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DETECTION OF GROUP SENTIMENT FOR DYNAMIC REACTION MOMENTS IN VIDEOCONFERENCES

Introduction

Conventionally, participants in a videoconference can provide individualized reactions in real-time, such as sending a “clapping” emote to indicate praise for another participant of the videoconference. However, in large videoconference sessions, it is difficult for participants to determine whether the individual reactions of large numbers of participants are collectively similar. Rather, in large videoconferencing sessions, a participant is often limited to viewing a subset of the other participants (e.g., viewing 10 other participant video streams in a videoconference session with 100 participants), and therefore cannot accurately gauge a collective group sentiment.

Summary

To dynamically indicate the collective, real-time sentiment expressed by participants of a videoconference session, implementations of the present disclosure propose the generation of dynamic reaction moments on a videoconference by identifying the individual reactions and collective sentiment of the group to create a full-screen dynamic reaction moment in which audio and/or video data is output for all participants in the videoconference. For example, a group may hold a synchronous group meeting using a videoconferencing service. A participant in the videoconference may select an interface element in the user interface of a videoconferencing application to send a reaction indicator (e.g., an emoji reaction, emote, image, animated GIF, real-time movements by a participant detected by a participant video capture device, etc.) to the videoconference (e.g., in response to another participant’s presentation, etc.). A computing

system (e.g., a computing system facilitating the videoconference session, etc.) may determine how many participants sent the same, or a substantially similar, reaction within a particular period of time. The computing system may instruct participant devices of the participants of the videoconference to display an element describing the group's progress towards a dynamic reaction moment within the user interface of the videoconference application after a particular number of participants utilized the same reaction. A participant who has not shared the same reaction may select an interface element on the display of the group's progress towards a dynamic reaction moment to contribute to that reaction. When a number of the participants above a threshold send the same reaction within a particular period of time, the computing system can cause a dynamic reaction moment to be displayed within the user interface of the videoconferencing application at each participant's device for several seconds (e.g., a two to five second full-screen display, etc.).

For example, one or more participants in the videoconference may send a reaction indicator to the videoconference that depicts a party popper to celebrate another participant. A participant may select an element included in the videoconference application interface to send the reaction indicator of a party popper. In response, when the computing system determines that the number of participants who have sent the same reaction indicator reaches a threshold number, the participant devices of participants of the videoconference may display an indicator of the group's progress towards a dynamic reaction moment related to a party popper (e.g., in response to instructions provided by the computing system to display the indicator, etc.). Another participant who has not yet reacted with a party popper reaction indicator may then select an element on the display of the progress towards the dynamic reaction in order to send a party popper reaction indicator. Once a number of participants above a threshold react with the party

popper reaction indicator within a particular period of time, an image of confetti can be shot out from the corner of each participant's interface along with a "pop" sound. For example, the dynamic reaction corresponding to the party popper reaction indicator may be an image of confetti paper that is similar to the party popper reaction indicator, or it may be an image of confetti made out of the contributing participants' avatar images. The computing system facilitating the videoconference may cause the dynamic reaction moment to be displayed across each participant's device. Other dynamic reaction moments may include hearts fluttering out from the corner of the screen and popping at different places with a popping sound when participants send the heart reaction indicator, smiley faces flowing from the corner of the screen when participants send the smiley face reaction indicator, a standing ovation dynamic reaction when participants send a clapping reaction indicator, balloons floating across the screen in response to reaction indicators related to a celebration, or any other dynamic reaction moment that is related to the reaction indicator that triggered the reaction moment.

Detailed Description

Figure 1 depicts an example computing system 100 in which systems and methods in accordance with the present disclosure can be executed. The computing system comprises a user computing device 102 containing one or more processors 112, memory 114 which may contain data 116 and instructions 118 configured to carry out the methods disclosed herein, and a user input component 122. The user input component can be, for example, a touch display or physical buttons within the user computing device 102. The computing system 100 further comprises a network 180 and a server computing system 130. The server computing system 130 comprises one or more processors 132, and memory 134 which may contain data 136 and instructions 138 configured to carry out the methods disclosed herein. It should be appreciated that any

combination or order of systems and methods disclosed herein can be performed on the user computing device, server computing system, or similar. For example, all processes can be performed on the user computing device 102 or the server computing system 130. In particular, the computing system 100 can facilitate videoconferences by hosting a video conferencing session. The user computing device 102 can be any device that can host a video conferencing application.

