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CONTEXT AWARE MEETING AUGMENTATION

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ABSTRACT

In some cases, participants in an online meeting would like to know meeting-specific information about other participants in the online meeting. Techniques described herein collect meeting- or context-specific data for each participant in an online conference/meeting from multiple sources and apply an information filter to allow other authorized participants to view specific information about the participant. According to additional techniques discussed herein, agents collect the context-specific information from an enterprise database and filter the information that can be viewed by different participants based on their roles.

DETAILED DESCRIPTION

In many situations, participants in a meeting would like to know meeting context-specific related to other participants in the meeting. For example, if a meeting is taking place between clients and a banker, the banker may be interested in the clients' account details, investments, existing loans, credit cards details, etc. Similarly, the banking clients in the meeting may be interested in the latest offers that the bank is providing, loan expiry, etc.

As another example, if the meeting is a BUG scrum meeting, the participants may be interested in the role of every engineer (e.g., development, development-test, architect, manager, etc.). In addition, the participants may be interested in the number of BUGs opened/closed on each participant, recent commits by the participants, recent project developments work, etc. As another example, if the meeting is a patent review meeting, the participants may be interested in the number of reviews pending for each participant and respective docket number, action items and the status from the last meeting, etc. As another example, if the meeting is a meeting with a co-author of an Internet Engineering

Task Force (IETF) draft, the participants may be interested in the number of requests for comments/drafts that each participant submitted, pending actions items of the current draft, etc.

As another example, if the meeting is a Multiprotocol Label Switching (MPLS) specific team meeting, the participants may be interested in the other participants' achievements in the MPLS domain, MPLS specific BUG status, etc. As another example, if the meeting is a one-to-one meeting with a manager, then the manager may be interested in the current role of the participant, the participants' achievements, pending tasks, social activities, etc. As another example, if the meeting is an online-medical appointment, the doctor may be interested in the recent medical details of the patient, X-rays, tests of the patients, etc. Similarly, the participants may be interested to know other various aspects based on the domain context.

According to techniques described herein, data associated with the meeting context is collected for each participant and an information filter is applied to the information to allow the participants to view only information associated with other participants that the participants are authorized to view.

Additionally, according to techniques described herein, different enterprises may each have different information about the same person related to a context associated with the particular enterprise. For example, banks may have financial/banking details about the person and hospitals may have medical history details about the same person. An enterprise may have a lot of information about an individual person, but at any point of time, based on the context, only some of the information is useful and needed. Techniques described herein provide a way to filter the information in accordance with a meeting. The filtering of information helps to focus the meeting by providing data points that are associated with the meeting context to participants of the meeting.

Figure 1, below, is a diagram illustrating a system for context aware data collection and presentation during an online meeting.

