Simultaneous Participation in Multiple Video Conferences

Brian Silverstein
Benjamin Azose

Follow this and additional works at: https://www.tdcommons.org/dpubs_series

Recommended Citation
Silverstein, Brian and Azose, Benjamin, "Simultaneous Participation in Multiple Video Conferences", Technical Disclosure Commons, (December 01, 2020)
https://www.tdcommons.org/dpubs_series/3845

This work is licensed under a Creative Commons Attribution 4.0 License.
This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.
Simultaneous Participation in Multiple Video Conferences

ABSTRACT

This disclosure describes techniques to enable content from a second, additional online meeting to be included in a first meeting. To enable such content provision, the meeting platforms that host the two meetings (which may be the same or different) can establish a connection to allow content from the second meeting to be streamed to the user device via the first meeting platform. The received content from the second meeting can be displayed as a picture-in-picture or other suitable view. Audio from the second meeting can be muted automatically and closed-captions be provided, with user permission. The user can be provided options to toggle active participation between the two meetings. In some examples, the user may be a passive participant in the second meeting, e.g., an observer or listener. Additionally, users may be notified when a meeting has content of interest, or when a particular meeting participant is active. Users may be provided options to record meetings and generate meeting highlight reels.

KEYWORDS

- Video conferencing
- Picture in Picture (PIP)
- Speech to text
- Parent mode

BACKGROUND

The easy availability of teleconferencing, videoconferencing, and virtual presence technologies allows individuals to participate in online meetings. A meeting participant can utilize an Internet-connected electronic device, such as a smartphone or a computer, to participate in the meetings regardless of their location. However, each meeting is self-contained,
e.g., only includes participants from that particular meeting. There are situations where a user may wish to observe or participate in a second meeting, while being part of a first meeting. At best, users can currently achieve this by joining the two meetings using different devices. To view/listen to a meeting, the user needs to toggle between different devices. While a user can join two meetings from the same device, such a configuration can be problematic due to simultaneous playback of audio from both meetings.

DESCRIPTION

This disclosure describes techniques to enable content from a second, additional online meeting to be included in a first meeting. To enable such content provision, the meeting platforms that host the two meetings (which may be the same or different) can establish a connection to allow content from the second meeting to be streamed to the user device via the first meeting platform. The received content from the second meeting can be displayed as a picture-in-picture or other suitable view. Audio from the second meeting can be muted automatically and closed-captions be provided, with user permission.

The user can be provided options to toggle active participation between the two meetings, e.g., by switching camera/microphone/speaker devices between the two meetings. In some examples, the user may be a passive participant in the second meeting, e.g., an observer or listener. Additionally, users may be notified when a meeting has content of interest, or when a particular meeting participant is active. Users may be provided options to record meetings and generate meeting highlight reels.
Fig. 1: Example of an online meeting platform viewing a third party meeting within the primary meeting platform.
Fig. 1(a) illustrates an example where a user uses a primary meeting platform (102) for a video conference with four participants. Per techniques of this disclosure, content (106) from a second meeting is included in the first meeting as a picture-in-picture (PIP) video. To enable this, the user may provide their meeting credentials to the first meeting platform which can be used to join the second meeting. Meeting hosts for both meetings are provided controls to enable or disable such participation, and can restrict participants to be passive participants. The two meetings may be hosted on the same video conferencing platform or on different video conferencing platforms. The second video conference can be minimized or enlarged upon user selection.

Fig. 1(b) illustrates the two video conferences side-by-side within the primary meeting platform. With user permission, closed captions may be provided for the second meeting, e.g., generated using speech-to-text techniques. This can enable the user to follow happenings in the second meeting even when the audio is muted, when audio from the first meeting is being played. The closed caption can be provided as part of the second meeting stream, or be generated by the primary meeting platform. The user can be active in one video conference and passive in the other. Furthermore, with appropriate permissions for meeting hosts and participants, the user may record either meeting. The recording may also be used to generate a highlights reel that the user can view after the meetings end.

If the user permits, machine learning techniques can be used to determine if something interesting is going on in a meeting that is not currently a primary meeting, which can enable the user to toggle to the meeting with interesting activity. Further, the user can select criteria for automatically minimizing a meeting, e.g., “minimize unless participant X is speaking.”
In an example use case, the techniques of this disclosure may be used to enable parents to connect to school remote learning classes that their children attend, with appropriate permissions. With the described techniques, a parent can connect to the class hosted on the school meeting platform while actively participating in a work video conference within a work meeting platform. In another example, the techniques of this disclosure can enable a user to connect to a work video conference and simultaneously attend a live webinar. For example, the user can view the webinar with closed captioning.

The described techniques are implemented with specific permission from a user, as well as from meeting hosts and other participants, as necessary. Participants are notified of the presence of observers (if present) and can control whether a meeting can be recorded, whether speech-to-text is utilized to generate captions, whether automatic recognition of content of interest is performed, etc.

Further to the descriptions above, a user is provided with controls allowing the user to make an election as to both if and when systems, programs, or features described herein may enable collection of user information (e.g., a user’s calendar, scheduled meetings, meeting identifiers and codes, a user’s preferences), and if the user is sent content or communications from a server (e.g., meeting content). In addition, certain data are treated in one or more ways before it is stored or used, so that personally identifiable information is removed. For example, a user’s identity is treated so that no personally identifiable information can be determined for the user. Thus, the user has control over what information is collected about the user, how that information is used, and what information is provided to the user.
CONCLUSION

This disclosure describes techniques to enable content from a second, additional online meeting to be included in a first meeting. To enable such content provision, the meeting platforms that host the two meetings (which may be the same or different) can establish a connection to allow content from the second meeting to be streamed to the user device via the first meeting platform. The received content from the second meeting can be displayed as a picture-in-picture or other suitable view. Audio from the second meeting can be muted automatically and closed-captions be provided, with user permission. The user can be provided options to toggle active participation between the two meetings. In some examples, the user may be a passive participant in the second meeting, e.g., an observer or listener. Additionally, users may be notified when a meeting has content of interest, or when a particular meeting participant is active. Users may be provided options to record meetings and generate meeting highlight reels.