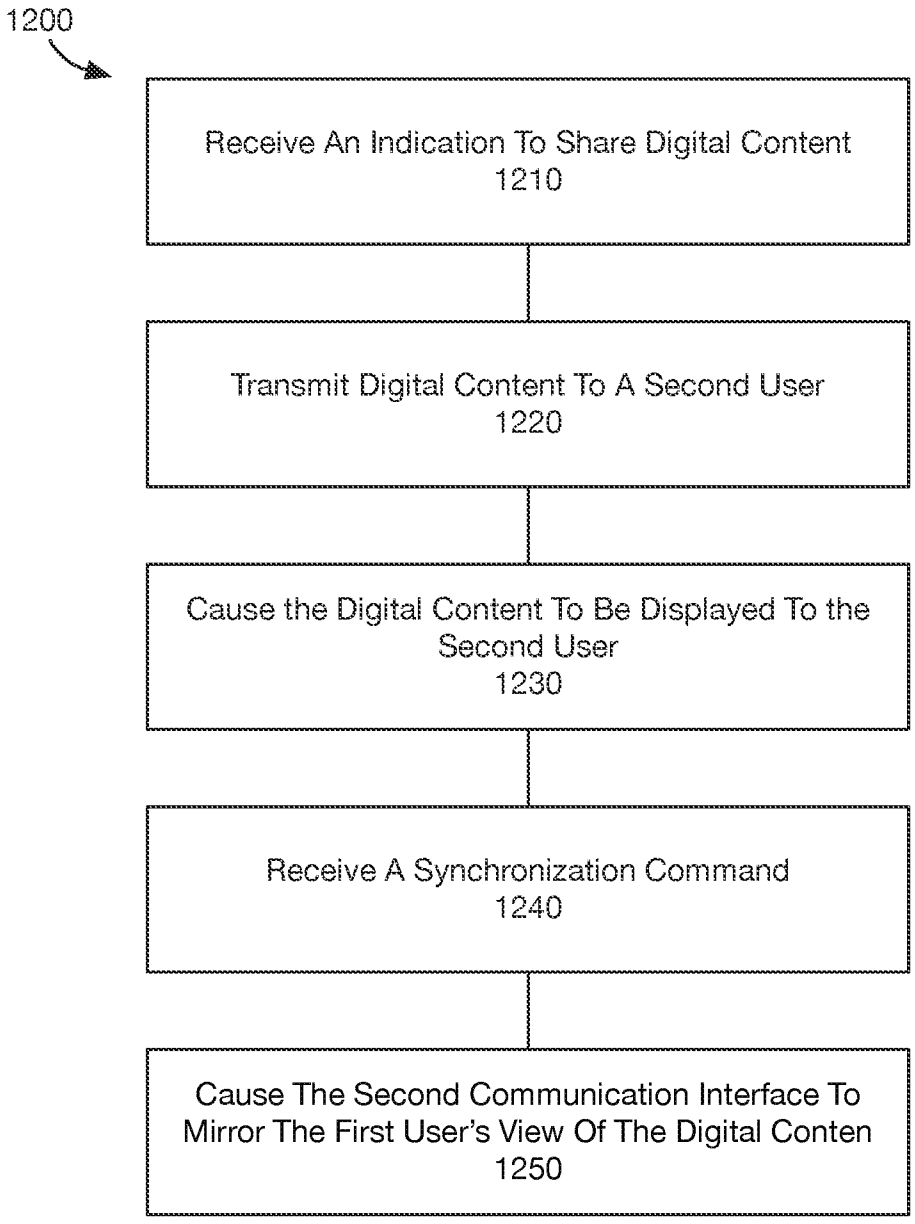

FIG. 12

22947.11.1A

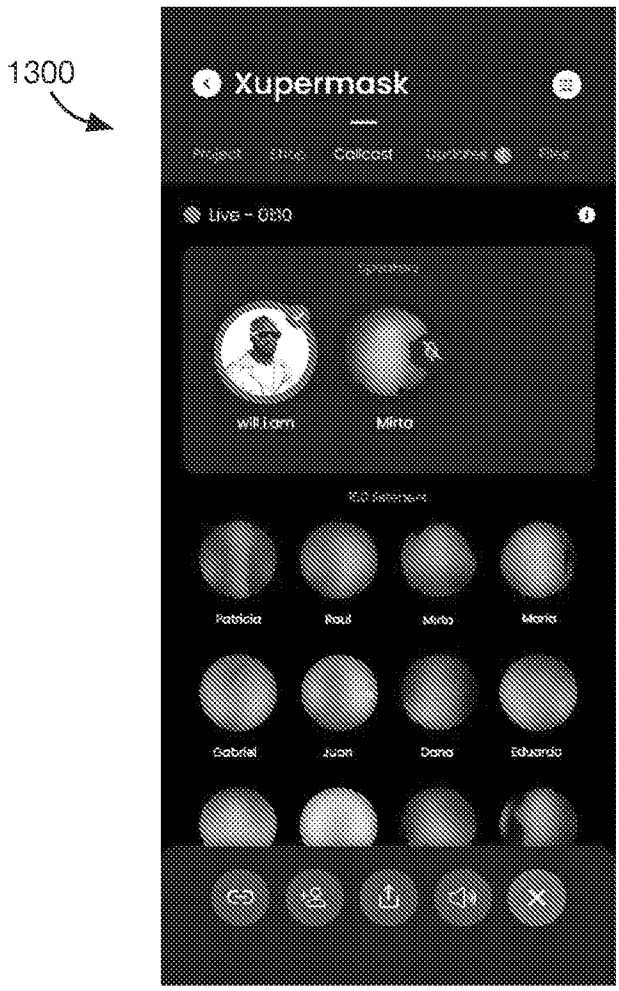

FIG. 13A

22947.11.1A

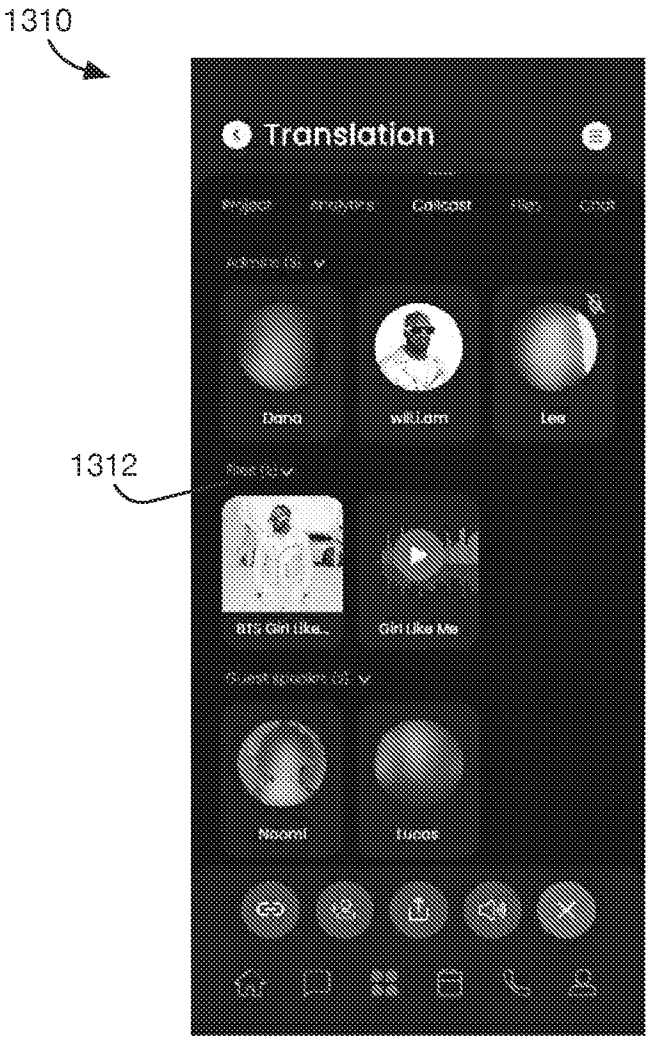

FIG. 13B

22947.11.1A

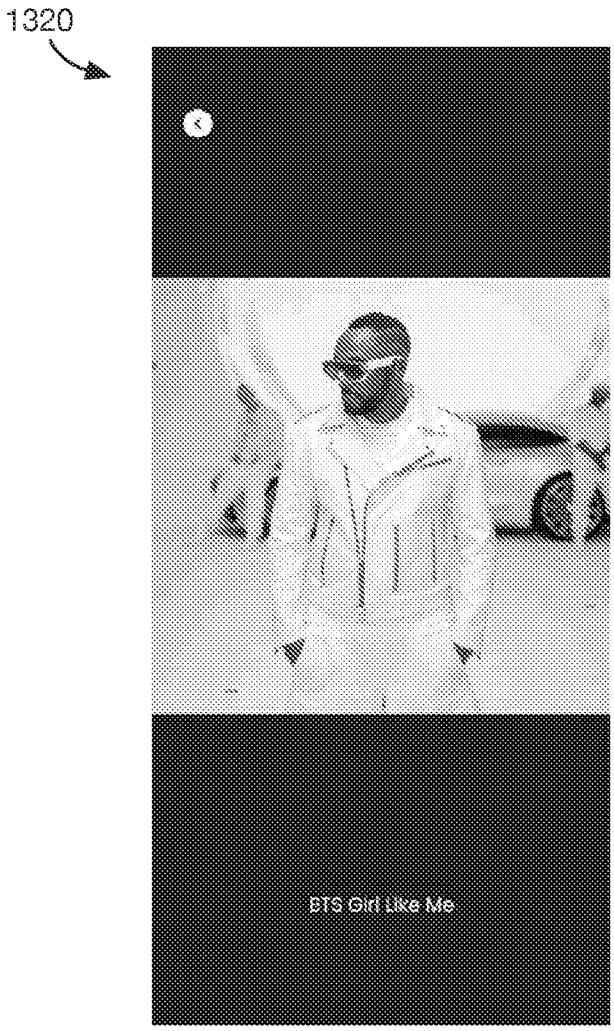

FIG. 13C

22947.11.1A

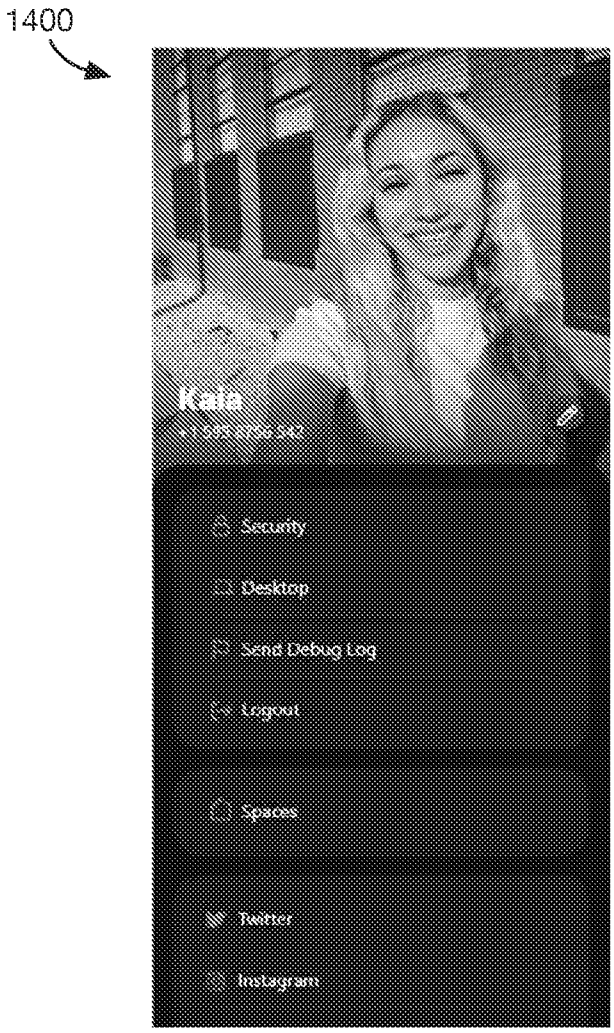

FIG. 14A

22947.11.1A

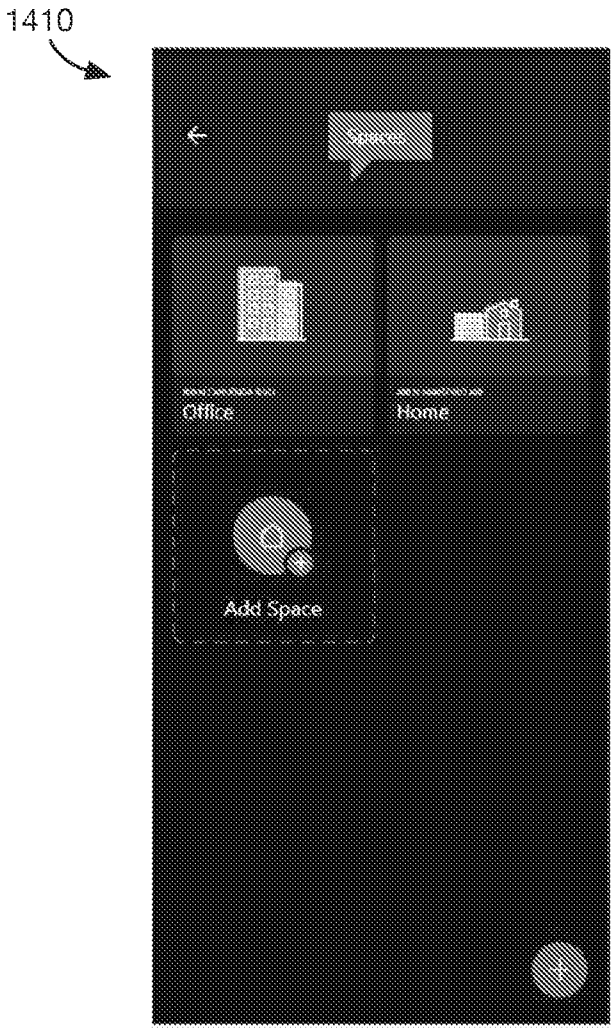

FIG. 14B

22947.11.1A

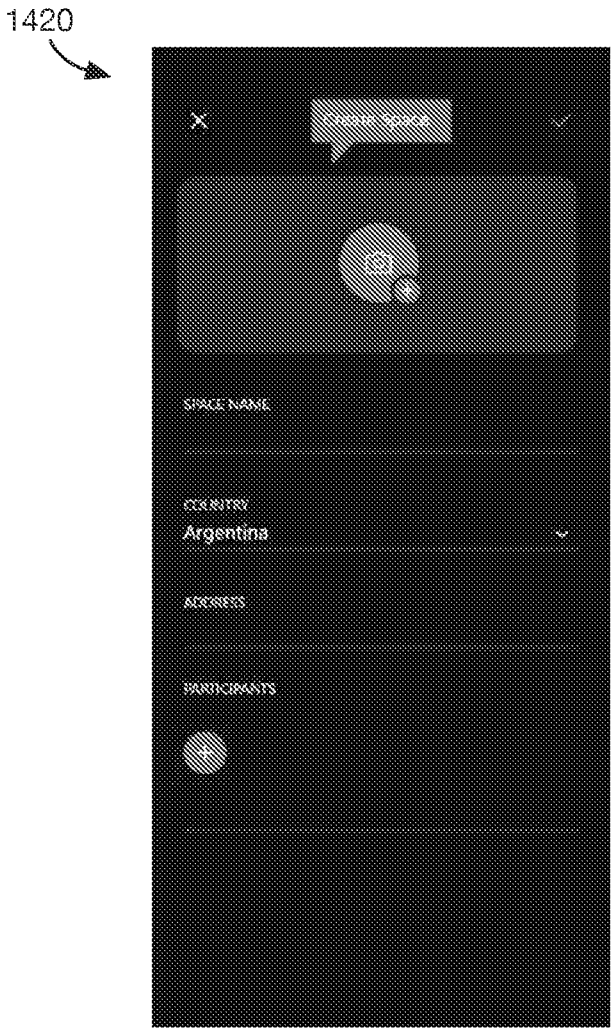

FIG. 14C

22947.11.1A

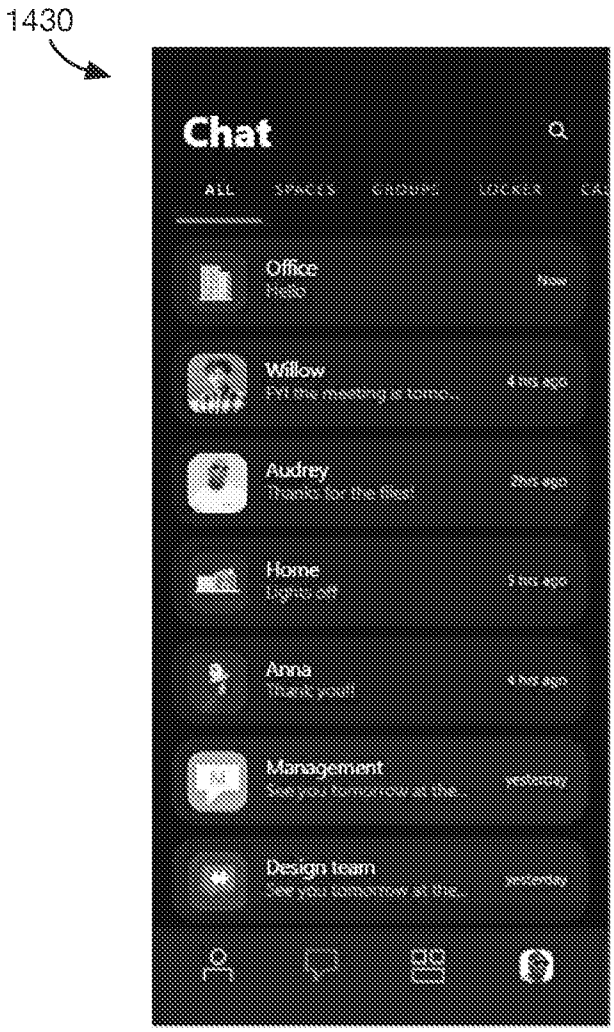

FIG. 14D

22947.11.1A

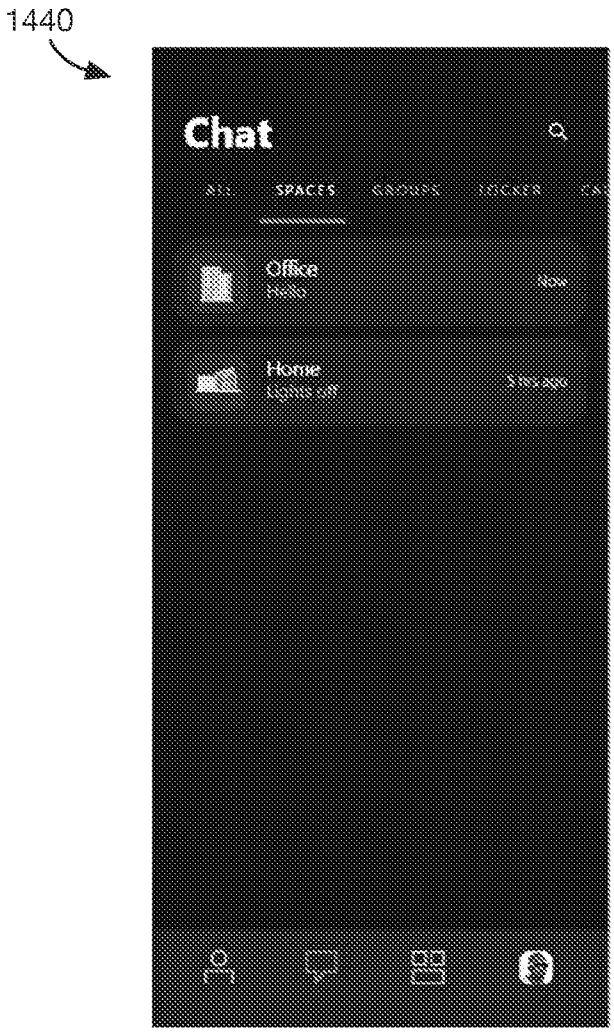

FIG. 14E

22947.11.1A

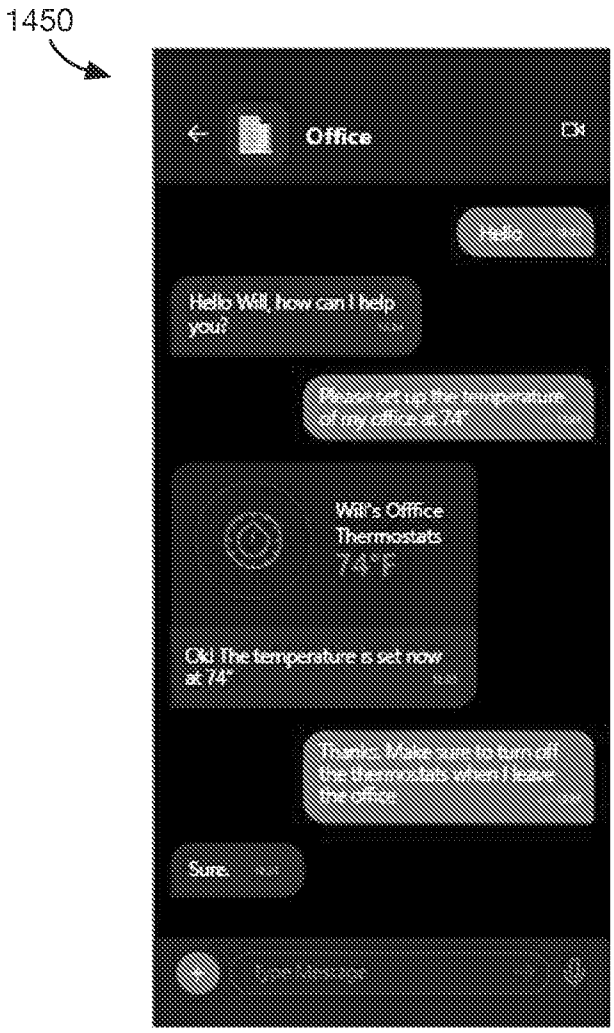

FIG. 14F

22947.11.1A

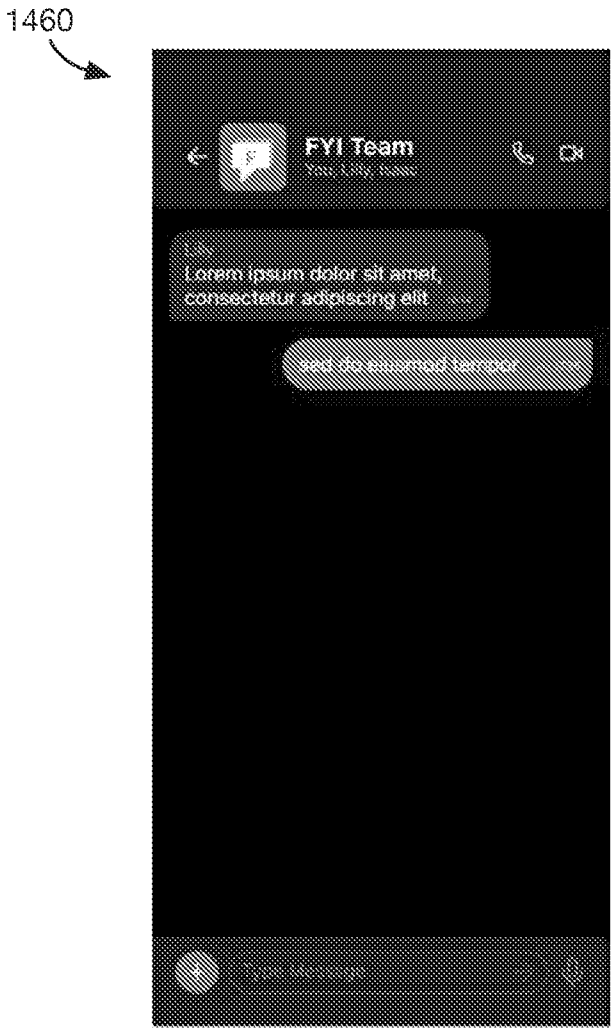

FIG. 14G

22947.11.1A

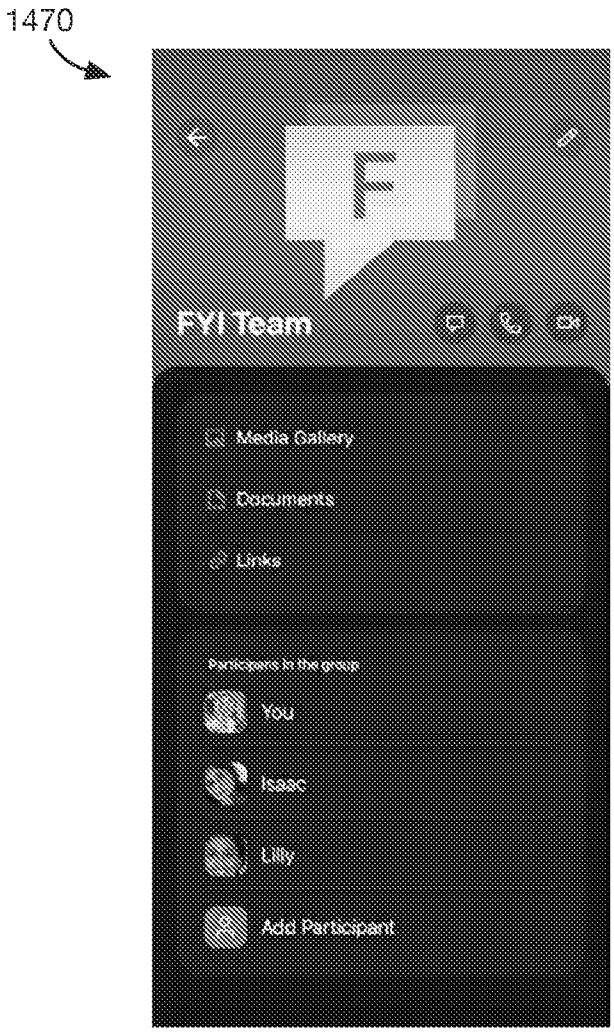

FIG. 14H

22947.11.1A

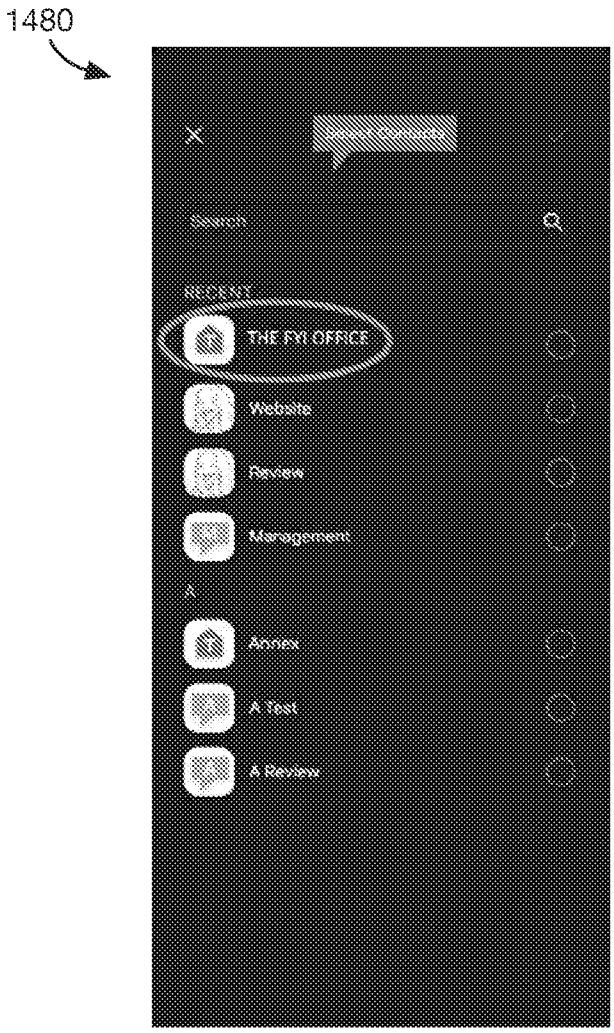

FIG. 14I

22947.11.1A

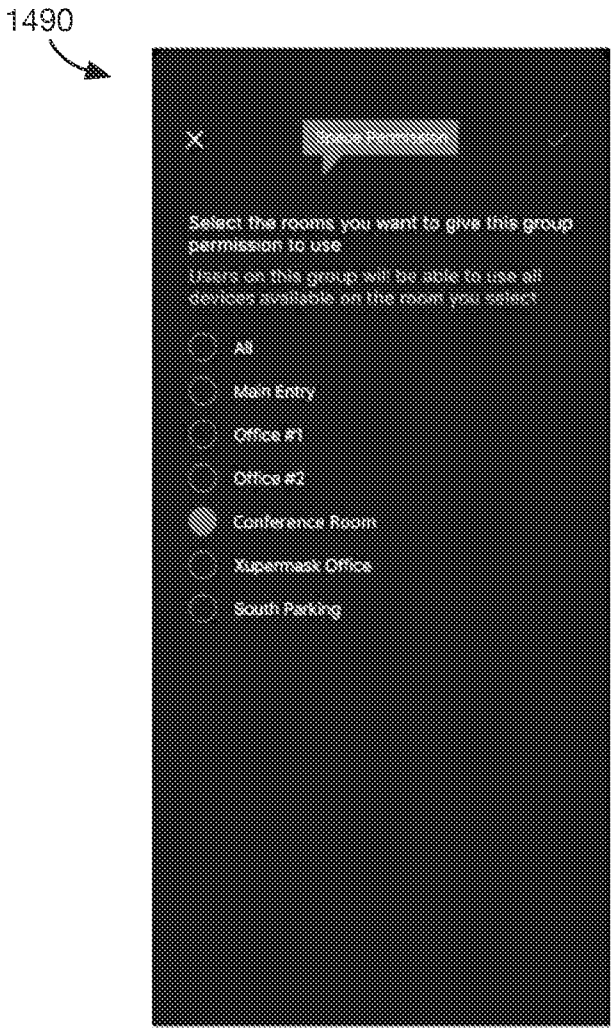

FIG. 14J

22947.11.1A

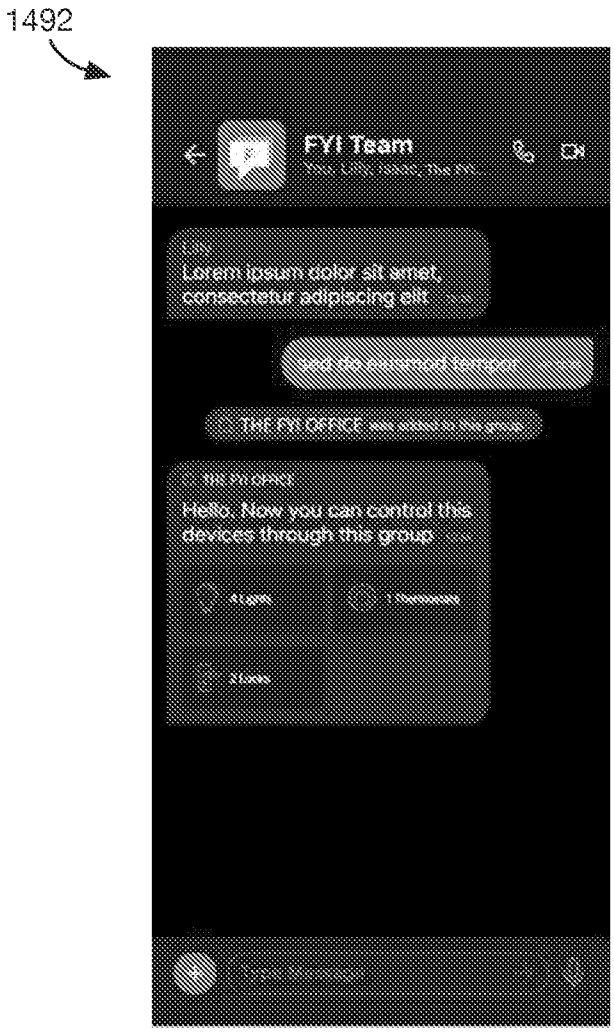