Figure 2 depicts an example embodiment of a graphical user interface for a videoconferencing application during a videoconference session according to some implementations of the present disclosure. A user interface 200 for a synchronous videoconference may be visible to each participant of the meeting. The user interface 200 may have a collection of interface elements 202 for different settings or actions a participant can select during the videoconference. The collection of interface elements 202 may contain an interface element that, when selected, can send a reaction indicator 204 to the videoconference. For example, a participant in the videoconference may react to a participant's presentation by sending a reaction indicator using the reaction interface element 204.

A participant may refer to any user, group of users, device, and/or group of devices that participate in a live exchange of data (e.g., a videoconference). More specifically, participant may be used throughout to refer to either user(s) or user device(s) utilized by the user(s) within the context of a videoconference. For example, a group of participants may refer to a group of users that participate remotely in a videoconference with their own user devices (e.g., smartphones, laptops, wearable devices, videoconferencing devices, broadcasting devices, etc.). For another example, a participant may refer to a group of users utilizing a single computing device for participation in a videoconference (e.g., a videoconferencing device within a meeting

room, etc.). For another example, participant may refer to a broadcasting device (e.g., webcam, microphone, etc.) unassociated with a particular user that broadcasts data to participants of a teleconference. For yet another example, participant may refer to a bot or an automated user that participates in a teleconference to provide various services or features for other participants in the teleconference (e.g., recording data from the teleconference, providing virtual assistant services, providing testing services, etc.).

It should be noted that a reaction indicator can be any type or manner of media. For example, the reaction indicator may be an emoji or similar icon that expresses an emotion. For another example, the reaction indicator may be an image or animated GIF that communicates a participant's reaction. For yet another example, the reaction indicator may be spoken utterances or real-time movements by a participant captured and analyzed by a participant video capture device (e.g., the participant themselves waving their hands in the air, etc.).

In response to a reaction indicator being sent by a participant, the computing system 100 may determine how many participants sent the same, or a substantially similar, reaction with the reaction interface element 204 over a period of time. The user interface 200 may display the group's progress towards a dynamic reaction moment when one participant sends a reaction or multiple participants send the same reaction with the reaction interface element 204 over the period of time. For instance, the user interface 200 may display to all participants how many participants sent the same or similar reaction over the period of time and the reaction indicator that was sent by the participants in a box 206. In some implementations, the display of the group's progress towards a dynamic reaction moment may be shown with an image of the reaction indicator 208 that was sent getting larger as participants share the same reaction indicator. The view of the progress towards a dynamic reaction moment, such as the box 206 or

image of the reaction indicator 208, may appear, for instance, in a bottom corner of the user interface 200. In some implementations, the user interface 200 may display a selectable progress indicator element that indicates the group's progress towards a dynamic reaction moment when a participant selects an interface element 210 in the collection of interface elements 202. A participant who has not sent the same reaction that is shown in the display of the group's progress towards a dynamic reaction moment may select the selectable progress indicator element 206, the large reaction indicator image 208, or the interface element 210 in the collection of interface elements in order to send the same reaction indicator. In some instances, the viewer (e.g., 206 or 208) may be displayed on all participants' user interfaces 200 after more than one participant sends the same reaction indicator within a period of time. For example, in a videoconference with 100 participants, the viewer may appear after ten participants send the same reaction indicator or the viewer may appear after a particular percentage of the group have sent the same reaction indicator to show the progress towards a dynamic reaction moment.

For example, one participant in the videoconference may want to celebrate another participant by sending a party popper reaction indicator using the reaction interface element 204. The user interface 200 of each participant may display the group's progress towards a dynamic reaction moment of celebration by displaying one party popper reaction indicator in a box 206. Another participant may select an element on the displayed progress box 206 to also send a party popper reaction indicator. The display of the group's progress towards a dynamic reaction moment 206 may then contain another party popper reaction indicator to signal to other participants that another participant has celebrated with the party popper reaction indicator. The other participants may then select an element on the display of the group's progress towards a dynamic reaction moment 206 to send a party popper reaction indicator. As more participants

send a party popper reaction, the display may show a growing party popper reaction indicator 208 to show that more participants are reacting the same way.

