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BREAKOUT DIALOG ANALYSIS FOR WEB CONFERENCING APPLICATIONS

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ABSTRACT

Video conferencing applications typically only allow one person to talk at a time. This is perfect for meetings that are presentations, but may not be acceptable for virtual social events (e.g., "happy hours") or brainstorming type meetings where, in the physical world, people naturally break off to have smaller, more intimate meetings to discuss a specific topic. Recent advancements to video conferencing applications have enabled users to create sub-meetings where smaller discussions can take place within a greater meeting. However, these sub-meetings restrict users to only seeing and hearing the participants within that sub-meeting without any context of the other discussions occurring at the same time. Techniques herein may provide for displaying a list of the top words being used in different sub-meetings, which can help users to determine the topics being discussed and decide which sub-meeting they may desire to join.

DETAILED DESCRIPTION

Large video conferences are a fantastic way for one person to present and speak to an audience. However, the usefulness of video conferences is limited in situations where more than one person needs to speak or where side-conversations are naturally encouraged (such as social events or breakout groups). A fundamental problem with large video meetings is that only one person can effectively talk at a time. In cases where the meeting is a presentation, this is not usually a problem because only one person is presenting at a time and all other attendees are passive. However, video conferencing platforms are increasingly being used for social meetings, where a single active speaker is not common. Thus, what is needed is the ability to have smaller meetings under the umbrella of one larger meeting.

In a physical meeting, multiple people would typically gather in one room but conversations are usually not among the entire group, rather, people in small groups of 2-4 would typically break off to have their own discussions. People are free to move among the various groups depending on their interest – either of the people in the group or the topic being discussed. These small sub-meeting groups form and disperse dynamically. An equivalent capability is needed in the virtual video conference space.

Presented herein are techniques in which a word-cloud/top-10 list can be utilized to determine recent topics of conversation – sub-dividing the larger meeting at the will of the individual attendees (not proctors) – therefore creating multiple simultaneous discussions in a singular, larger meeting. Smaller sidebar conversations can be dynamically muted/unmuted based on which group a user is participating in (showing the user, at a minimum, the word clouds for the muted groups). Users can then move between multiple groups at will based on their review of these word-lists.

As a user moves between sub-meetings, an active sub-meeting becomes prominent in the meeting view, while word-clouds/top-10 occupy the other panes/sub-meetings within the larger meeting instance. Figure 1, below, illustrates an example video user interface that may be realized utilizing such techniques.



Figure 1: Example Video Conference User Interface

Consider an example operational flow that may be realized utilizing techniques of this disclosure:

1. A user, who is participating in a larger video meeting, has the option to create a small sub-group/meeting comprised of other users in the meeting that the user selects and invites to join the sub-meeting.
2. If at least one other user accepts this invitation, the sub-meeting is created.
3. All users not in the sub-meeting are muted to the users in the sub-meeting and vice-versa. Users in a sub-meeting can only hear other users in the same sub-meeting.
4. The sub-meeting and any participant video or shared video is prominently displayed on the screen of a participant to the sub-meeting.
5. The view of participants in the larger meeting (that the sub-meeting users just "left") can be minimized to smaller area of the screen.
6. If other users form sub-groups/meetings, they too are split off visually and minimized on the screen. The sub-meeting of which the user is a currently a member remains prominent on the user's screen.
 - a. In some instances, there can be a system-wide implementation option to limit the number of sub-meetings allowed.
7. Voice-to-text is used to transcribe what is being discussed in each sub-meeting.
 - a. The words from the last 'X' minutes (where X can be configured by a user or system-wide) are sorted by frequency of use at every X interval.
 - b. The top words in this transcription may be a good indicator of the topic being discussed.
 - c. Common words, such as definite articles, could be removed.
8. The top words from each sub-meeting the user is NOT part of are displayed next to the views of those sub-meetings.
 - a. For example, these words can be displayed as a top-10 list or as a word cloud, as shown in Figure 1.
9. Any user of any sub-meeting can leave and join any other sub-meeting.

Accordingly, techniques herein provide for the ability to create one or more sub-meetings from a main meeting in which users can select participants for each sub-meeting. The potential participants may have the option opt-in and join the sub-meeting and may be free to move from one sub-meeting to another. Further, techniques herein may provide for displaying a list of the top words being used in different sub-meetings, which can help users to determine which sub-meeting they may desire to join. Thus, techniques presented herein may help to keep meetings fluid, with fewer people talking over each other.