FIG. 14K

22947.11.1A

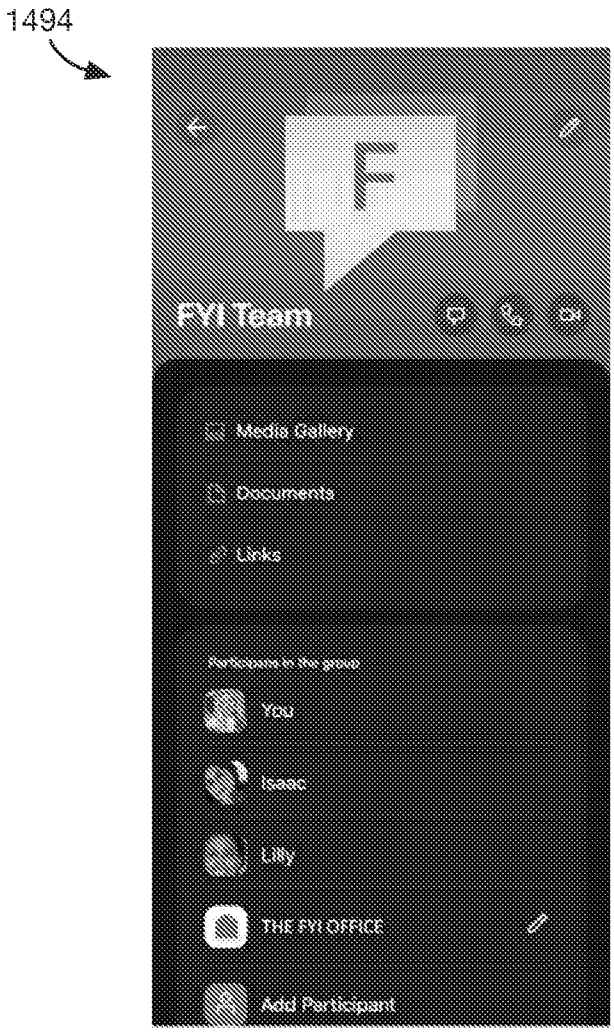

FIG. 14L

22947.11.1A

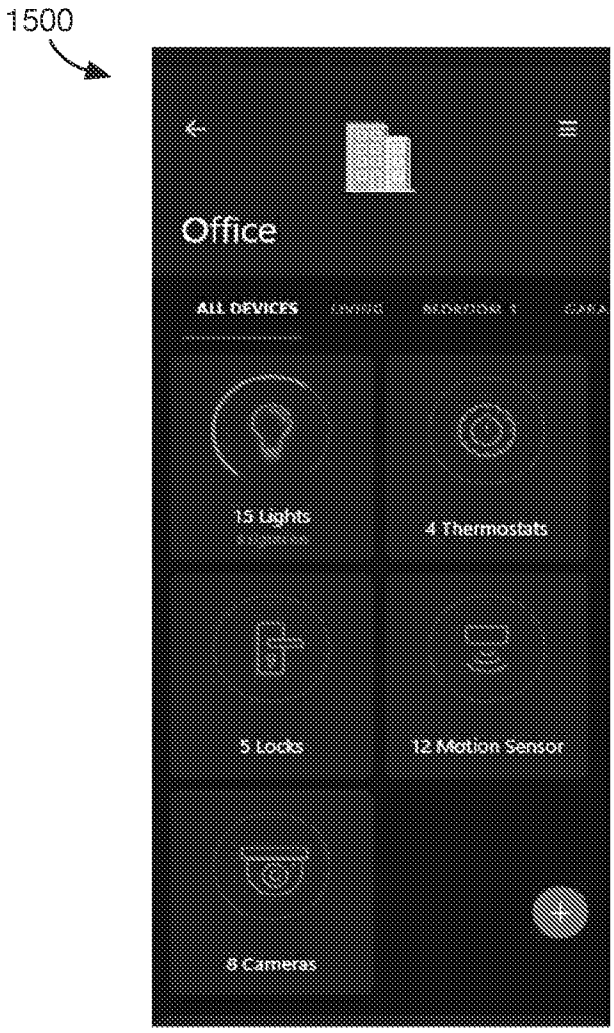

FIG. 15A

22947.11.1A

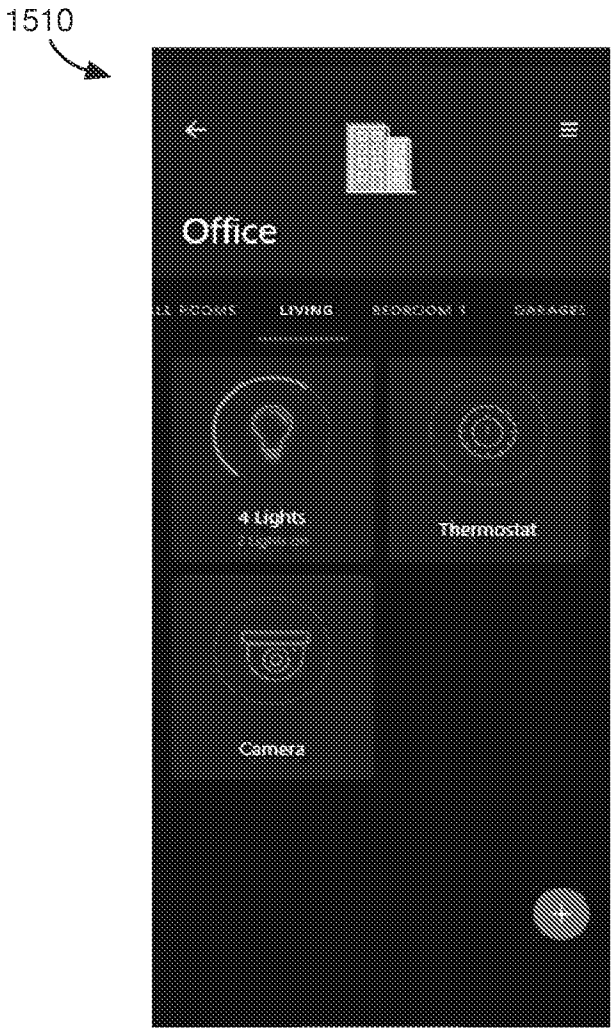

FIG. 15B

22947.11.1A

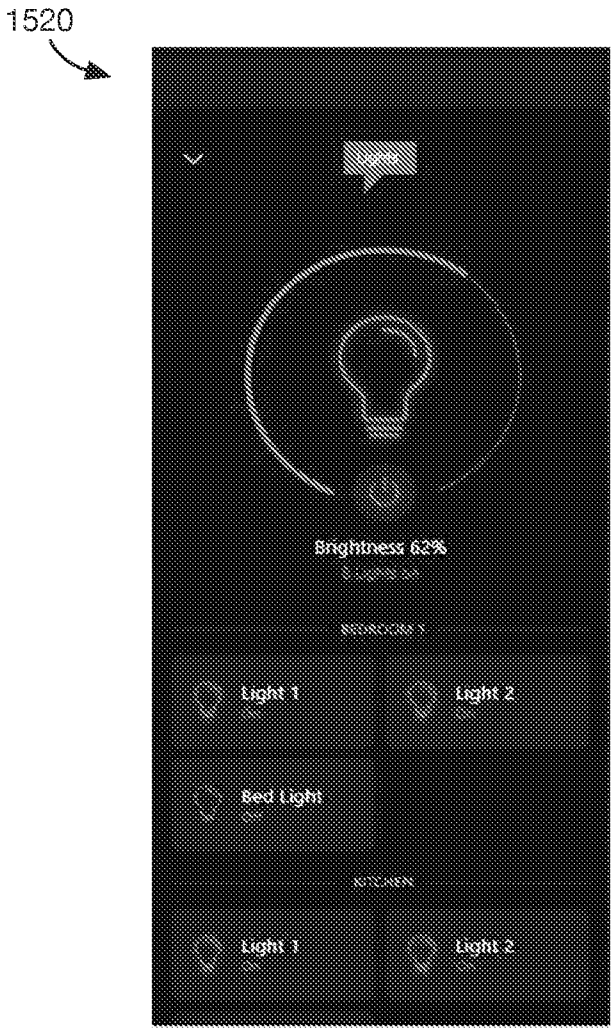

FIG. 15C

22947.11.1A

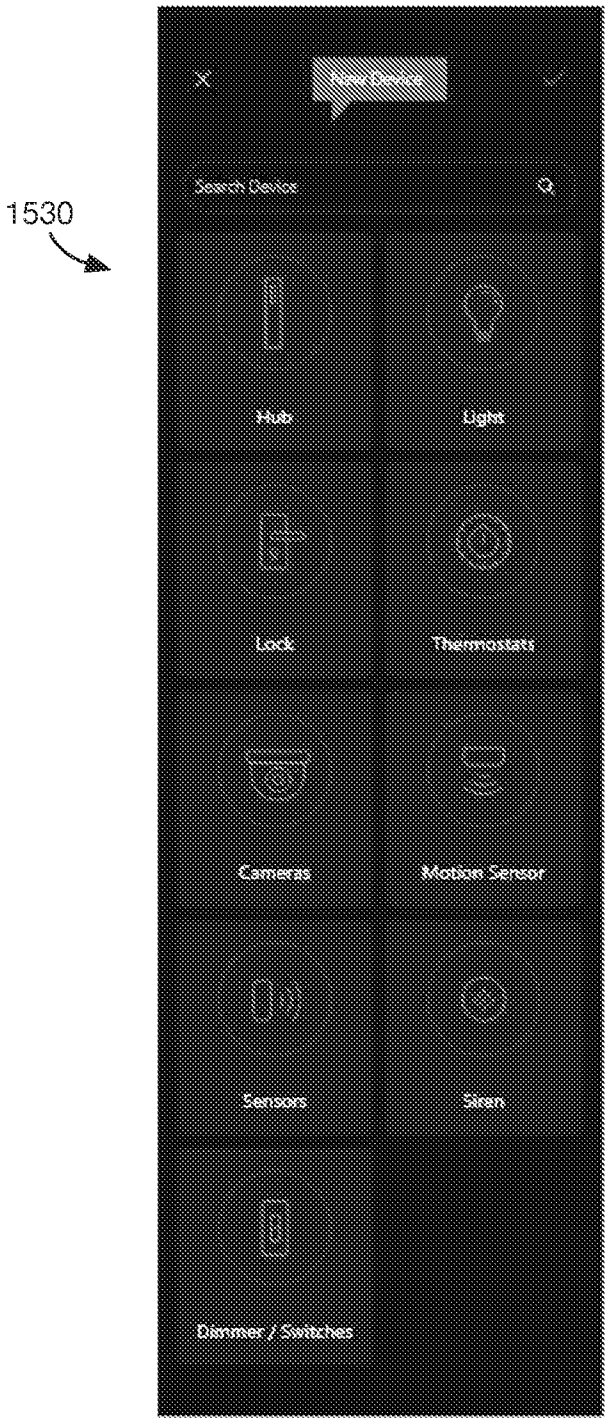

FIG. 15D

22947.11.1A

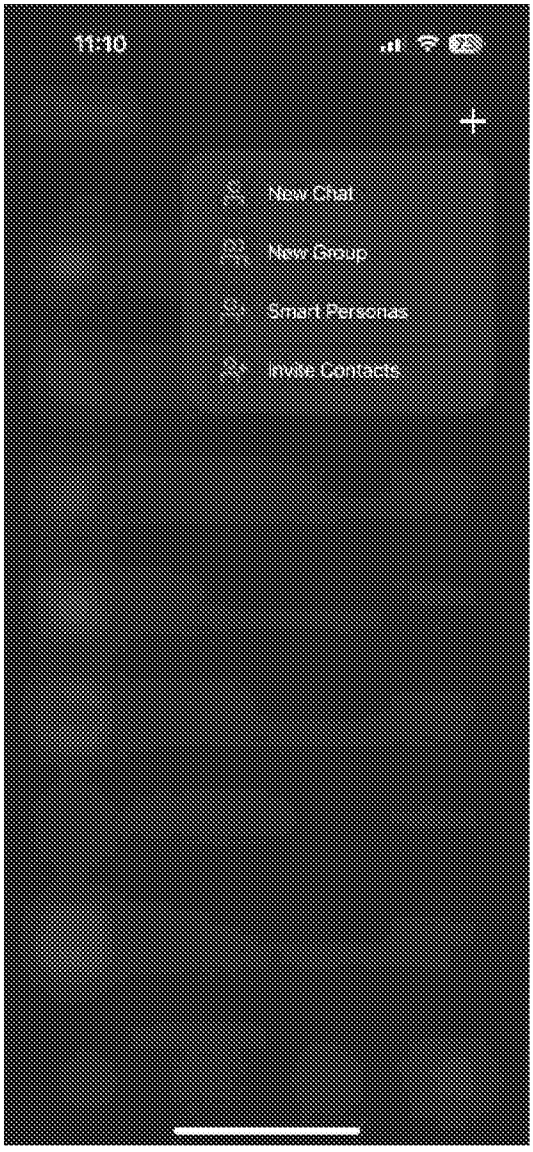

FIG. 16A

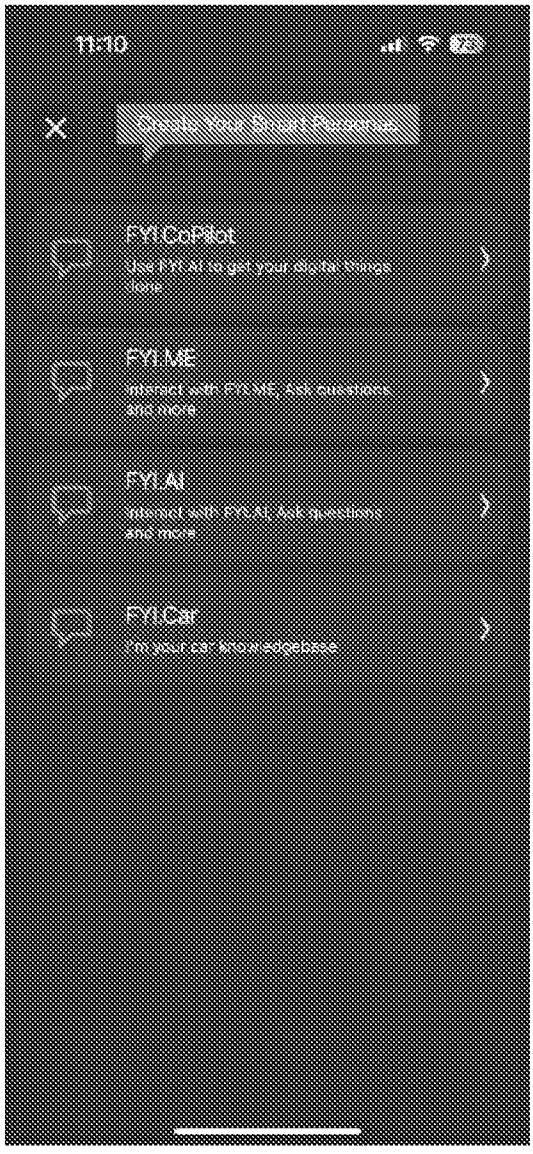

FIG. 16B

22947.11.1A

FIG. 16C

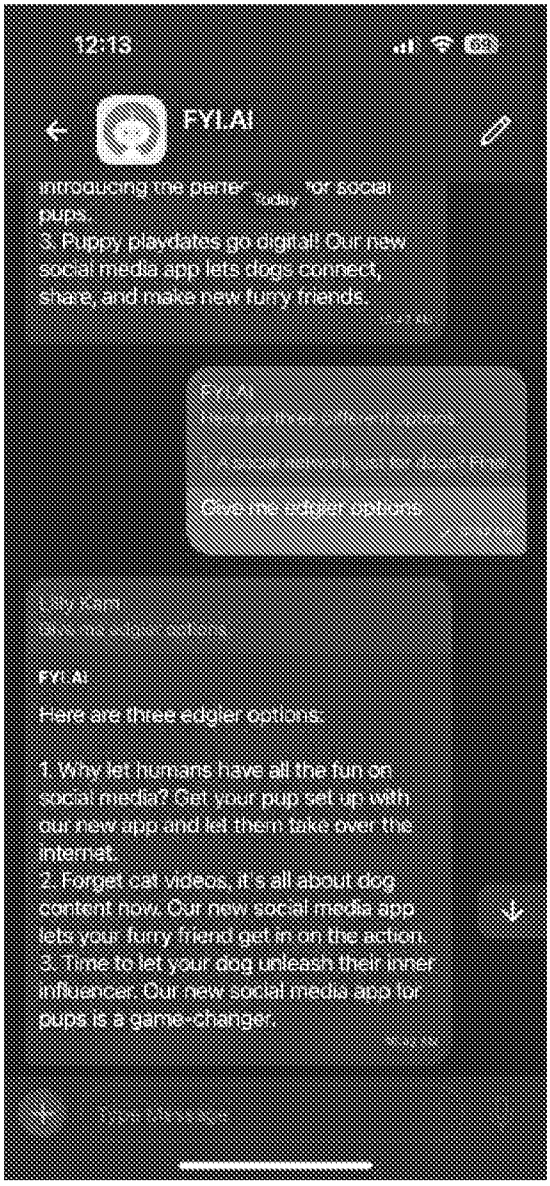

FIG. 16D

22947.11.1A

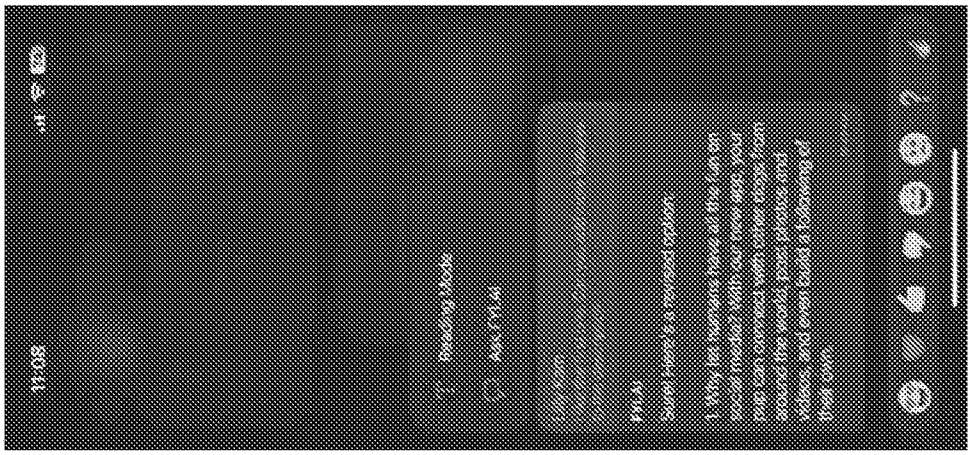

FIG. 16G

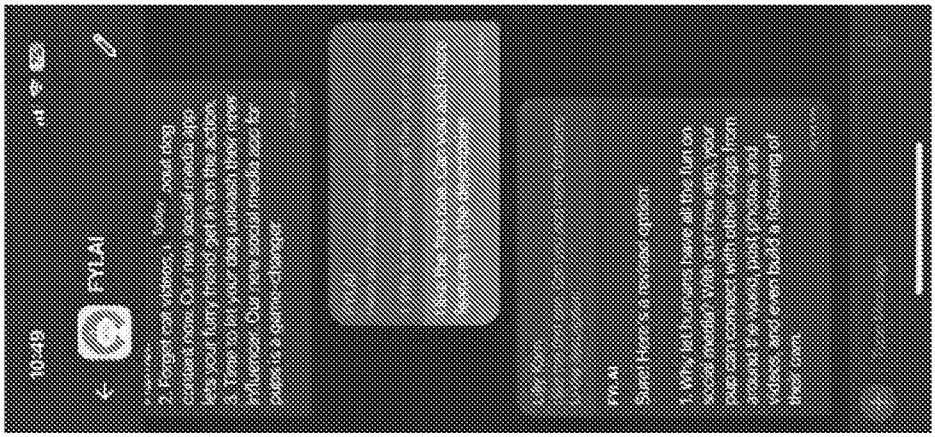

FIG. 16F

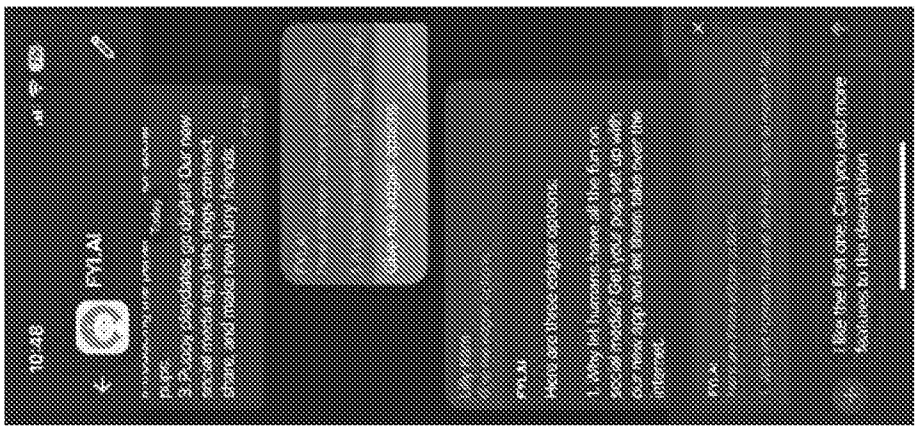

FIG. 16E

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2024/016751

A. CLASSIFICATION OF SUBJECT MATTER

IPC: ***G06F 16/33*** (2024.01); ***G06N 3/008*** (2024.01); ***G10L 15/22*** (2024.01); ***G10L 25/63*** (2024.01)