It should be noted that different reaction indicators often indicate the same or substantially similar manner of expression or emotion. For example, a “fireworks” icon reaction indicator and a “party popper” reaction indicator may both indicate celebration. As such, in some implementations, usage of different reaction indicators by participants may both contribute to formation of the same dynamic reaction moment. To follow the previous example, if one participant sends a “fireworks” reaction indicator, another participant sends a “party popper” reaction indicator, and another participant sends a reaction indicator that is an animated image of a celebration, all of the reaction indicators may collectively contribute to the formation of a “celebration” dynamic reaction moment.

Figure 3 depicts an example graphical user interface for a videoconference in which a dynamic reaction moment is displayed according to some implementations of the present disclosure. Multiple participants in a synchronous videoconference may send the same reaction by selecting the reaction interface element 204, the display of the group’s progress 206, the large reaction indicator image 208, or the interface element 210 in the collection of interface elements.

The computing system 100 may determine that a number of participants over a threshold sent the same reaction within a period of time. As a result of the number of the participants over the threshold sharing the same reaction over a period of time, participants’ tiles on the user interface of the videoconference application 300 may display a dynamic reaction moment 302 that corresponds to the reaction indicator shared by the group. For example, in a videoconference with twelve participants, a dynamic reaction moment 302 may be triggered when six or seven participants share the same or similar reaction indicator within several seconds or minutes. In

other instances, the number of individual reactions that is considered a threshold to trigger a dynamic reaction moment 302 may differ based on the size of the group or the type of meeting. For example, in a videoconference with 1,000 participants, 501 participants sharing the same reaction may trigger a dynamic reaction moment, while a meeting of five participants may trigger a dynamic reaction moment when 60% or 80% of the group use the same or similar reaction indicator.

The dynamic reaction moment 302 may display an image or reaction indicator that corresponds to the reaction indicator over the full screen of the user interface 300. In some instances, a sound 304 that corresponds to the reaction indicator shared by the group may be produced for the participants to hear. In some instances, the user interface 300 may move for several seconds in a way that corresponds to the reaction, such as moving in a laughing motion up and down or side to side when a laughing reaction indicator triggers the dynamic reaction moment. In some instances, the computing system 100 may enable the display of the image or reaction indicator that corresponds to the reaction indicator in the dynamic reaction moment 302 to be an AR feature that a participant can interact with.

For example, when a number of the participants over a threshold send a party popper reaction indicator to celebrate another participant, the dynamic reaction moment 302 may be confetti popping out from the bottom corner of the user interface 300 and the entire user interface 300 may display confetti for several seconds. In some instances, the confetti displayed in the dynamic reaction moment 302 may be confetti made with images of the avatars of the participants who shared the party popper reaction. In another example, a sound of a popping party popper 304 may be heard for several seconds when a number of the participants over a threshold send a party popper reaction indicator and a dynamic reaction moment 302 of confetti

is displayed on the user interface 300. In another example, an AR feature may allow a participant to interact with the confetti of the dynamic reaction moment 302 by selecting it or moving it around.

