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(54) Title: INLINE DOCUMENT COLLABORATION WORKFLOW

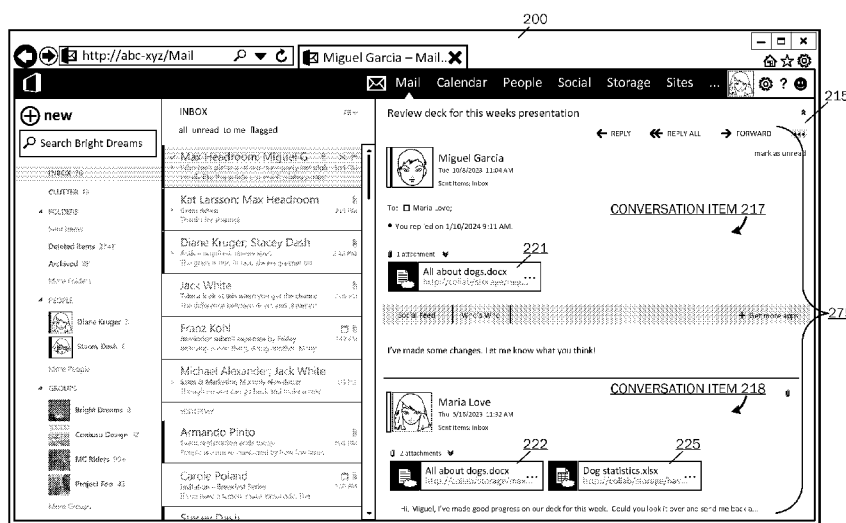


FIG. 2G

- (57) Abstract: Inline document collaboration workflows are provided. When a user receives an electronic communication that includes an attached content item, the receiving user may select the attached content item and cause the attached content item to be displayed in an immersive view in proximity to an electronic communication pane in which an electronic communication may be conducted about any topic including the content item that is displayed in proximity to the electronic communication pane. During editing of a content item, an electronic communication may be generated from a user interface in which the content item is being generated, or alternatively a new content item may be generated out of an electronic communications user interface.

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INLINE DOCUMENT COLLABORATION WORKFLOW

BACKGROUND OF THE INVENTION

[0001] Computer and computer software users have become accustomed to
5 generating, editing, receiving and sending many types of content items, for example,
documents of different types, photographs, images, electronic mail items, calendaring
items, notes items, and the like. In a typical electronic mail setting, a user often attaches a
document or other content item (hereafter referred to as “attachment” or “content item”) to
an electronic mail item he/she then sends to a receiving user for review or editing. The
10 receiving user then typically downloads the received attachment to her local computing
device or to an enterprise (local or remote) storage depository, for example, a company or
school file server or a remote server at which the receiving user has a storage location or at
a collaborative file storage location at which the sending user and the receiving user store
content items for receiving and editing as part of a collaborative work group of any of a
15 number of types.

[0002] That is, many user tasks involve using both content items of various types and
electronic communications (e.g., electronic mail) together in a general workflow that
involves sending and receiving electronic communications and reviewing various content
items. Current software solutions treat electronic communications and content items as
20 two separate entities. Users must do a lot of manual work such as opening received
attached content items, editing and saving attached content items, re-attaching edited
content items to a subsequent electronic communication, and then sending the
communication along with the edited and attached content item to a desired one or more
recipients. There is a need for methods and systems for allowing relevant content items to
25 be paired with relevant communications (electronic mail or other types of
communications) so that a user may reduce the time-consuming and inefficient process of
receiving, storing, editing, storing, retrieving, attaching, and disposing of content items in
association with an electronic communications system. It is with respect to these and
other considerations that the present invention has been made.

30

SUMMARY OF THE INVENTION

[0003] 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 as an aid in determining the scope of the claimed subject matter.

[0004] Embodiments of the present invention solve the above and other problems by providing inline document collaboration workflows. According to embodiments, when a user receives an electronic communication that includes an attached content item, the receiving user may select the attached content item and cause the attached content item to be displayed in an immersive view in proximity to an electronic communication pane in which an electronic communication may be conducted about any topic including the content item that is displayed in proximity to the electronic communication pane. Electronic communications may be conducted without edits to the selected and displayed content item. Alternatively, if the user desires to edit the selected and displayed content item, the user may enter an editing mode wherein functionality associated with a document type of the selected and displayed document may be displayed in the immersive view pane where the selected and displayed document is displayed. Using the provided functionality, the user may edit the displayed document, and according to one embodiment, upon editing the desired document, an instance of the edited document may be automatically saved for subsequent communication. According to one embodiment, upon initiating an editing function with respect to a selected and displayed content item, an electronic communication may be automatically generated in the electronic communication pane for attaching a copy of or pointer to the edited content item and for providing a communication to one or more recipients.

[0005] According to one embodiment, a “hide” function may be enabled for hiding temporarily or until subsequently “unhidden” the electronic communication thread to allow a greater display surface space for the selected and viewed or edited content item. In addition, a user may initiate and conduct an electronic communication about a content item by initiating the electronic communication from a client application associated with the content item.

[0006] According to another embodiment, a new content item may be generated out of an electronic communications user interface. For example, if a user is utilizing an electronic mail client application and an associated user interface, an insert function may be provided for allowing the user to insert a new content item of various types into the electronic communications user interface. If the user selects to enter a file of a given file type, an instance of a user interface for the selected document type that includes functionality of the associated application, for example, word processing functionality, may be displayed in the immersive view pane of the electronic communication user interface for allowing the user to create a content item of the desired document type.

[0007] The details of one or more embodiments are set forth in the accompanying drawings and description below. Other features and advantages will be apparent from a reading of the following detailed description and a review of the associated drawings. It is to be understood that the following detailed description is explanatory only and is not restrictive of the invention as claimed.

DESCRIPTION OF THE DRAWINGS

[0008] FIGURE 1 is simplified block diagram illustrating a system for electronic communication-based storage and use of documents and other content items to support multiple workflows.

10 [0009] FIGURE 2A illustrates a computer-generated user interface of an electronic mail application with which embodiments the present invention practiced.

[0010] FIGURE 2B illustrates a computer-generated user interface of an electronic mail application with an immersive view pane in which a received content item may be displayed for viewing.

15 [0011] FIGURE 2C illustrates a computer-generated user interface of an electronic mail application with an immersive view pane in which a received content item may be displayed for viewing.

[0012] FIGURE 2D illustrates a computer-generated user interface of an electronic mail application with an immersive view pane in which a received content item may be displayed for viewing.

20 [0013] FIGURE 2E illustrates a computer-generated user interface of an electronic mail application with an immersive view pane and showing a launching of a software application associated with a received content item.

[0014] FIGURE 2F illustrates a computer-generated user interface of an electronic mail application with an immersive view pane and showing a display of software application functionality for allowing editing of a received content item.

[0015] FIGURE 2G illustrates a computer-generated user interface of an electronic mail application and showing attachment of an edited content item for disposition according to embodiments of the present invention.

30 [0016] FIGURE 2H illustrates a computer-generated user interface showing a “hide email” function.

[0017] FIGURE 2I illustrates a computer-generated software application user interface from which an electronic communication may be launched in association with a content item.

[0018] FIGURE 2J illustrates a computer-generated electronic mail user interface with which a content item may be sent to one or more desired recipients.

[0019] FIGURE 2K illustrates a computer-generated electronic communication user interface in which a content item may be created.

5 [0020] FIGURE 2L illustrates a computer-generated electronic communication user interface in which a content item may be created.

[0021] FIGURE 2M illustrates a computer-generated electronic communication user interface in which a content item may be created.

10 [0022] FIGURE 3 is a flowchart illustrating a method for inline document collaboration through various workflows.

[0023] FIGURE 4 is a block diagram illustrating example physical components of a computing device with which embodiments of the invention may be practiced.

[0024] FIGURES 5A and 5B are simplified block diagrams of a mobile computing device with which embodiments of the present invention may be practiced.

15 [0025] FIGURE 6 is a simplified block diagram of a distributed computing system in which embodiments of the present invention may be practiced.

DETAILED DESCRIPTION

[0026] The following detailed description refers to the accompanying drawings. Wherever possible, the same reference numbers are used in the drawings and the
20 following description to refer to the same or similar elements. While embodiments of the invention may be described, modifications, adaptations, and other implementations are possible. For example, substitutions, additions, or modifications may be made to the elements illustrated in the drawings, and the methods described herein may be modified by substituting, reordering, or adding stages to the disclosed methods. Accordingly, the
25 following detailed description does not limit the invention, but instead, the proper scope of the invention is defined by the appended claims.

[0027] As briefly described above, embodiments of the present invention are directed to providing inline document collaboration workflows. According to embodiments, when
30 a user receives an electronic communication such as electronic mail, text message, instant message, chat message, or the like, where the electronic communication includes an attached content item, for example, a document, dataset, image, and the like, the receiving user may select the attached content item and cause the attached content item to be displayed in an immersive view in a user interface in a side-by-side or top/bottom orientation relative to an electronic communication pane in which an electronic

communication may be conducted about any topic including the content item that is displayed in proximity to the electronic communication pane.

[0028] According to embodiments, electronic communications may be conducted without edits to the selected and displayed content item. Alternatively, if the user desires
5 to edit the selected and displayed content item, the user may enter an editing mode wherein functionality associated with a document type of the selected and displayed document (for example, a word processing functionality, a spreadsheet functionality, slide presentation functionality, notes taking functionality, and the like) may be displayed in the immersive view pane where the selected and displayed document is displayed. Using the
10 provided functionality, the user may edit the displayed document, and according to one embodiment, upon editing the desired document, an instance of the edited document may be automatically saved with the electronic communication message at an electronic communication server, or alternatively, the changes made to the edited document may be pushed to a corresponding instance of the document stored at another storage location.

[0029] Upon initiating an editing function with respect to a selected and displayed
15 content item, an electronic communication may be automatically generated in the electronic communication pane for attaching a copy of or pointer to the edited content item and for providing a communication to one or more recipients to which the edited content item will be sent. Upon sending the automatically-generated communication and
20 the attached edited content item, an electronic communication conversation may be displayed in the electronic communication pane showing a conversation thread associated with the edited content item.

[0030] A “hide” function may be enabled for hiding temporarily or until
25 subsequently “unhidden” the electronic communication thread to allow a greater display surface space for the selected and viewed or edited content item.

[0031] A user may initiate and conduct an electronic communication about a content
item by initiating the electronic communication from a client application associated with the content item. For example, if a user is currently editing a spreadsheet document in a user interface provided by a spreadsheet application, electronic communication
30 functionality may be provided in the client application user interface, for example, “reply with changes” or “send document to recipients”, or the like may be provided in the user interface of the client application. Thus, for example, if a user is editing an example spreadsheet document, the user may select a communications functionality, for example, “reply with changes” functionality, and an instance of electronic communications user

interface, for example, an electronic mail user interface, may be provided in proximity to the being-edited document or overlaying the being-edited document, and an electronic communication may be automatically generated in the electronic communication user interface for sending the being-edited document to a desired recipient. According to this
5 embodiment, an attachment of the being-edited document may be automatically placed into the automatically-generated electronic communication, so that a recipient of the communication may select the attachment for view and/or editing the being-edited document.

[0032] A new content item may be generated out of an electronic communications
10 user interface. For example, if a user is utilizing an electronic mail client application and an associated user interface, an insert function may be provided for allowing the user to insert a new content item of various types into the electronic communications user interface. If the user selects to enter a file of a given file type, for example, a word processing document, a spreadsheet document, a slide presentation document, a notes
15 taking application document, or the like, an instance of a user interface for the selected document type that includes functionality of the associated application, for example, word processing functionality, may be displayed in the immersive view pane of the electronic communication user interface for allowing the user to create a content item of the desired document type. When the user completes creation of the content item of the desired
20 document type, the newly created document may be stored with an electronic communication at a corresponding electronic communication server, or the document may be saved to a different storage location, as desired.

[0033] Upon entering edit mode for the document being created, an electronic communication, for example, an electronic mail, may be automatically generated in a
25 corresponding electronic communication pane, and an attachment may be placed in the automatically-generated electronic communication for sending the being-created content item to a desired recipient. According to this embodiment, upon selection of a save and send function, the newly created document may be both saved to a desired location, and the electronic communication may be sent to a desired recipient along with an attachment
30 of the newly created content item or along with a pointer to a storage location of the newly created content item to allow a recipient of the electronic communication to access the newly created content item.

[0034] FIGURE 1 is simplified block diagram illustrating a system 100 for electronic communication-based storage and use of documents and other content items to support

multiple workflows. As Illustrated in FIGURE 1, a variety of users 102a, 102b, 102c, 102n are illustrated in association with respective client devices 104a, 104b, 104c, 104n. The users and the associated client devices are illustrative of one or more users who may generate, edit, receive, send, or otherwise interact with content items of various types as described herein. The client devices 104a-104n are illustrative of a variety of computing devices, for example, desktop computing devices, laptop computing devices, tablet computing devices, handheld computing devices (mobile phones), and the like. Each of the example computing devices may be interacted with according to a variety of input means, for example, keyboard input, mouse input, electronic pen and ink input, touch input, gesture input, voice input, eye tracking input, and the like. At each of the client devices 104a-104n, a variety of software applications may be provided for allowing the one or more users to interact with a variety of content items. For example, software applications such as electronic mail applications, word processing applications, slide presentation applications, spreadsheet applications, notes taking applications, desktop publishing applications, calendaring applications, image processing and editing applications, and the like may be operated at the client devices by the one or more users 102a-102n. The network 120 is illustrative of an enterprise-based network, for example, an intranet, or a distributed computing network, for example, the Intranet, over which the various users may communicate with each other and with other computing systems, as described herein.

