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ABSTRACT

Quiet and remote participants often have trouble contributing on conference calls when there is a dominant speaker. Meetings can be more effective when they include the perspectives of all attendees. Presented herein are techniques to combine visual analysis with monitoring of unmute/mute activities in order to notify meeting participants when a quiet or remote meeting participant wants to speak in a conference that is dominated by an active speaker.

DETAILED DESCRIPTION

Everyone has had the experience of struggling to interject into an online meeting involving a dominant speaker. Quiet and remote participants often have trouble contributing on conference calls when there is a dominant speaker. For example, listeners on a conference call may not be aware when a participant has something to communicate. In one instance, a participant might be holding back from interjecting because of concerns about being disruptive. In another instance, a quiet participant might be an audio-only user, in which case listeners may have no social cues to prompt the quiet user to contribute. Even if a quiet participant is a video user, the user's video may not be being displayed in the call's active presence strip. Remote and quiet participants are at a clear disadvantage relative to in-person attendees when they need to interject something. However, meetings can be more effective when they include the perspectives of all attendees.

This proposal provides techniques to improve the ability of quiet and remote participants to engage in conference calls. Consider various behaviors that are common among quiet and remote participants that are often unable contribute in meetings when

there is a dominant speaker. In one example, a user might unmute their microphone and then quickly mute it again. In another example, a user might open their mouth to contribute but immediately. In still another example, a user might interject a word or two and then stop.

In the case of a meeting unmute/mute event, a server could be configured to detect and potentially time such events. In the case of a user opening their mouth to contribute in a video teleconferencing use case, software in a meeting client of the user can be configured to detect, on an unmuted call where another speaker is active and dominant in the mix (and has been so for a threshold period of time), that the user is attempting to speak. Further for a videoconferencing use case, for instances in which a user attempts to interject a word or two and then stops, software in the client can be configured to detect, on an unmuted call where another speaker is active and dominant in the mix (and has been so for a threshold period of time), that the user is attempting to speak and is curtailing their speech. A combination of such inputs – quick mute/unmute, detection of attempts to vocalize, etc. – could be used to mark a user as desiring to contribute.

In accordance with techniques of this proposal, upon detection of a user desiring to contribute, the user's meeting client could send an event to a meeting server. Alternatively or in addition, the meeting server could watch rapid unmute/mute events and mark the user as desiring to contribute. Figure 1, below, illustrates an example environment in which a meeting server can determine and mark a user as desiring to contribute in a meeting.
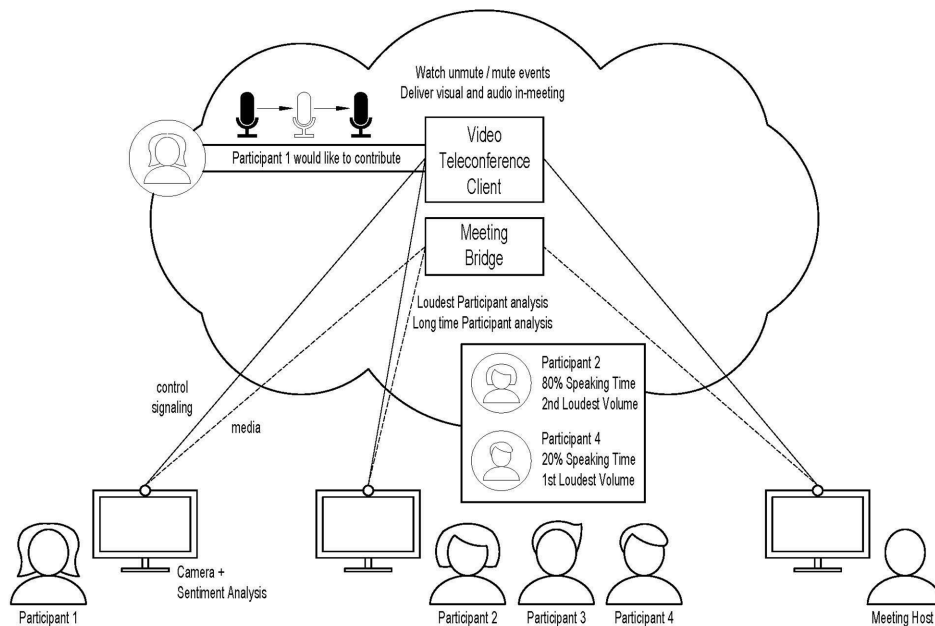
Figure 1: Example Meeting Environment