CPC: ***G06F 16/3329; G06F 16/334; G10L 15/22; G10L 25/63; G06N 3/008***

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

See Search History Document

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

See Search History Document

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

See Search History Document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2019/0156222 A1 (EMMA et al.) 23 May 2019 (23.05.2019) entire document	1-4
A	US 2020/0265841 A1 (GOOGLE LLC) 20 August 2020 (20.08.2020) entire document	1-4
A	WO 2022/030852 A1 (KIM et al.) 10 February 2022 (10.02.2022) see machine translation	1-4

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

* Special categories of cited documents:

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

"D" document cited by the applicant in the international application

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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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

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

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

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

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

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
23 April 2024 (23.04.2024)	**10 June 2024 (10.06.2024)**

Name and mailing address of the ISA/US	Authorized officer
Mail Stop PCT, Attn: ISA/US **Commissioner for Patents** **P.O. Box 1450, Alexandria, VA 22313-1450**	**MATOS** **TAINA**
Facsimile No. **571-273-8300**	Telephone No. **571-272-4300**

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2024/016751

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☑ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: **1-4**

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2024/016751

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claims 1-4, is drawn to an artificial intelligence chat system.

Group II, claims 5-20, is drawn to a method for synchronizing digital content shared between two user devices.

The inventions listed as Groups I-II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical features of the Group I invention; a computer system for an artificial intelligence integrated into a chat system, comprising: receive a user selection to interact with a selected artificial persona, wherein the selected artificial persona is selected from a list of multiple artificial persona; provide one or more prompts to the selected artificial persona, wherein the one or more prompts are based on user input received by the computer system; display one or more responses to the one or more prompts, the one or more responses comprising output of the selected artificial persona; receive a user interface indication directed to