[0035] The mailbox server 108 is illustrative of an electronic communication system that may be located local to one of the various users, or that may be located remotely from the various users for allowing electronic mail and other electronic communications between the various users. An example of a server 108 may be an EXCHANGE server from Microsoft Corporation. The electronic communication item 110 (e.g., email item) is illustrative of an electronic communication that may be communicated between one or more users for passing text-based communications, and a variety of attached files, for example, audio files, text files, image files, data files, and the like. The temporary copy of a document 106 is illustrative of a temporary storage of an edited attached content item that is edited in association with an electronic communication item and that is temporarily stored with an electronic communication at the electronic mail server 108 for disposition according to embodiments of the present invention. The collaboration server 112 is illustrative of a local or remote storage repository at which one or more content items may be stored. For example, the collaboration server 112 may be a shared resources server

located at an enterprise accessible by the various users, or may be remotely located from the various users at which the various users may store and collaborate on various documents. An example of such a collaboration server 112 may include a SHAREPOINT server or ONEDRIVE server from Microsoft Corporation.

5 [0036] According to embodiments of the present invention, when an attached content item is received and edited by a given user, a temporary copy 106 of the edited content item is stored with the received electronic communication item 110 at the electronic communication server 108. The content item is only stored at the collaboration server 112 if a given user desires to store the received content item apart from the electronic
10 communication server 108 as described with respect to embodiments illustrated and described herein.

[0037] Figure 2A illustrates a computer-generated user interface of an electronic communication application with which embodiments the present invention practiced. An example electronic communication application suitable for embodiments described herein
15 includes OUTLOOK from Microsoft Corporation. As illustrated in Figure 2A, a user interface 200 for an example electronic mail application with which a user may send and receive a variety of electronic messages, and with which a user may send and receive content item attachments according to embodiments of the present invention is illustrated. An electronic mail folder pane 210 is illustrated on the left side of the user interface 200 in
20 which a variety of folders, contact items, group items, calendar items, and the like, may be provided to allow a user to select various folders, contacts, or other items associated with her electronic communication application functionality. An electronic communication items folder 205 is illustrated in which a variety of electronic communication items received by the receiving user are displayed that may be selectively reviewed and
25 responded to according to the functionality of the associated electronic communication application. For example, the pane 205 may include an inbox for listing all received electronic mail items, a sent box for listing sent electronic mail items and/or the contents of a given folder of electronic communication items.

[0038] On the right side of the example user interface 200 is displayed an electronic
30 communication viewing pane in which a given electronic communication message or electronic communication conversation thread of items may be displayed for allowing a user to read or otherwise interact with a given electronic communication message, for example, replying to the message, forwarding the message, and the like. That is, upon selection of a given communication item (e.g., an electronic mail item) listed in an inbox

displayed in the pane 205, the selected item may be opened in the pane 215 to allow the user to read or respond to the communication item. If the selected communication item contains a thread of multiple communication items comprising a communication conversation, then the entire thread of items may be displayed in the pane 215 to allow the user to navigate through the various items in the thread.

[0039] As illustrated in Figure 2A, an example electronic mail message 235 has been received by the receiving user and has been opened in the electronic communications pane or canvas 215. The received electronic mail message includes three example attachments 220, 225, 230. As should be appreciated, the attachments 220, 225, 230 are illustrative of any attached content item, for example, a word processing document, a spreadsheet document, a slide presentation document, a notes document, an image file, a photograph, and the like, that may be received by the receiving user from a sending user.

[0040] According to embodiments of the present invention, if a user selects one of the attached content items 220, 225, 230, the selected content item may be displayed in an immersive view pane 237 for allowing a user to view and/or edit the selected content item. As illustrated in Figure 2A, an example user selects the example word processing document attachment icon 220 for viewing and interacting with the selected document 220, as described herein.

[0041] Referring now to Figure 2B, in response to the receiving user's selection of the attachment item 220, as illustrated in Figure 2A, the associated document 240 is automatically displayed in an immersive view pane 237 for allowing the user to review and interact with the associated document 240. As illustrated in Figure 2B, the immersive view pane is positioned on the left side of the user interface 200, and the electronic mail view pane 215 remains displayed on the right side of the user interface 200. As should be appreciated, the respective viewing panes may be displayed in other orientations, for example in a right/left orientation where the immersive view pane is displayed on the right side of the user interface and the electronic mail pane is displayed on the left, a top/bottom orientation where the immersive view pane is displayed on the top of the interface 200 and the electronic communication pane is displayed on the bottom of the interface 200, or a bottom/top orientation where the immersive view pane is displayed on the bottom of the interface 200 and the electronic communication view pane is displayed on a top of the interface 200. Alternatively, if the computing device in use by the receiving user is a small form device, such as a tablet computing device or mobile phone, and display space is insufficient for displaying both the immersive view pane and the electronic

communication view pane, then the immersive view pane 237 may be displayed over the entire display surface of the computing device, and a functionality button or control may be provided for selectively returning the electronic communication view pane to display, as desired. Alternatively, a truncated display of the electronic communication view pane
5 may be provided and the remaining display space may be used for the immersive view pane.

[0042] Referring still to Figure 2B, according to one embodiment, a user of the electronic communication user interface 200 may begin an electronic communication in the electronic communication pane 215 without editing the content item 240 selected and
10 displayed in the immersive view pane 237. That is, by selecting one or more communication functions, for example, the reply function 246, a reply to all function, a forward function, and the like, the user may conduct an electronic communication with a variety of users inside the electronic communication pane 215 without affecting a display of the content item 240 displayed in the immersive view pane 237.

[0043] Referring to Figure 2C, after selection of an electronic mail conversation function, for example, the reply function 246, a new electronic communication 257 is illustrated as being generated in the electronic communication pane 215 for allowing the user to enter an electronic communication. As should be appreciated, if desired, the user generating the electronic communication 257 may attach the content item 240 to the
20 communication 257 for sending the communication and the attached content item to one or more other recipients, or the user may simply wish to reply back to the sending user that originally sent the communication having the attached content item 240. In such a case, each user at two different locations may select and display the attached content item 240 in their respective immersive view panes, while simultaneously conducting an electronic
25 communication in the electronic communication pane 215 about any topic, including the content item 240 that is displayed in the immersive view panes of each of their respective electronic communication user interfaces 200.

[0044] Referring now to Figure 2D, an edit/copy function 245 is provided for allowing a user to selectively edit the document 240 displayed in the immersive view pane
30 237. That is, as will be described below, selection of the edit/copy function 245 may cause a provision of functionality associated with the document 240 to allow the user to edit the document 240 in association with the provided functionality. As should be appreciated, the edit/copy function 245 is illustrative of one of a variety of functions that may be provided in the immersive view pane for allowing a user to operate on the

document displayed in the immersive view pane. For example, other functions that may be provided may include a send function for allowing the user to send the document 240 to another user, a save function for allowing a user to save the document to a storage location such as the collaboration server 112, described above, and the like.

5 [0045] Referring to FIGURE 2E, according to embodiments of the present invention, if a user selects the edit/copy function 245, an application associated with the content item type for the content item displayed in the immersive view pane may be launched in the immersive view pane. In Figure 2E, a word processing web-based application 250 is
10 the immersive view pane, as illustrated in Figure 2C. That is, if the document 240 is a word processing application, then selection of an edit function associated with the document 240 may cause the launching and retrieval of word processing functionality for allowing a user to edit the document in association with application functionality with
15 document, then selection of an edit function 245 may cause the launching of spreadsheet application functionality in the immersive view pane. Likewise, if the document 240 is a slide presentation, then selection of an edit function 245 may cause the launching and provision of slide presentation application functionality in the immersive view pane for use with the document displayed in the immersive view pane. As illustrated in Figure 2E,
20 a web-based application 250 is launched in response to the selection of an edit/copy function 245, but as appreciated, a local or remote word processing application may similarly be launched for providing functionality in association with the document 245.

[0046] Referring now to Figure 2F, in response to a selection of an edit/copy function 245, as illustrated in Figures 2D, and in response to a launching of an associated
25 example word processing application, as illustrated in Figure 2E, a variety of word processing functionalities 255 may be provided in the immersive view pane for allowing the receiving user to edit the document 240. As should be appreciated, an instance of a word processing application may be launched and displayed in the immersive view pane, or selected functionalities, for example, formatting functionalities may be provided in the
30 immersive view pane for allowing a user to operate certain word processing functions on the document 240. Likewise, if the document 240 is a spreadsheet document, then an instance of a spreadsheet application may be launched in the immersive view pane, or certain functionalities of a spreadsheet application may be provided in the immersive view pane.

[0047] Referring still to Figure 2F, according to one embodiment, when the receiving user selects the document 240 for editing, a draft communication 217, for example, a draft reply electronic mail item may be automatically generated and displayed in the electronic communication view pane to allow the user to communicate the edited document or other content item when the user completes the editing process. Referring to the draft communication 217, according to one embodiment, an automatic reply message to the original sender of the electronic mail message that attached the document 240 that is being edited by the receiving user may be generated so that upon completion of edits to the document 240, the editing user may select a save and send function 260 for automatically attaching the edited version of the document or content item 240 to the draft communication 217 for sending the communication to the original sending user. Thus, a communication from the sending user to the receiving user is enabled where the receiving user opens an attachment 221 received from the sending user, edits the attachment 221 and automatically sends the edited version of the attachment back to the original sending user without the need for saving the attachment to a hard drive or other storage repository at which edits are made and saved followed by a retrieval and re-attachment of the edited content item to a communication for transmitting to the original sending user.

[0048] As described above with reference to Figure 1, when the user begins the editing process for an attached content item, as illustrated in Figure 2D, a temporary copy of the content item being edited is saved along with the received electronic communication item 110 at the electronic communication server 108. According to one embodiment, the edited attachment is renamed to provide information to an individual recipient of the edited document and to distinguish the edited document from a previous version of the edited document. For example, a document with a file name of "Document A" may be renamed to include a name or other identification for the editing user and a new name of "Document A.editing user" may be applied to the edited version of the attached content item, and the renamed and edited version of the content item may be stored as a temporary copy of the document 106 at the electronic communication server 108, as illustrated in Figure 1. Thus, the edited version of the content item is not stored at a separate local or remote storage area, such as the collaboration server 112 from which the edited version of the content item must be retrieved for eventual communication to another user.

[0049] Referring still to Figures 1 through 2F, sending of an edited version of an attached content item back to the original sending user is illustrated and described. According to embodiments, other functionality of the electronic communication

application may be utilized for disposing of an edited version of the received attached content item. For example, instead of using a save/send function 260, as illustrated in Figure 2D, another function such as “send as meeting request” may be provided which, when selected, causes an automatic generation of a meeting request and an automatic attachment of the edited content item to the meeting request. Likewise, another function, such as, “add to notes” may be provided, which when selected, causes an automatic presentation of a notes user interface component in the electronic communication view pane and automatically attaches an edited version of the attached content item to an electronic notes document. Another function, such as, “add to calendar entry” may be provided, which when selected, causes an automatic opening of a calendar function and an automatic attachment of the edited version of the content item to a calendar item in an associated electronic calendaring application. As should be appreciated, any number of functions may be provided similar to the save and send function 260 which when selected may cause the provision of a user interface component in the electronic communication view pane for automatically attaching the edited version of the attached content item to another content item associated with a selected functionality.

[0050] Referring now to Figure 2G, after the automatically-generated electronic communication is sent to the one or more desired recipients, the sending user may utilize the electronic communication user interface 200 for any electronic communication functionality, for example, electronic mail, text messaging, instant messaging, and the like. According to one embodiment, the sending user may review an electronic communication conversation or thread 275 in the electronic communication pane 215 concerning the recently-sent electronic communication 217 showing the attachment 221 with which the user attached an edited version of the content item 240, and showing a subsequent conversation item 218 received back from the recipient of the user’s electronic communication containing yet another version of the content item 240 illustrated as attachment 222, and showing an additional attachment 225 that the sending user wishes to have the recipient review. Thus, an electronic conversation about a given topic including edits to the content item 240 may be conducted between various users.

[0051] As illustrated and described above with references to Figures 2A through 2G, a content item may be launched from an attachment received in an electronic communication, and launched content item may be displayed in an immersive view pane to allow a user to view the displayed content item and his/her electronic communications simultaneously. Referring now to Figure 2H, according to an embodiment, a “hide email”

function 285 is illustrated which when selected may cause the electronic communications pane 215 to be temporarily hidden from view so that the immersive view pane 237 may be expanded to consume all available display space to allow the user a larger view of the selected content item 240. As should be appreciated, a similar function, for example, a “unhide email” function may be provided after hiding the electronic communications pane for allowing a user to selectively return the electronic communications pane back into view. Similarly, a function may be provided for allowing the user to selectively hide the immersive view pane for allowing a display of other electronic communications panes 210 and 205, as illustrated with reference to Figure 2A. Similarly, a “unhide” function may be provided for un-hiding the immersive view pane and for bringing the immersive view pane back into display along side the electronic communications pane, as illustrated and described herein.

[0052] FIGURE 2I illustrates a computer-generated software application user interface from which an electronic communication may be launched in association with a content item. As illustrated and described above, a content item, for example, a document, may be launched by selecting an attachment associated with the content item from an electronic communication item which causes a display of the selected item in an immersive view pane. According to another embodiment, an electronic communication functionality and interface may be launched from a content item that is being provided by associated software application functionality. As illustrated in Figure 2I, a user interface 290 is illustrated as a spreadsheet functionality user interface that may be provided by a spreadsheet application for allowing a user to enter and manipulate various data items. According to this embodiment, one or more electronic communications functionalities 292 may be provided in the user interface of a given software application for initiating an electronic communication out of the user interface in association with a document or other content item being generated via the associated user interface. For example, as illustrated in Figure 2I, a “reply with changes” functionality 292 is provided in the example spreadsheet application user interface 290 for automatically initiating an electronic communication for communicating with one or more users about any topic, but likely for communicating with other users about the document contained in the user interface from which the communication is initiated.