Figures

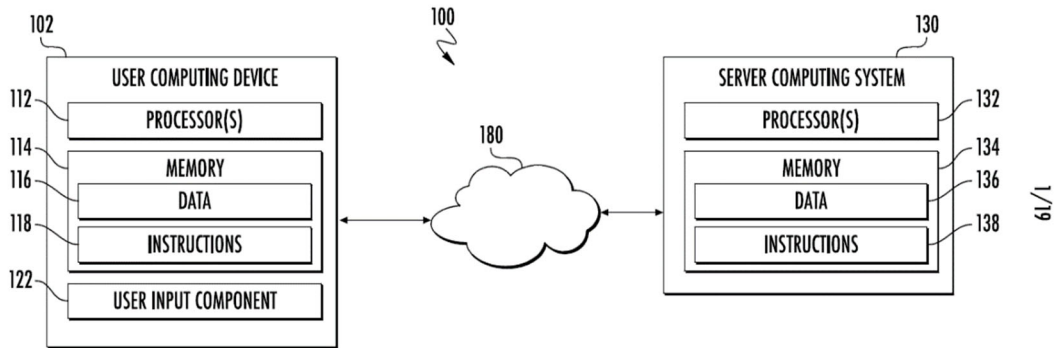


FIG. 1

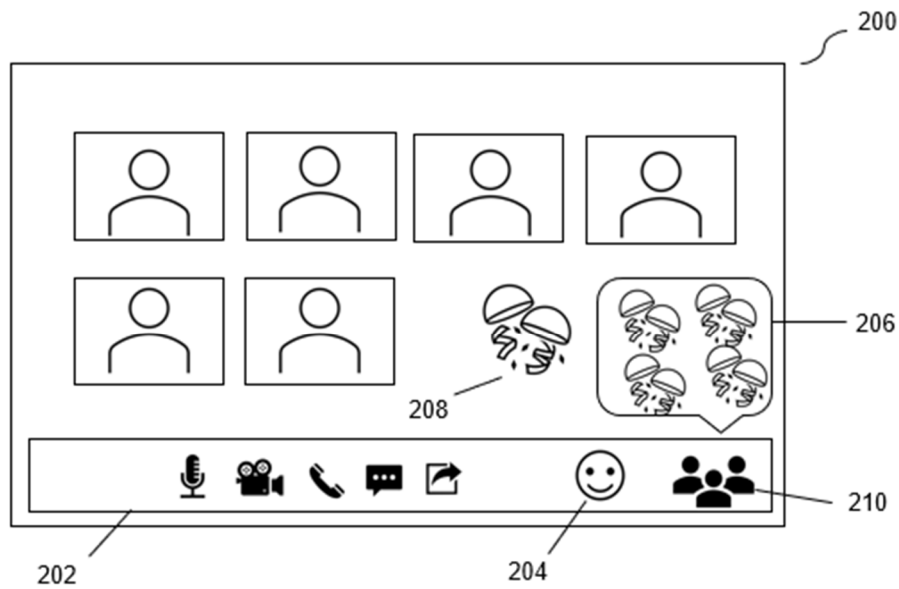


FIG. 2

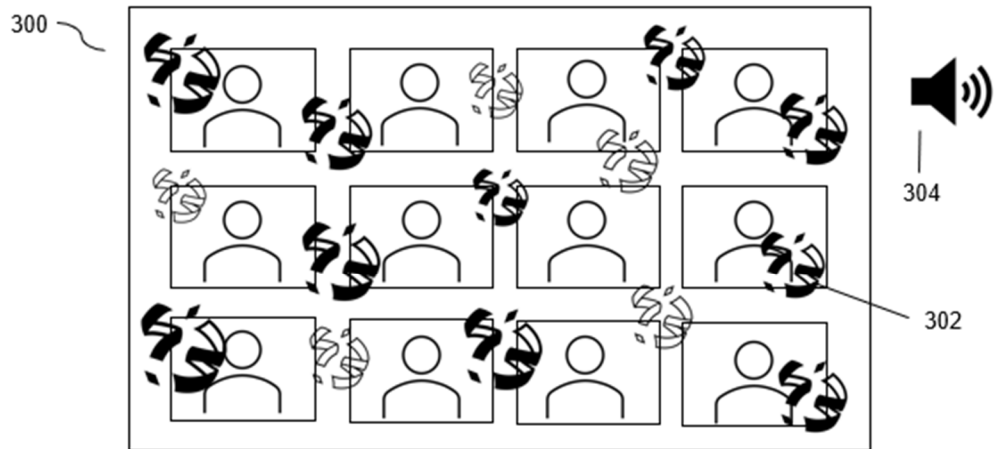


FIG. 3

Abstract

The present disclosure describes computer-implemented systems and methods for providing dynamic reactions in a synchronous videoconference by identifying the individual reactions of the participants and displaying a full-screen dynamic reaction moment when a number over a threshold of the participants share the same reaction. Dynamic reaction moments allow for the group in the videoconference to work together to convey the collective expression of the group. Participants will feel the celebration of the group and recognition from the team, encouraging the participants and enhancing team unity.