In response to determining that there is a user that desires to contribute, the meeting server can take one or more action(s) to notify other users that the marked user wants to contribute. Such action(s) can include:

- Providing a text notification overlaid on the presentation or active video that indicates that a user has something to contribute;

- Providing a notification or icon in the meeting roster beside the person that is seeking to contribute;

- Providing a discreet audio notification; and/or

- Prioritizing an otherwise silent participant in the active presence strip so that other meeting participants can see them attempting to interject, possibly in conjunction with highlighting or flashing their video in the active presence strip.

These actions should enable the meeting participants to more easily know when someone wants to contribute and result in more inclusive meetings with equitable talk time among participants who have things to say.

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Figure 2, below, illustrates an example operational flow that can be provided by a meeting server in accordance with techniques of this proposal in order to determine that a quiet or remote participant is seeking to contribute to a meeting. Figure 2 further illustrates various action(s) that may be provided by the meeting server in order to help such a quiet or remote user participate in the meeting.
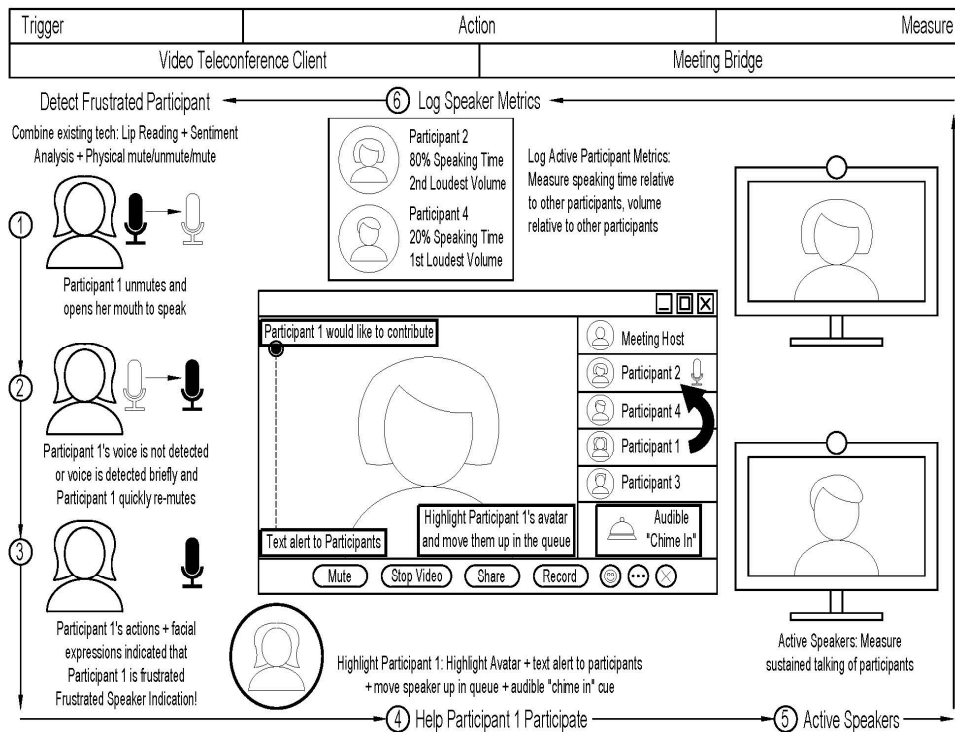

Figure 2: Example Operational Flow

In summary, techniques of this proposal provide for the ability to combine visual analysis with monitoring of unmute/mute activities in order to notify meeting participants when a quiet or remote meeting participant wants to speak in a conference that is dominated by an active speaker.

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