[0053] As should be appreciated, the illustration of the spreadsheet application user interface and associated data is for purposes of example only. That is, electronic communication functionality may be enabled in accordance with the functionality of any

software application, for example, a word processing application, a slide presentation application, a notes taking application, a database application, and the like. In addition, the “reply with changes” function 292 is for purposes of example, and is not limiting of other electronic communications functionalities, for example, “forwarding”, “sending”,
5 “send as an attachment”, “forward as an attachment”, and the like. That is, any electronic communication functionality available to an associated electronic communications application, for example, an electronic mail application, may be provided as a selectable functionality in a given software application user interface.

[0054] Referring to Figure 2J, in response to a user selection of the electronic
10 communications function 292 an instance of an associated electronic communications user interface may be automatically launched and provided, as illustrated in Figure 2J. As illustrated in Figure 2J, in response to selection of the electronic communication functionality 292 illustrated in Figure 2I, not only is an instance of the electronic mail user interface launched, but an electronic mail item may be automatically generated, and the
15 document being edited in the example spreadsheet may be automatically attached to the electronic mail item as attachment 225, such that when a user selects a function 293 for disposition of the communication (e.g., sending, forwarding, replying, replying to all, etc.), then the communication may be sent to a desired user along with an attachment of the edited document or along with a pointer to a location of the stored edited document.

[0055] As should be appreciated, while the spreadsheet user interface illustrated in
20 Figure 2I and the electronic mail user interface illustrated in Figure 2J are illustrated as displayed apart from other displayed content, the example spreadsheet user interface may be displayed in an immersive view pane, as described above, and the launched electronic communications interface may be displayed in an electronic communications pane, as
25 described above, so that the being-edited document and the launched electronic communications interface are displayed in a side-by-side or top/bottom orientation. Thus, according to this embodiment, a user may launch an electronic communications session out of a document generation/editing session for communicating a given content item to one or more other users.

[0056] Referring now to Figure 2K, according to another embodiment, in addition to
30 displaying and enabling editing of a content item that is attached to an electronic communication, as described above, according to another embodiment, a new content item may be generated out of an electronic communication user interface. As illustrated in Figure 2K, the electronic mail user interface 200 with its folder pane 210 and electronic

mail listing pane 205 and electronic communications pane 215 is illustrated. In addition, an insert function 295 is illustrated for allowing a user to selectively insert objects of various types into an electronic mail item for sending the electronic mail item along with the inserted object to one or more recipients. According to an embodiment, in addition to

5 inserting a given object, for example, an attachment, a photograph, a content item, a document, a data object, and the like, a new file function 296 may be enabled which when selected may allow for the creation of a new content item 294 within the electronic communication user interface 200 that subsequently may be saved and passed to one or more other users via an electronic communication.

10 **[0057]** Referring now to Figure 2L, in response to selecting the “new file” function 296, as illustrated in Figure 2K, a user interface object 297 may be presented for allowing the user to select a file type associated with the new content item the user desires to create. For example, the user may be allowed to select from a word processing file, a spreadsheet file, a slide presentation file, a notes taking file, a desktop publishing file, a database file,

15 and the like. That is, as should be appreciated, any file type that may be called upon by the electronic communications application for functionality may be used for allowing the user to create a content item of that type.

[0058] Referring now to Figure 2M, in response to selecting the example word processing file type, an instance of a word processing application user interface may be

20 provided in the immersive view pane of the electronic communications user interface 200 for allowing a user to create a document of that type in the immersive view pane. That is, functionality of the selected word processing file type is provided in the immersive view pane and a blank drafting surface 298 is provided for allowing the user to enter content as illustrated in Figure 2M. According to one embodiment, after the user completes entry of

25 the content, the user may save the generated content to a storage location of the user’s choice, or the user may select a “save and send” function 299 for automatically saving the newly-entered content item to an electronic communication item, for example, an electronic mail item to allow the newly-generated content item to be transmitted with the communication item to a desired recipient. For example, as illustrated and described

30 above with reference to Figure 1, the newly-generated content item may be automatically stored with an electronic mail item 216 at an electronic mail box 108 for subsequent transmission with the electronic mail item 216.

[0059] According to one embodiment, when generation of the new content item is initiated, the electronic mail item 216 may be automatically generated to allow a user to

send the newly-generated content item to a desired recipient upon completion of the content item. According to this embodiment, the automatically-generated electronic mail item 216 may be displayed in the electronic communication pane 215, and attachment 216A may be associated with the electronic mail item 216. Upon selection of the “save and send” function 299, the generated document 298A may be automatically stored with the electronic mail item 216 at the electronic mail box 108, and the attachment 216A may be updated to point to the storage location of the stored document 298A such that a subsequent recipient of the electronic mail item 216 may select the attachment for opening, viewing and editing, if desired the newly-generated document 298A.

10 [0060] Having described the system architecture, various user interface components and various aspects and embodiments of the present invention with respect to FIGURES 1 through 2M, FIGURE 3 is a flowchart illustrating a method for inline document collaboration through various workflows. The routine 300 begins as operation 305 and then proceeds to operation 310 where a user receives an electronic communication with an
15 attached content item. For example, the user may receive an electronic mail, instant message, text message, chat message, or the like, having an attached content item. At operation 315, user may view the attached content item in an immersive view to allow the user to view the attached content item and his/her electronic communications pane showing various electronic communication items simultaneously. At operation 320, the
20 user may conduct an electronic communications conversation apart from the display of the selected content item, as illustrated and described above with reference to Figure 2C.

[0061] At operation 325, if the user desires to edit the attached and displayed content item, the user may enter an edit mode wherein functionality associated with the content item will be provided. In response to entering the edit mode, an electronic communication
25 may be automatically generated for allowing the user to subsequently send an edited version of the content item to one or more desired recipients. At operation 330, in response to selection of a function for saving edits to the content item and for sending the edited content item to one or more desired recipients, the edited content item may be stored with the electronic mail item in an electronic mail server 108, or the edited content
30 item may be automatically stored in a separate storage location, for example, the collaboration server 112.

[0062] When the electronic communication is sent to the desired recipients, the edited content item may be attached to the communication if it is been saved with the email, or a pointer to the saved content item may be attached to the communication to

point the recipient of the communication to a storage location for the edited content item. At operation 335, after the automatically-generated communication is sent, the user's electronic communications user interface 200 may return back to a starting configuration, and the user may view a communication conversation including a communication associated with the sent edited content item. At operation 340, hiding an electronic communication may be enabled, if desired.

[0063] At operation 345, if a user desires to generate an electronic communication out of a user interface associated with the generation of a given content item, the user may select an electronic communications function from a user interface provided by the associated software application, for example, a word processing application user interface, a spreadsheet application user interface, a slide presentation application user interface, and the like, and at operation 350, a "save and send" function may be utilized for saving edits to an associated content item and for sending a generated and/or edit content item to one or more desired recipients, as illustrated and described above with reference to Figures 2I and 2J.

[0064] At operation 355, if a user utilizing his/her electronic communications application and user interface 200 desires to create a new content item, the user may select to insert a new content item within an electronic communication, as illustrated above with reference to Figure 2K. At operation 360, an appropriate file type may be selected, and an instance of an associated software application user interface, for example, a word processing application user interface, may be provided in the immersive view pane for allowing the user to generate a new content item of the desired file type.

[0065] At operation 365, the content item of the selected file type may be generated. The generated content item may be saved a desired storage location, or if desired, the user may utilize a "save and send" function for saving the generated document with an automatically-generated electronic communication item and for sending the electronic communication item to a desired recipient by attaching the newly-generated content item to the automatically-generated electronic communication item. The routine ends at operation 395.

[0066] While the invention has been described in the general context of program modules that execute in conjunction with an application program that runs on an operating system on a computer, those skilled in the art will recognize that the invention may also be implemented in combination with other program modules. Generally, program modules

include routines, programs, components, data structures, and other types of structures that perform particular tasks or implement particular abstract data types.

[0067] The embodiments and functionalities described herein may operate via a multitude of computing systems including, without limitation, desktop computer systems, 5 wired and wireless computing systems, mobile computing systems (e.g., mobile telephones, netbooks, tablet or slate type computers, notebook computers, and laptop computers), hand-held devices, multiprocessor systems, microprocessor-based or programmable consumer electronics, minicomputers, and mainframe computers.

[0068] In addition, the embodiments and functionalities described herein may 10 operate over distributed systems (e.g., cloud-based computing systems), where application functionality, memory, data storage and retrieval and various processing functions may be operated remotely from each other over a distributed computing network, such as the Internet or an intranet. User interfaces and information of various types may be displayed via on-board computing device displays or via remote display units associated with one or 15 more computing devices. For example user interfaces and information of various types may be displayed and interacted with on a wall surface onto which user interfaces and information of various types are projected. Interaction with the multitude of computing systems with which embodiments of the invention may be practiced include, keystroke entry, touch screen entry, voice or other audio entry, gesture entry where an associated 20 computing device is equipped with detection (e.g., camera) functionality for capturing and interpreting user gestures for controlling the functionality of the computing device, and the like.

[0069] FIGURES 4-6 and the associated descriptions provide a discussion of a variety of operating environments in which embodiments of the invention may be 25 practiced. However, the devices and systems illustrated and discussed with respect to FIGURES 4-6 are for purposes of example and illustration and are not limiting of a vast number of computing device configurations that may be utilized for practicing embodiments of the invention, described herein.

[0070] FIGURE 4 is a block diagram illustrating physical components (i.e., 30 hardware) of a computing device 400 with which embodiments of the invention may be practiced. The computing device components described below may be suitable for the client device 104a-n described above. In a basic configuration, the computing device 400 may include at least one processing unit 402 and a system memory 404. Depending on the configuration and type of computing device, the system memory 404 may comprise, but is

not limited to, volatile storage (e.g., random access memory), non-volatile storage (e.g., read-only memory), flash memory, or any combination of such memories. The system memory 404 may include an operating system 405 and one or more program modules 406 suitable for running software applications 450. The operating system 405, for example, 5 may be suitable for controlling the operation of the computing device 400. Furthermore, embodiments of the invention may be practiced in conjunction with a graphics library, other operating systems, or any other application program and is not limited to any particular application or system. This basic configuration is illustrated in FIGURE 4 by those components within a dashed line 408. The computing device 400 may have 10 additional features or functionality. For example, the computing device 400 may also include additional data storage devices (removable and/or non-removable) such as, for example, magnetic disks, optical disks, or tape. Such additional storage is illustrated in FIGURE 4 by a removable storage device 409 and a non-removable storage device 410.

[0071] As stated above, a number of program modules and data files may be stored 15 in the system memory 404. While executing on the processing unit 402, the program modules 406 may perform processes including, but not limited to, one or more of the stages of the method 300 illustrated in FIGURE 3. Other program modules that may be used in accordance with embodiments of the present invention and may include applications such as electronic mail and contacts applications, word processing 20 applications, spreadsheet applications, database applications, slide presentation applications, drawing or computer-aided application programs, etc.

[0072] Furthermore, embodiments of the invention may be practiced in an electrical circuit comprising discrete electronic elements, packaged or integrated electronic chips containing logic gates, a circuit utilizing a microprocessor, or on a single chip containing 25 electronic elements or microprocessors. For example, embodiments of the invention may be practiced via a system-on-a-chip (SOC) where each or many of the components illustrated in FIGURE 4 may be integrated onto a single integrated circuit. Such an SOC device may include one or more processing units, graphics units, communications units, system virtualization units and various application functionality all of which are integrated 30 (or “burned”) onto the chip substrate as a single integrated circuit. When operating via an SOC, the functionality, described herein, with respect to providing an activity stream across multiple workloads may be operated via application-specific logic integrated with other components of the computing device 400 on the single integrated circuit (chip). Embodiments of the invention may also be practiced using other technologies capable of

performing logical operations such as, for example, AND, OR, and NOT, including but not limited to mechanical, optical, fluidic, and quantum technologies. In addition, embodiments of the invention may be practiced within a general purpose computer or in any other circuits or systems.

5 [0073] The computing device 400 may also have one or more input device(s) 412 such as a keyboard, a mouse, a pen, a sound input device, a touch input device, etc. The output device(s) 414 such as a display, speakers, a printer, etc. may also be included. The
10 aforementioned devices are examples and others may be used. The computing device 400 may include one or more communication connections 416 allowing communications with other computing devices 418. Examples of suitable communication connections 416
include, but are not limited to, RF transmitter, receiver, and/or transceiver circuitry; universal serial bus (USB), parallel, and/or serial ports.

[0074] The term computer readable media as used herein may include computer storage media. Computer storage media may include volatile and nonvolatile, removable
15 and non-removable media implemented in any method or technology for storage of information, such as computer readable instructions, data structures, or program modules. The system memory 404, the removable storage device 409, and the non-removable storage device 410 are all computer storage media examples (i.e., memory storage.) Computer storage media may include RAM, ROM, electrically erasable read-only
20 memory (EEPROM), flash memory or other memory technology, CD-ROM, digital versatile disks (DVD) or other optical storage, magnetic cassettes, magnetic tape, magnetic disk storage or other magnetic storage devices, or any other article of manufacture which can be used to store information and which can be accessed by the computing device 400. Any such computer storage media may be part of the computing
25 device 400. Computer storage media does not include a carrier wave or other propagated or modulated data signal.