at least one of the one or more responses to feed content from the at least one of the one or more responses to a target artificial persona from the list of multiple artificial persona; construct an additional prompt based on the content from the at least one of the one or more responses and an additional user input received by the computer system; provide the additional prompt to the target artificial persona; and display an additional response to the additional prompt, the additional response comprising output of the target artificial persona; as claimed therein are not present in the invention of Group II.

The special technical features of the Group II invention; receive an indication through a first communication interface of a first user device to share digital content with a second user device; cause the digital content to be presented on the first user device via the first communication interface and on the second user device via a second communication interface; when a synchronization mode is determined to be inactive, enable independent user interaction with the digital content via the first communication interface and via the second communication interface such that the second communication interface is configurable to present the digital content on the second user device differently than the first communication interface on the first user device; and after the synchronization mode is determined to be activated, cause presentation of the digital content on the second user device via the second communication interface to be synchronized with presentation of the digital content on the first user device via the first communication interface; as claimed therein are not present in the invention of Group I.

Groups I-II lack unity of invention because even though the inventions of these groups require the technical features of, one or more processors; and one or more computer-readable recording media having stored thereon executable instructions that are executable by the one or more processors to configure the system; these technical features are not special as they do not make a contribution over the prior art.

Specifically, WO 2022/030852 A1 to Kim et al. is in the field of a chat service with an avatar (paras [0018], [0084], [0085]) and teaches a one or more processors (processor; para [0040]); and one or more computer-readable recording media having stored thereon executable instructions that are executable by the one or more processors to configure the system (program instructions that may be performed via various computer means and recorded on a computer-readable medium; para [0143]).

Since none of the special technical features of the Groups I-II inventions are found in more than one of the inventions, unity of invention is lacking.