[0075] Communication media may be embodied by computer readable instructions, data structures, program modules, or other data in a modulated data signal, such as a carrier wave or other transport mechanism, and includes any information delivery media.
30 The term “modulated data signal” may describe a signal that has one or more characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media may include wired media such as a wired network or direct-wired connection, and wireless media such as acoustic, radio frequency (RF), infrared, and other wireless media.

[0076] FIGURES 5A and 5B illustrate a mobile computing device 500, for example, a mobile telephone, a smart phone, a tablet personal computer, a laptop computer, and the like, with which embodiments of the invention may be practiced. With reference to FIGURE 5A, one embodiment of a mobile computing device 500 for implementing the

5 embodiments is illustrated. In a basic configuration, the mobile computing device 500 is a handheld computer having both input elements and output elements. The mobile computing device 500 typically includes a display 505 and one or more input buttons 510 that allow the user to enter information into the mobile computing device 500. The display 505 of the mobile computing device 500 may also function as an input device (e.g., a

10 touch screen display). If included, an optional side input element 515 allows further user input. The side input element 515 may be a rotary switch, a button, or any other type of manual input element. In alternative embodiments, mobile computing device 500 may incorporate more or less input elements. For example, the display 505 may not be a touch screen in some embodiments. In yet another alternative embodiment, the mobile

15 computing device 500 is a portable phone system, such as a cellular phone. The mobile computing device 500 may also include an optional keypad 535. Optional keypad 535 may be a physical keypad or a “soft” keypad generated on the touch screen display. In various embodiments, the output elements include the display 505 for showing a graphical user interface (GUI), a visual indicator 520 (e.g., a light emitting diode), and/or an audio

20 transducer 525 (e.g., a speaker). In some embodiments, the mobile computing device 500 incorporates a vibration transducer for providing the user with tactile feedback. In yet another embodiment, the mobile computing device 500 incorporates input and/or output ports, such as an audio input (e.g., a microphone jack), an audio output (e.g., a headphone jack), and a video output (e.g., a HDMI port) for sending signals to or receiving signals

25 from an external device.

[0077] FIGURE 5B is a block diagram illustrating the architecture of one embodiment of a mobile computing device. That is, the mobile computing device 500 can incorporate a system (i.e., an architecture) 502 to implement some embodiments. In one embodiment, the system 502 is implemented as a “smart phone” capable of running one or

30 more applications (e.g., browser, e-mail, calendaring, contact managers, messaging clients, games, and media clients/players). In some embodiments, the system 502 is integrated as a computing device, such as an integrated personal digital assistant (PDA) and wireless phone.

[0078] One or more application programs 550 may be loaded into the memory 562 and run on or in association with the operating system 564. Examples of the application programs include phone dialer programs, electronic communication applications, personal information management (PIM) programs, word processing programs, spreadsheet programs, Internet browser programs, messaging programs, and so forth. The system 502 also includes a non-volatile storage area 568 within the memory 562. The non-volatile storage area 568 may be used to store persistent information that should not be lost if the system 502 is powered down. The application programs 550 may use and store information in the non-volatile storage area 568, such as e-mail or other messages used by an e-mail application, and the like. A synchronization application (not shown) also resides on the system 502 and is programmed to interact with a corresponding synchronization application resident on a host computer to keep the information stored in the non-volatile storage area 568 synchronized with corresponding information stored at the host computer. As should be appreciated, other applications may be loaded into the memory 562 and run on the mobile computing device 500.

[0079] The system 502 has a power supply 570, which may be implemented as one or more batteries. The power supply 570 might further include an external power source, such as an AC adapter or a powered docking cradle that supplements or recharges the batteries.

[0080] The system 502 may also include a radio 572 that performs the function of transmitting and receiving radio frequency communications. The radio 572 facilitates wireless connectivity between the system 502 and the "outside world," via a communications carrier or service provider. Transmissions to and from the radio 572 are conducted under control of the operating system 564. In other words, communications received by the radio 572 may be disseminated to the application programs 550 via the operating system 564, and vice versa.

[0081] The visual indicator 520 may be used to provide visual notifications and/or an audio interface 574 may be used for producing audible notifications via the audio transducer 525. In the illustrated embodiment, the visual indicator 520 is a light emitting diode (LED) and the audio transducer 525 is a speaker. These devices may be directly coupled to the power supply 570 so that when activated, they remain on for a duration dictated by the notification mechanism even though the processor 560 and other components might shut down for conserving battery power. The LED may be programmed to remain on indefinitely until the user takes action to indicate the powered-on status of the

device. The audio interface 574 is used to provide audible signals to and receive audible signals from the user. For example, in addition to being coupled to the audio transducer 525, the audio interface 574 may also be coupled to a microphone to receive audible input, such as to facilitate a telephone conversation. In accordance with embodiments of the present invention, the microphone may also serve as an audio sensor to facilitate control of notifications, as will be described below. The system 502 may further include a video interface 576 that enables an operation of an on-board camera 530 to record still images, video stream, and the like.

[0082] A mobile computing device 500 implementing the system 502 may have additional features or functionality. For example, the mobile computing device 500 may also include additional data storage devices (removable and/or non-removable) such as, magnetic disks, optical disks, or tape. Such additional storage is illustrated in FIGURE 5B by the non-volatile storage area 568.

[0083] Data/information generated or captured by the mobile computing device 500 and stored via the system 502 may be stored locally on the mobile computing device 500, as described above, or the data may be stored on any number of storage media that may be accessed by the device via the radio 572 or via a wired connection between the mobile computing device 500 and a separate computing device associated with the mobile computing device 500, for example, a server computer in a distributed computing network, such as the Internet. As should be appreciated such data/information may be accessed via the mobile computing device 500 via the radio 572 or via a distributed computing network. Similarly, such data/information may be readily transferred between computing devices for storage and use according to well-known data/information transfer and storage means, including electronic mail and collaborative data/information sharing systems.

[0084] FIGURE 6 illustrates one embodiment of the architecture of a system for providing the functionality described herein across components of a distributed computing environment. Content developed, interacted with, or edited in association with the applications described above may be stored in different communication channels or other storage types. For example, various documents may be stored using a directory service 622, a web portal 624, a mailbox service 626, an instant messaging store 628, or a social networking site 630. The application 620 (e.g., an electronic communication application) may use any of these types of systems or the like for providing the functionalities described herein across multiple workloads, as described herein. A server 615, 108 may provide the functionality to clients 605A-C and 104A-N. As one example, the server 615,

108 may be a web server providing the application functionality described herein over the web. The server 615, 108 may provide the application functionality over the web to clients 605A-C and 104A-N through a network 120, 610. By way of example, a client computing device 104A-N may be implemented and embodied in a personal computer
5 605A, a tablet computing device 605B and/or a mobile computing device 605C (e.g., a smart phone), or other computing device. Any of these embodiments of the client computing device may obtain content from the store 616.

[0085] Embodiments of the present invention, for example, are described above with reference to block diagrams and/or operational illustrations of methods, systems, and
10 computer program products according to embodiments of the invention. The functions/acts noted in the blocks may occur out of the order as shown in any flowchart. For example, two blocks shown in succession may in fact be executed substantially concurrently or the blocks may sometimes be executed in the reverse order, depending upon the functionality/acts involved.

[0086] The description and illustration of one or more embodiments provided in this
15 application are not intended to limit or restrict the scope of the invention as claimed in any way. The embodiments, examples, and details provided in this application are considered sufficient to convey possession and enable others to make and use the best mode of claimed invention. The claimed invention should not be construed as being limited to any
20 embodiment, example, or detail provided in this application. Regardless of whether shown and described in combination or separately, the various features (both structural and methodological) are intended to be selectively included or omitted to produce an embodiment with a particular set of features. Having been provided with the description and illustration of the present application, one skilled in the art may envision variations,
25 modifications, and alternate embodiments falling within the spirit of the broader aspects of the general inventive concept embodied in this application that do not depart from the broader scope of the claimed invention.

CLAIMS

1. A method of generating an electronic communication out of a content generation workflow, comprising:

providing an application user interface for generating, editing and/or displaying one or more content items;

providing one or more electronic communications functionalities in the application user interface;

receiving a content item in the application user interface;

in response to a selection of one of the one or more electronic communications functionalities, automatically generating an electronic communication for communicating the received content item to one or more desired recipients.

2. The method of claim 1, wherein receiving a content item in the application user interface includes receiving the content item into the application user interface in response to selection of an attachment in an associated electronic communication.

3. The method of claim 1, in response to a selection of one of the one or more electronic communications functionalities and prior to automatically generating an electronic communication for communicating the received content item to one or more desired recipients, launching an electronic communications interface for generating the electronic communication and for sending the generated electronic communication to the one or more desired recipients.

4. The method of claim 3, prior to automatically generating an electronic communication for communicating the received content item to one or more desired recipients, storing an instance of the received content item for attachment to the automatically generated electronic communication.

5. The method of claim 4, further comprising:

in the electronic communications interface, automatically generating the electronic communication and automatically attaching the stored instance of the received content item to the generated electronic communication for sending the electronic communication and the attached stored instance of the received content item to the one or more desired recipients.

6. The method of claim 4, further comprising:

in the electronic communications interface, automatically generating the electronic communication and automatically attaching a pointer to the stored instance of the received content item to the generated electronic communication for sending the

electronic communication and the pointer to the attached stored instance of the received content item to the one or more desired recipients.

7. The method of claim 5, wherein if the selected one of the one or more electronic communications functionalities is a reply to all functionality, automatically populating a receiving address for the generated electronic communication with an address for all addressees included in an electronic communication from which the received content item was received.

8. The method of claim 5, wherein if a desired recipient of the generated electronic communication is not designated, providing a field in the generated electronic communication for receiving an address for the one or more desired recipients.

9. The method of claim 1, wherein providing an application user interface for generating, editing and/or displaying one or more content items includes providing the application user interface in an immersive view pane in an electronic communications user interface, the electronic communications user interface having a communications pane in which the automatically generated electronic communication is generated for communicating the received content item to one or more desired recipients.

10. A computing device for providing immersive document view and use in an electronic communications user interface, comprising:

a processor; and

a memory containing computer executable instructions, which when executed by a computer perform the steps of:

in a computer-generated electronic communications user interface, providing a communications pane in which is disposed one or more electronic communications where at least one of the one or more electronic communications includes a content item attachment;

in response to a selection of the content item attachment, displaying an associated content item in an immersive view pane in the electronic communications user interface for allowing a view of both the displayed content item and the one or more electronic communications in a single display of the electronic communications user interface; and

providing for removing the communications pane from display in the computer-generated electronic communications user interface for providing additional display space for the immersive view pane and providing for removing the immersive

view pane from display in the computer-generated electronic communications user interface for providing additional display space for the communications pane.

11. The computing device of claim 10, wherein providing for removing the communications pane from display includes providing a hide function for temporarily hiding the communications pane from display.

12. The computing device of claim 11, further comprising providing an unhide function for returning the communications pane to display in the computer-generated electronic communications user interface.

13. The computing device of claim 10, wherein providing for removing the immersive view pane from display includes providing a hide function for temporarily hiding the immersive view pane from display.

14. The computing device of claim 13, further comprising providing an unhide function for returning the immersive view pane to display in the computer-generated electronic communications user interface.

15. A computer-readable medium containing computer executable instructions, which when executed by a computer perform a method of generating an electronic communication out of a content generation workflow, comprising:

providing an application user interface for generating, editing and/or displaying one or more content items;

providing one or more electronic communications functionalities in the application user interface;

receiving a content item in the application user interface;

in response to a selection of one of the one or more electronic communications functionalities, storing an instance of the received content item; and

launching an electronic communications user interface for automatically generating an electronic communication for sending the stored instance of the received content item to one or more desired recipients.

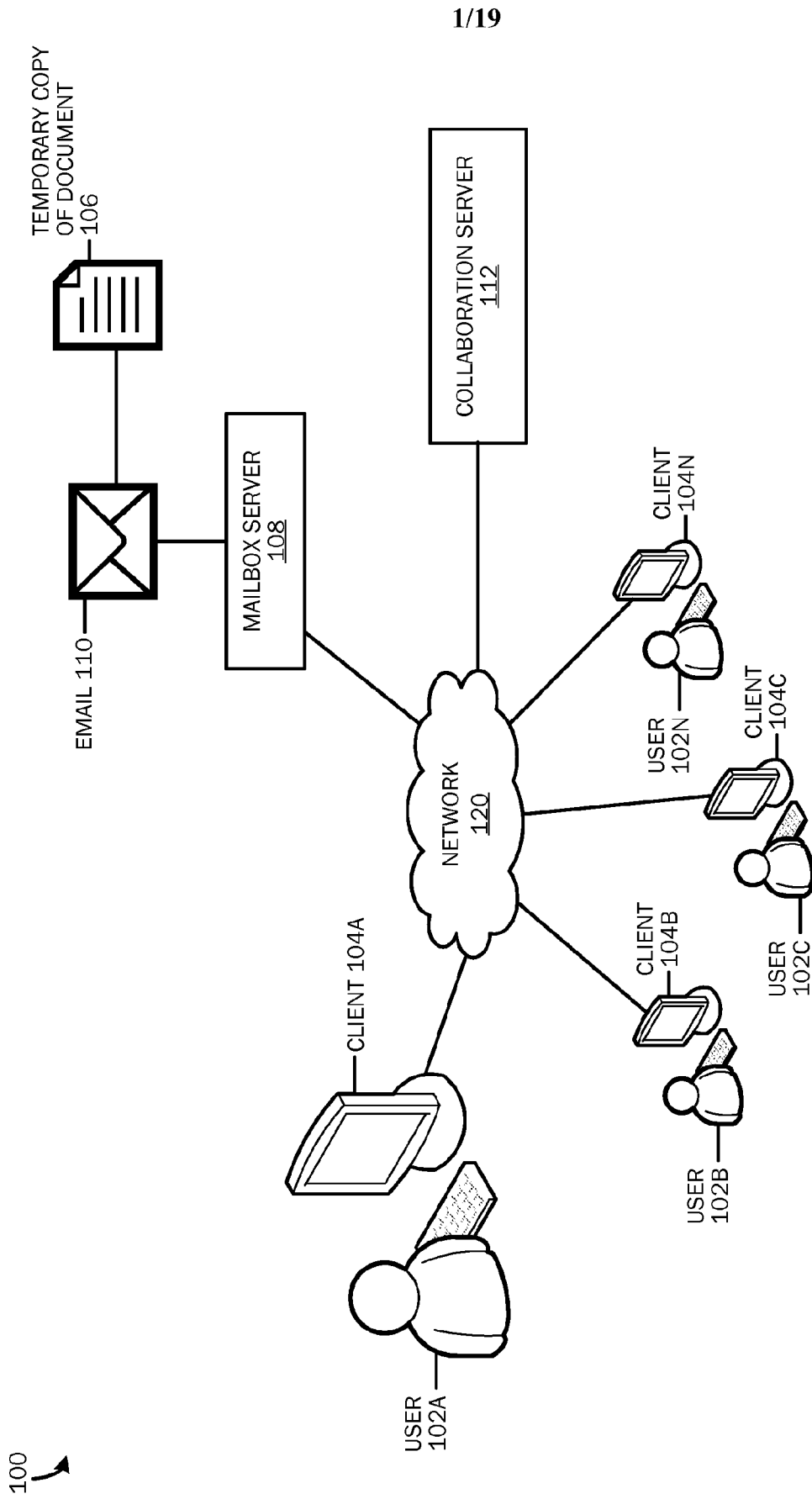


FIG. 1

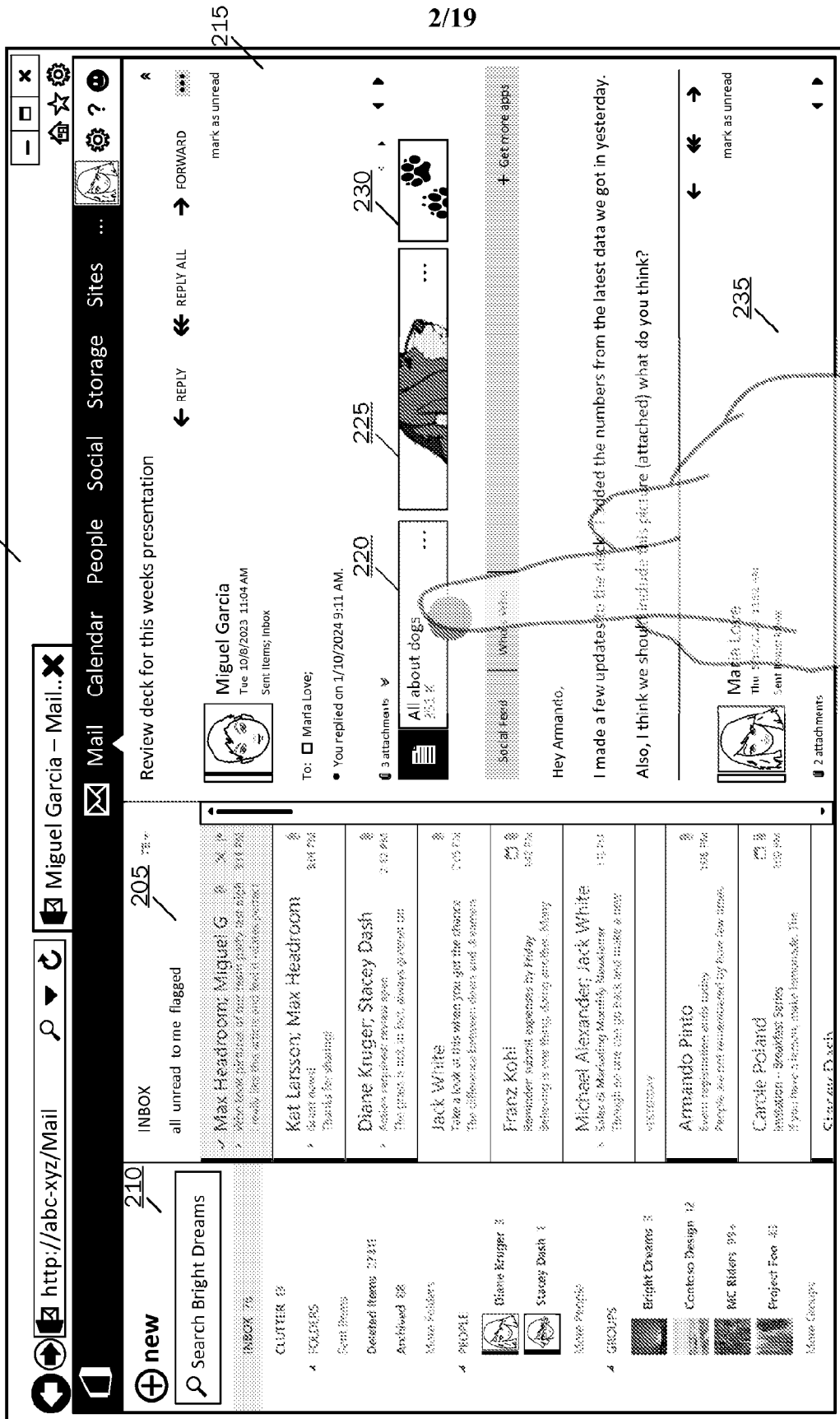


FIG. 2A

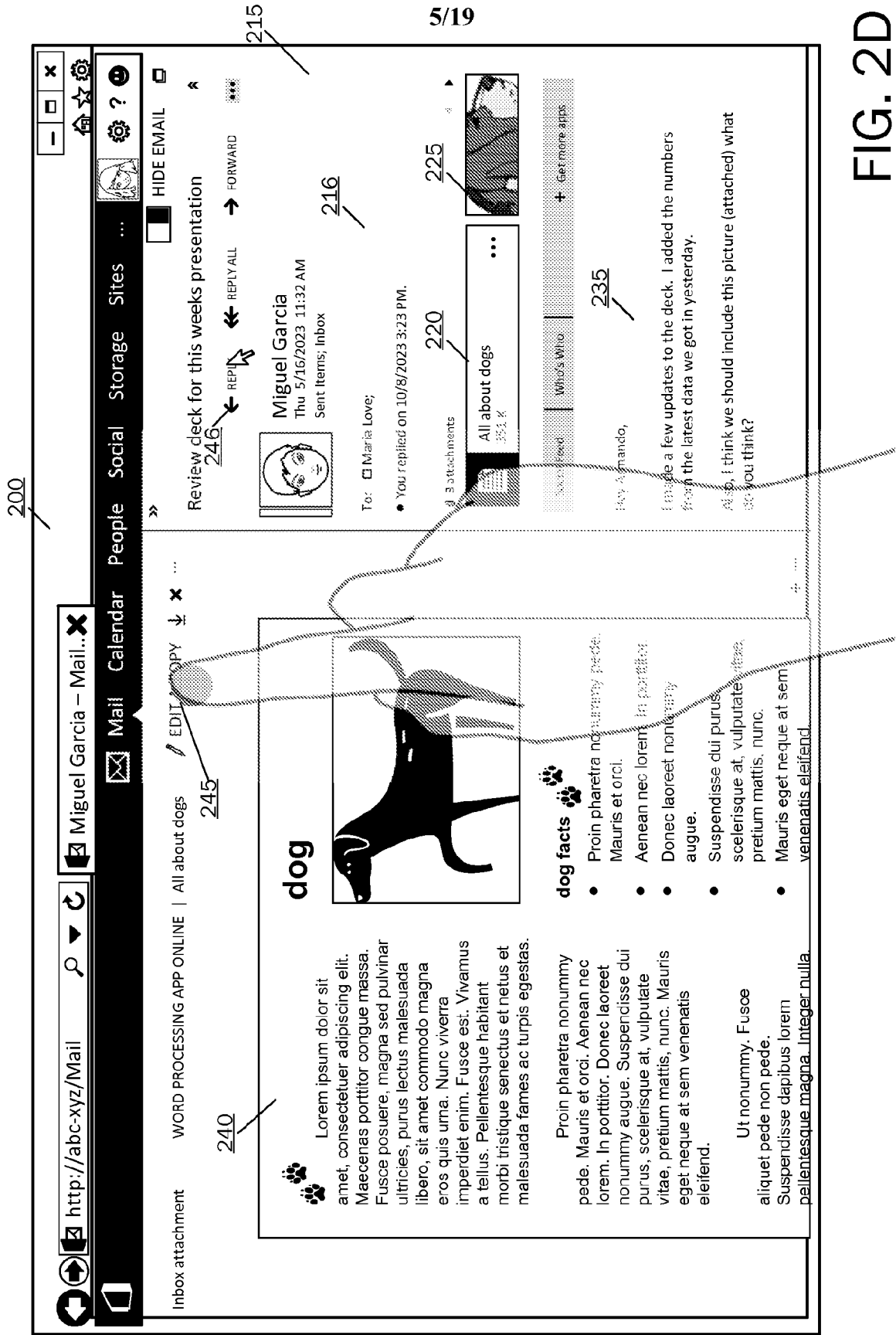


FIG. 2D

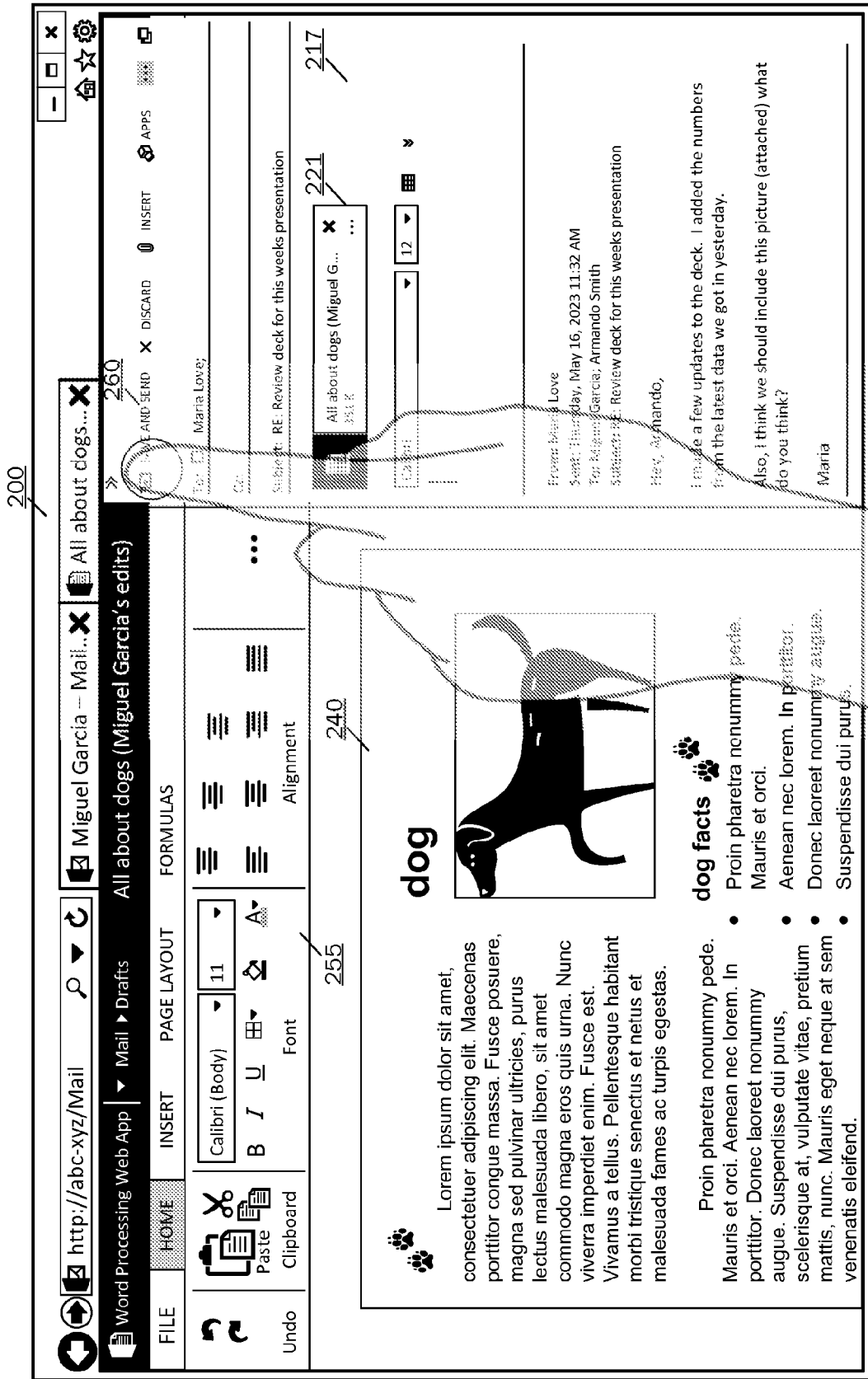


FIG. 2F

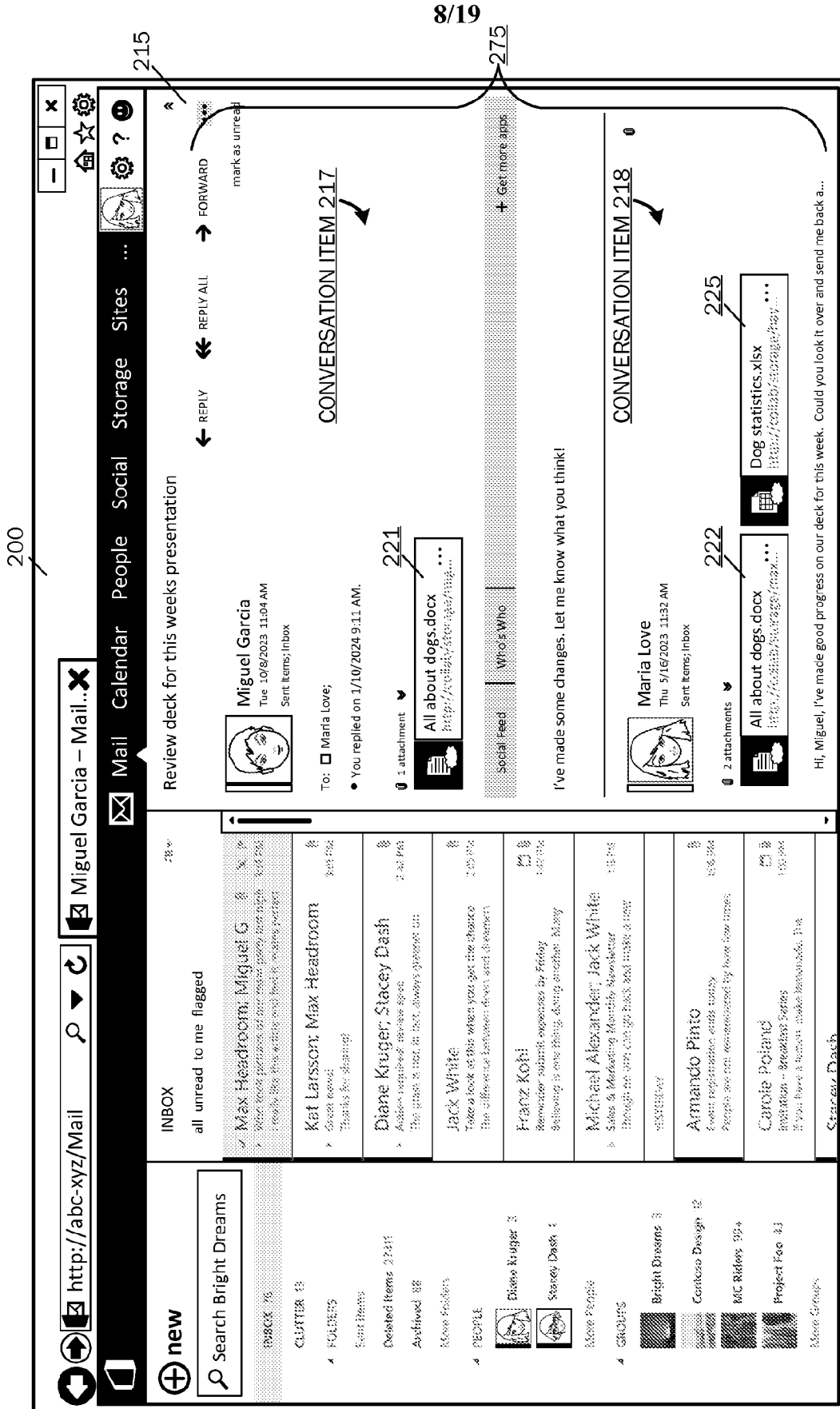


FIG. 2G

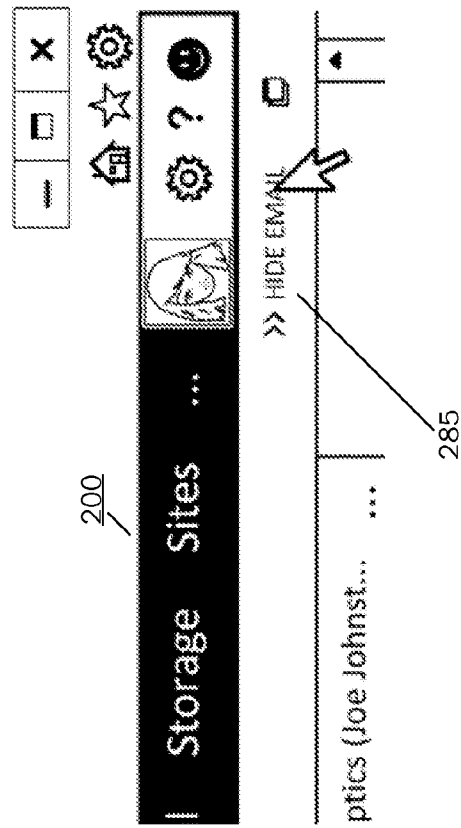


FIG. 2H

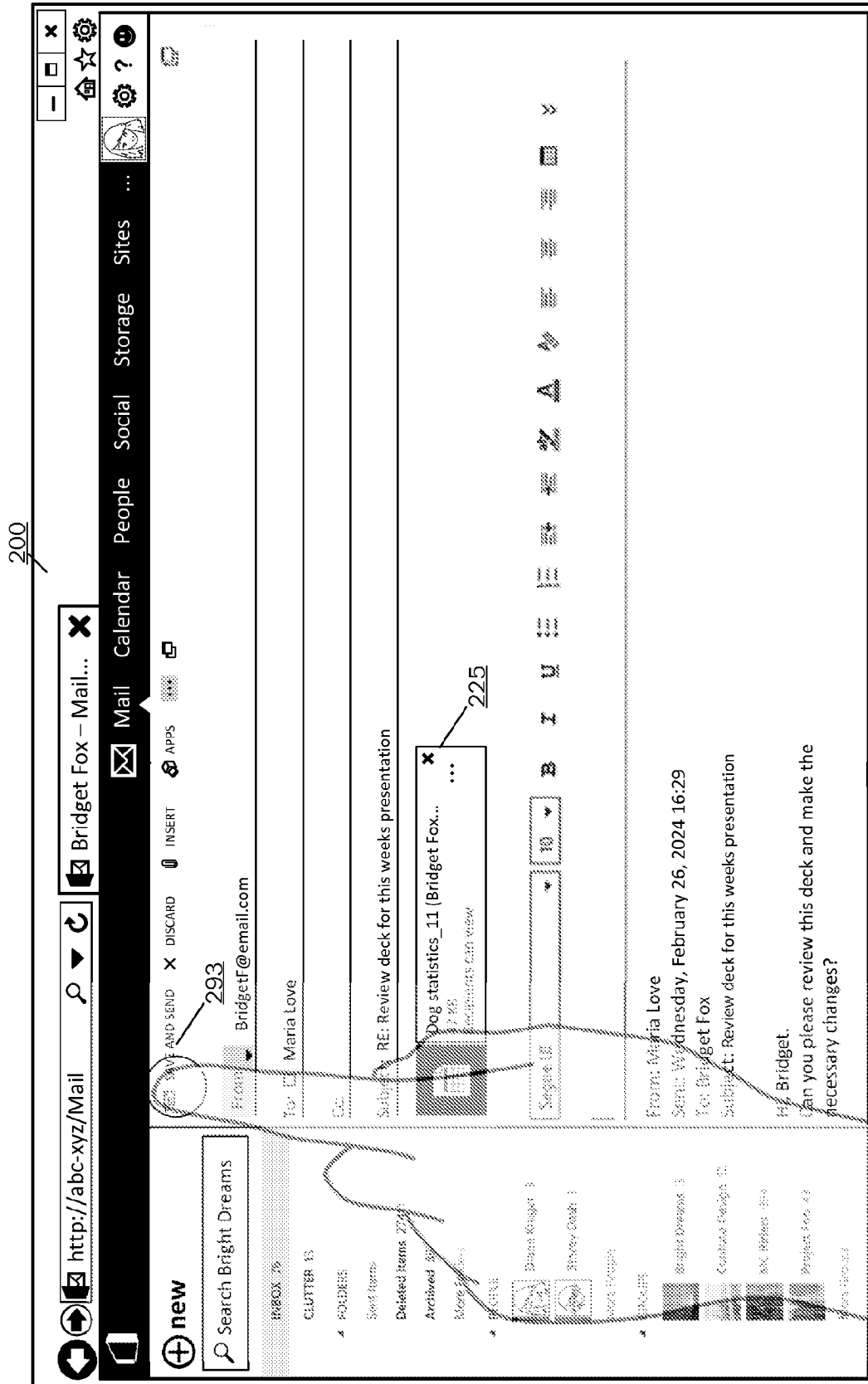


FIG. 2J

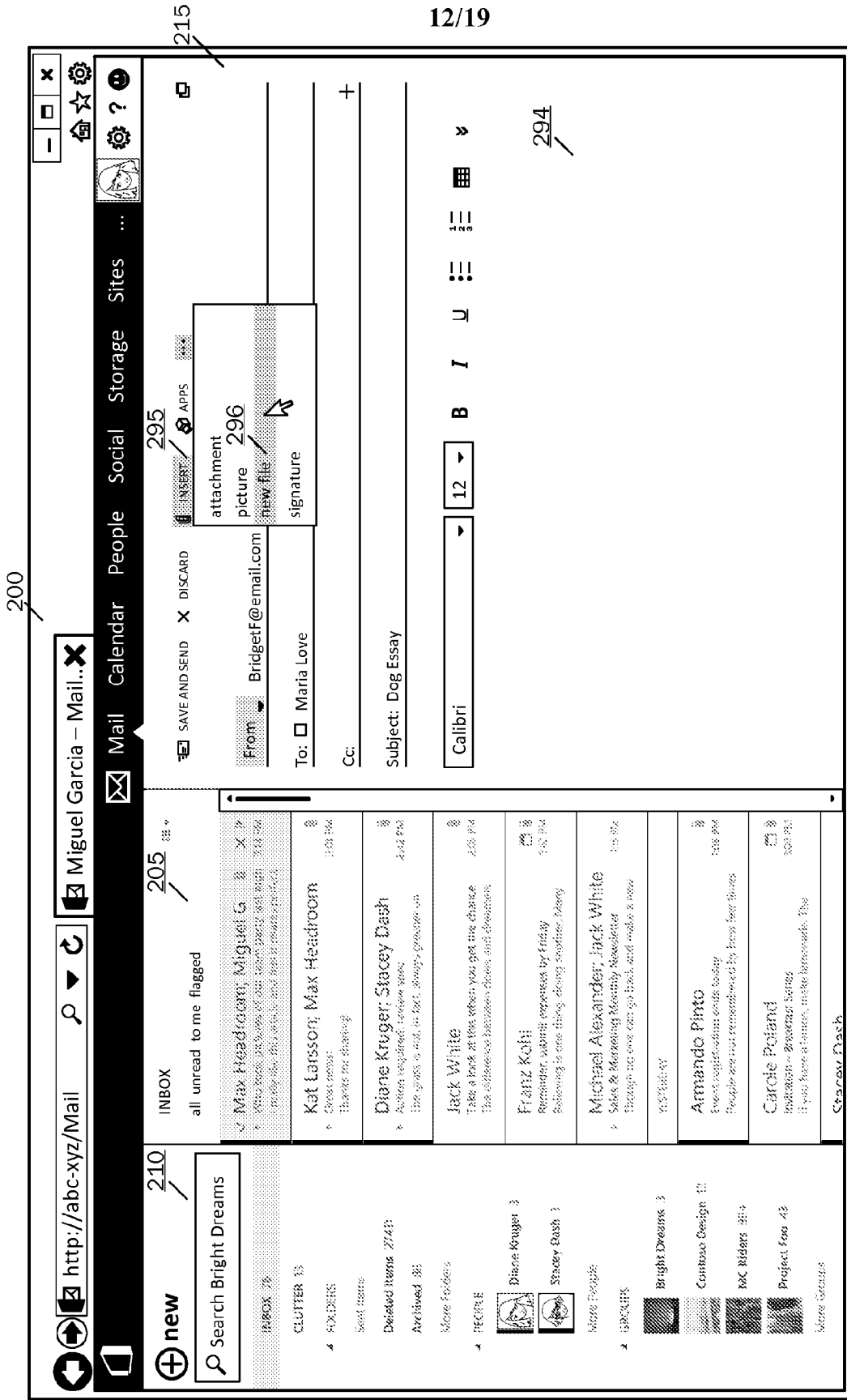


FIG. 2K

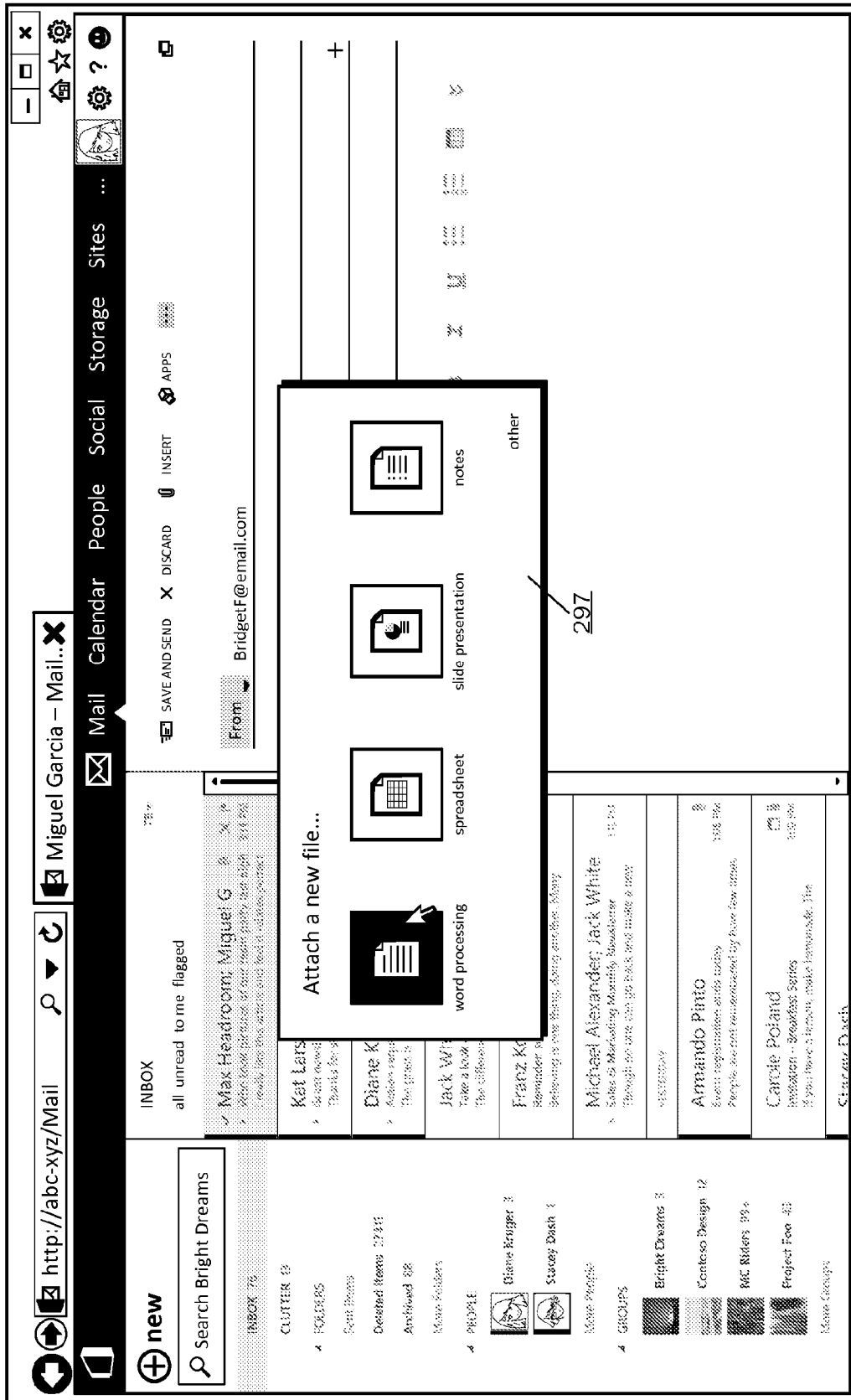


FIG. 2L

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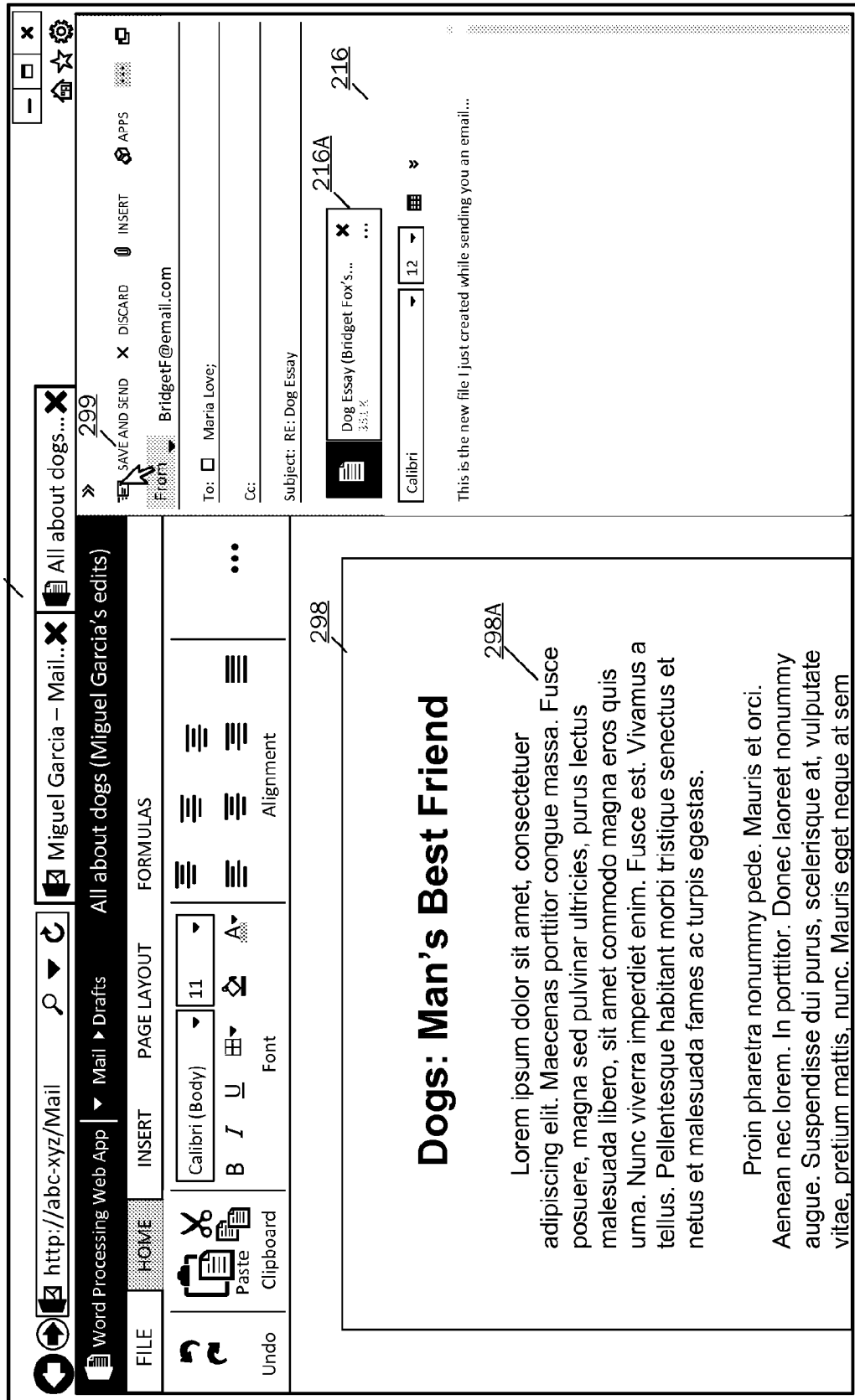
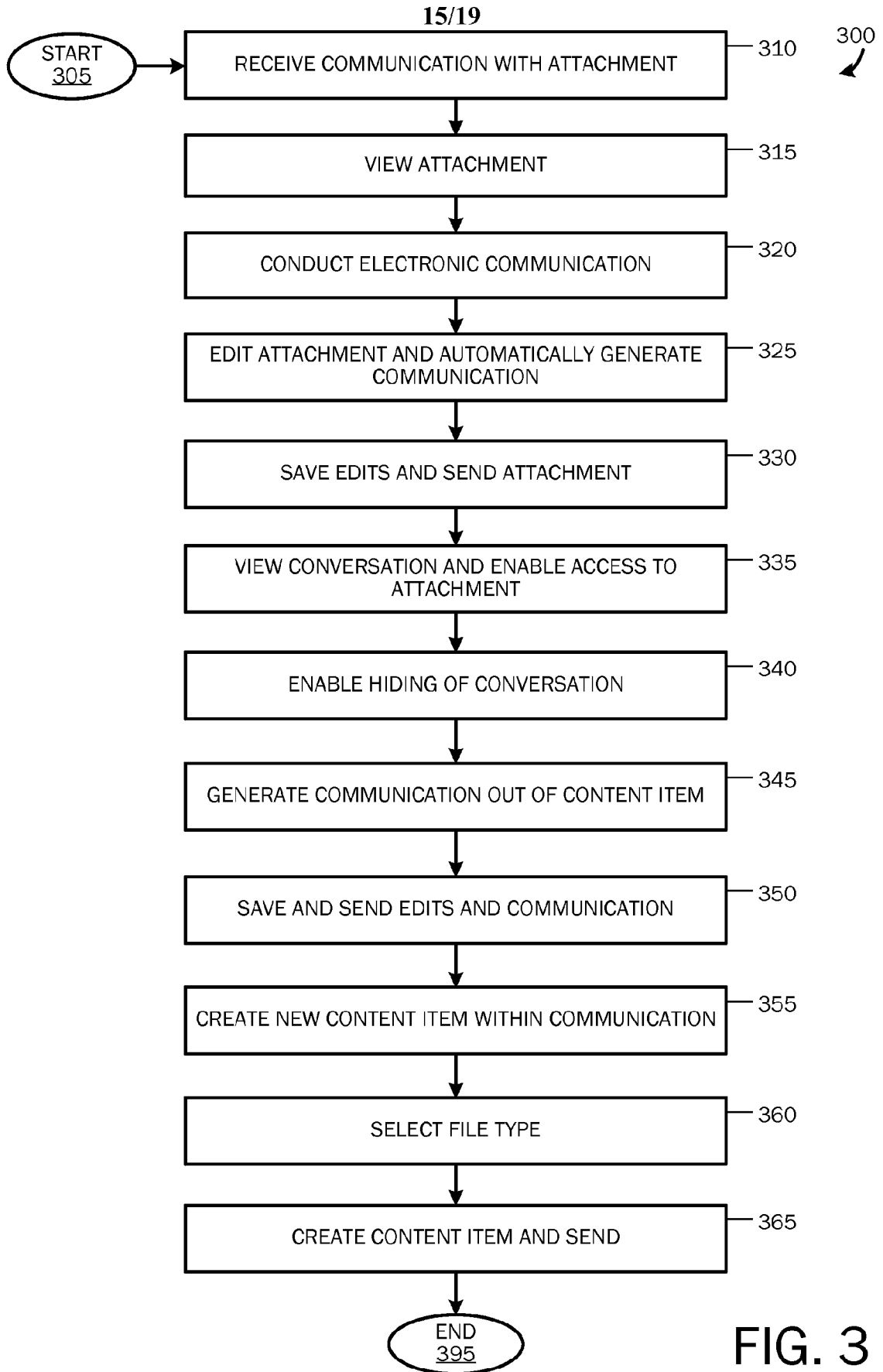


FIG. 2M



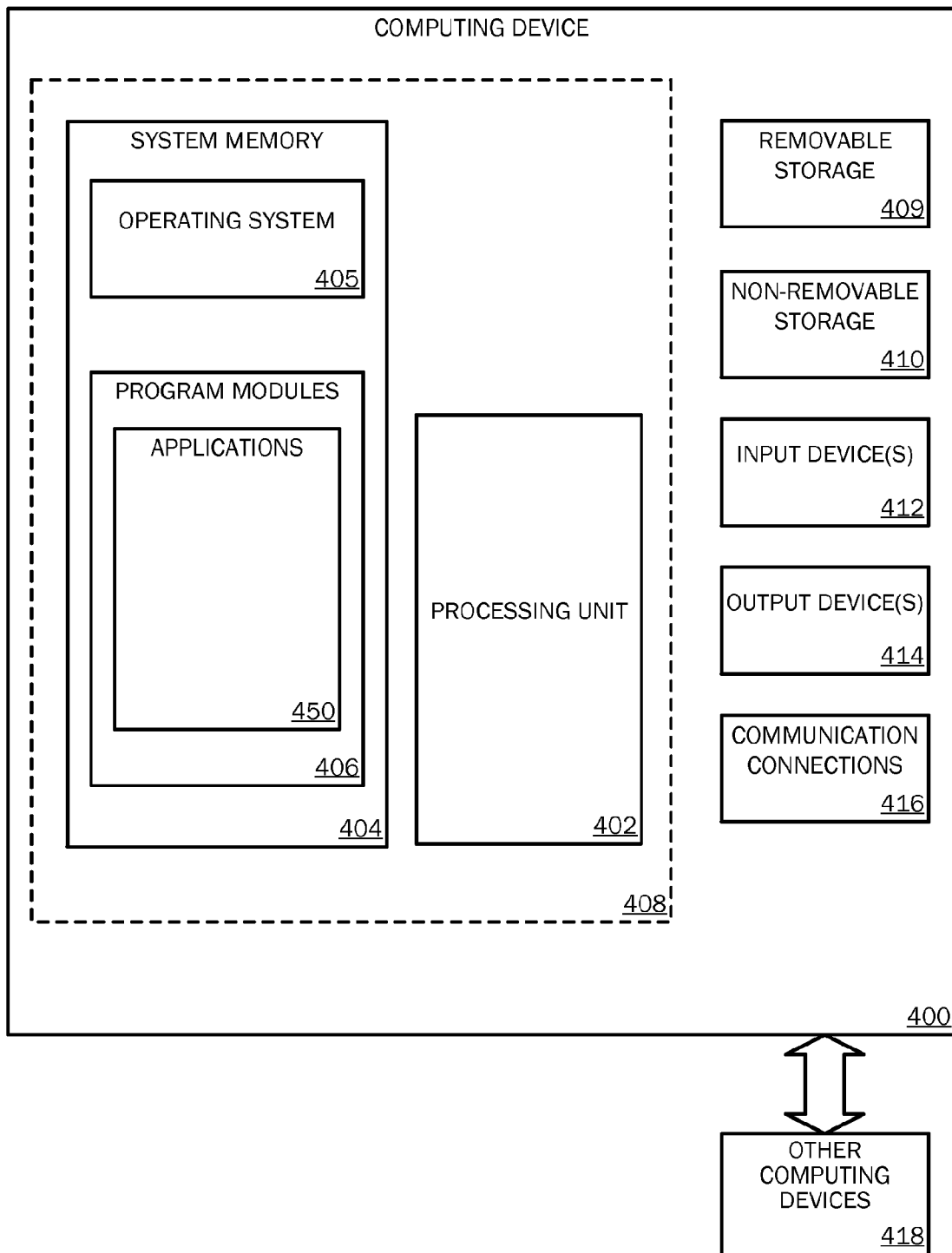
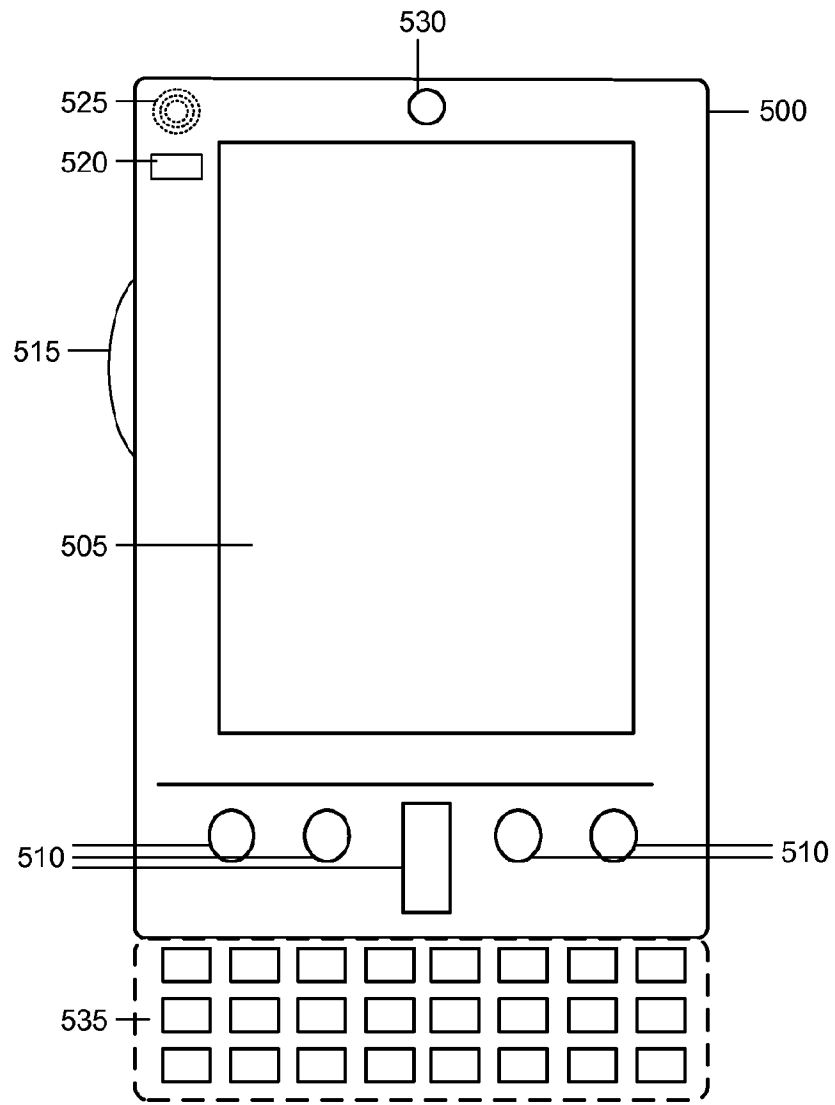


FIG. 4

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MOBILE COMPUTING DEVICE

FIG. 5A

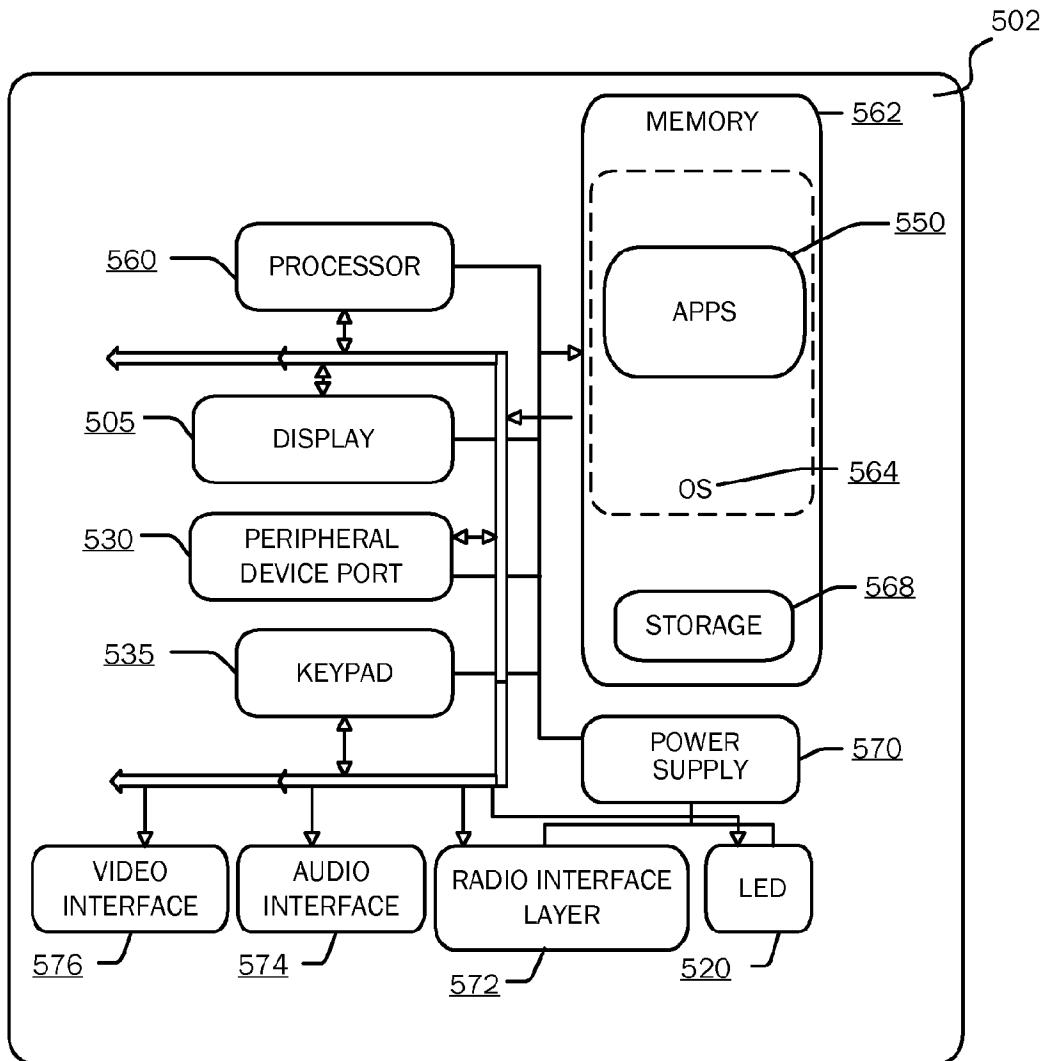


FIG. 5B

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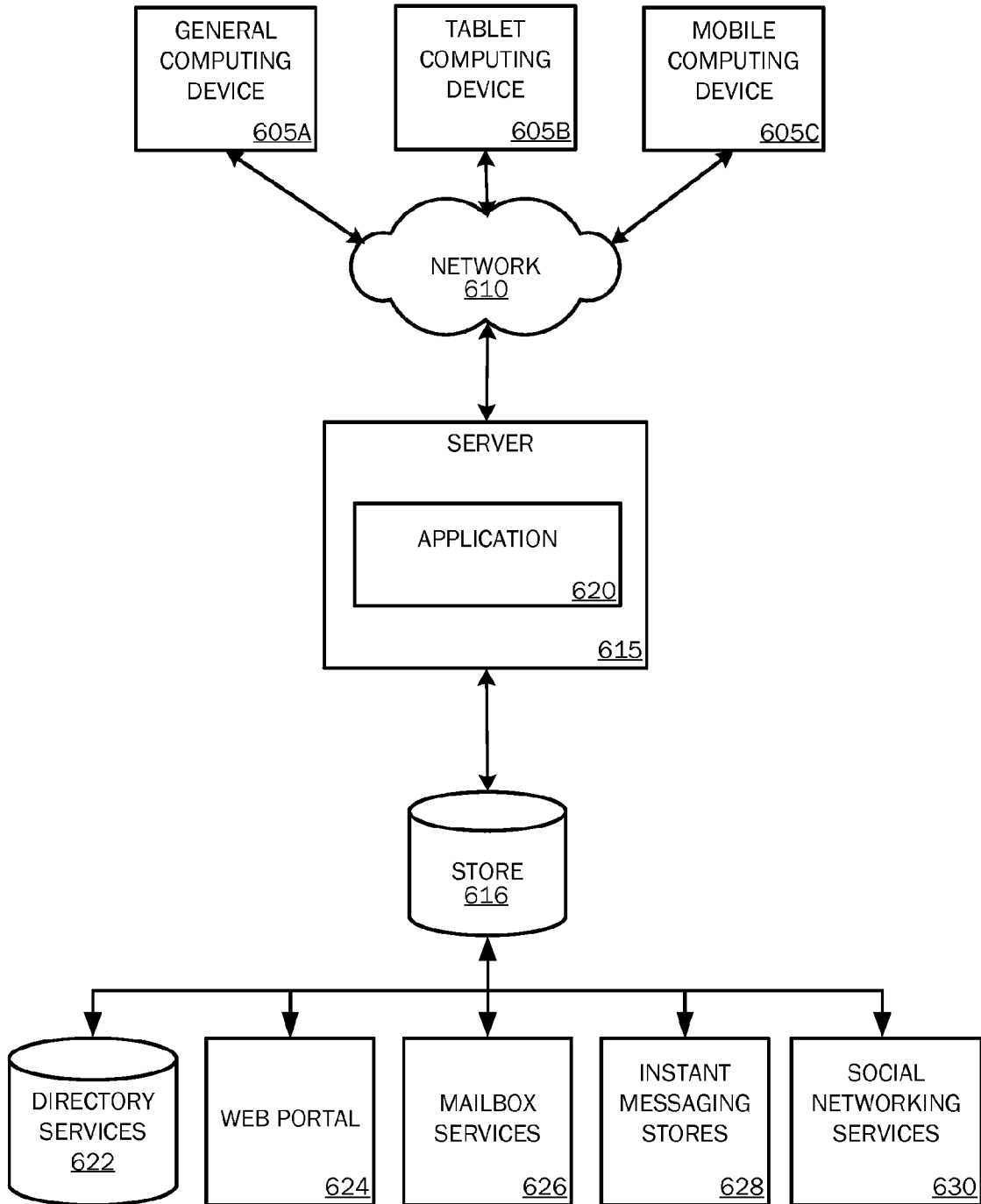


FIG. 6

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/022610

A. CLASSIFICATION OF SUBJECT MATTER INV. G06Q10/10 ADD.		
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) G06Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2011/276897 A1 (CREVIER DANIEL W [US] ET AL) 10 November 2011 (2011-11-10) paragraphs [0004], [0006], [0013] - [0014], [0016] - [0020], [0022], [0024] - [0032] paragraphs [0033] - [0035], [0039] - [0040], [0042] - [0043], [0045] - [0047] claim 1 figures 1,2 -----	1-15
X	US 2006/075046 A1 (YOZELL-EPSTEIN REBEKAH [US] ET AL) 6 April 2006 (2006-04-06) paragraphs [0019] - [0029], [0033] - [0038], [0042] - [0048] figure 2A ----- -/--	1-15
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents :		
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "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 <p align="center">19 June 2015</p>		Date of mailing of the international search report <p align="center">29/06/2015</p>
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer <p align="center">Thareau-Berthet, N</p>

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2015/022610

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/267871 A1 (PRATLEY CHRISTOPHER [US] ET AL) 30 December 2004 (2004-12-30) paragraphs [0007] - [0012], [0044] - [0045], [0048] - [0049], [0072] - [0075] figure 4 -----	1-15
X	US 2013/117376 A1 (FILMAN SARAH M [US] ET AL) 9 May 2013 (2013-05-09) paragraphs [0006] - [0008], [0020] - [0028], [0041] - [0044] figure 3 -----	1-15
X	US 8 108 464 B1 (ROCHELLE JONATHAN [US] ET AL) 31 January 2012 (2012-01-31) column 1, lines 27-63 column 2, lines 30-37 column 3, line 13 - column 5, line 53 column 6, line 21 - column 9, line 52 figures 2,4,9C -----	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2015/022610

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2011276897 A1	10-11-2011	CN 102859513 A	02-01-2013
		EP 2567325 A2	13-03-2013
		US 2011276897 A1	10-11-2011
		WO 2011139802 A2	10-11-2011

US 2006075046 A1	06-04-2006	AU 2005203710 A1	13-04-2006
		BR PI0503556 A	10-07-2007
		CA 2517402 A1	30-03-2006
		EP 1643426 A2	05-04-2006
		JP 2006107490 A	20-04-2006
		JP 2012155755 A	16-08-2012
		KR 20060050409 A	19-05-2006
		MX PA05009272 A	18-04-2006
		US 2006075046 A1	06-04-2006
		US 2010095224 A1	15-04-2010

US 2004267871 A1	30-12-2004	AT 475150 T	15-08-2010
		CN 1577279 A	09-02-2005
		EP 1492041 A1	29-12-2004
		JP 4721663 B2	13-07-2011
		JP 2005018791 A	20-01-2005
		KR 20050002576 A	07-01-2005
		US 2004267871 A1	30-12-2004
		US 2010005398 A1	07-01-2010

US 2013117376 A1	09-05-2013	CN 103907110 A	02-07-2014
		EP 2776946 A1	17-09-2014
		JP 2014532950 A	08-12-2014
		KR 20140092831 A	24-07-2014
		US 2013117376 A1	09-05-2013
		WO 2013070684 A1	16-05-2013

US 8108464 B1	31-01-2012	US 8108464 B1	31-01-2012
		US 8291019 B1	16-10-2012
		US 8560613 B1	15-10-2013
		US 8990310 B1	24-03-2015