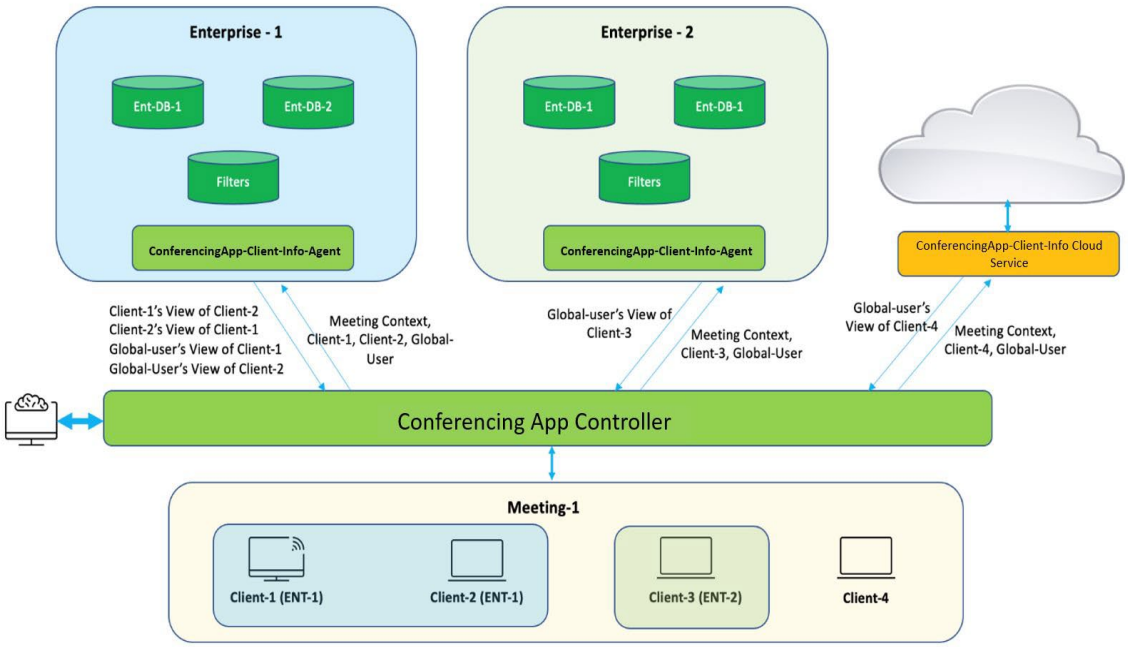

Figure 1: Example System for Context Aware Data Collection and Presentation

While creating an invite for a meeting, the meeting context is inferred from the meeting invite or specifically provided by the meeting host. In some cases, the host could indicate the relationship between other users (e.g., a doctor can invite his patient by indicating that the other participant is a patient). Machine Learning (ML) is used to infer the meeting context from the personalized ML on the individual meeting creations. The meeting invite contains meeting context indicators.

As illustrated in Figure 1, a conferencing (or meeting) application agent resides on a specific enterprise. The ConferencingApp-Client-Info-Agent has access to the enterprise-specific information about the requested clients. Based on the users and the meeting context, the agent consults the enterprise databases and filters the information to provide a specific client-to-client view. The agent also provides the enterprise clients' information that other public users are allowed to view (e.g., name, enterprise name, etc.). According to techniques described herein, as illustrated in Figure 1, a conferencing application cloud service gathers additional information about the users from the cloud.

Even when a filter is applied based on the meeting context, there may be a lot of information available about a user and all of the information cannot be displayed at one time. According to techniques described herein, a summary for each participant will be

displayed when the participant is highlighted (e.g., using a mouse to double click on a participant may display detailed information about the participant).

According to another technique, a context may be opened by using eye tracking and point of gaze tracking. For example, when a user is looking at a particular participant on a video and the camera is tracking the user's eye movement, a context associated with the particular participant may open when the user blinks twice. When the user blinks three times, a new context associated with another participant may be opened. This feature can be turned off (e.g., for someone who blinks a lot). Further, the remote participant is notified that his/her context is being pulled up.

According to another technique described herein, a conferencing controller could gather the common, shared information among the participants and display the shared view of the participants. This helps the participants to know more about other participants in the meeting. Figure 2, below, illustrates a shared view of the participants in a meeting.

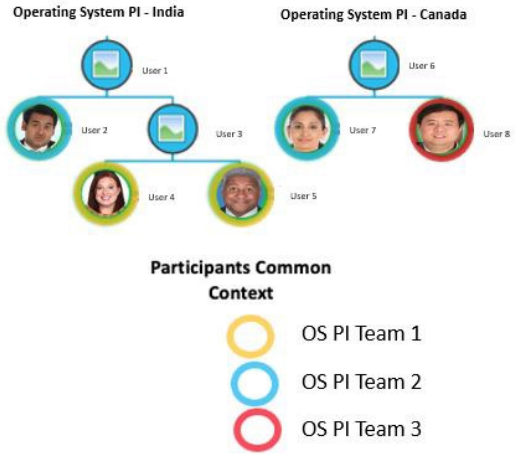

Figure 2: Example Shared View of Participants in a Conference

In one example, a bank manager may be having an online house mortgage meeting with his banking customer. Only the data that is relevant to the banking customer with respect to the house mortgage will be aggregated for the bank manager to view and discuss efficiently. Similarly, the banking customer could view the current house mortgage offers and options currently provided by the bank. In addition, based on the specific banking customer's history of buying houses, previous meetings, other bank activities, a credit score could be provided and a probability of the customer using the banking for a mortgage can

be determined (e.g., using machine learning). Similarly, based on the bank manager's previous house mortgage credibility, a credit score can be provided for the bank manager.

Figure 3, below, is a diagram illustrating a flow associated with a meeting organizer initiating a meeting request.

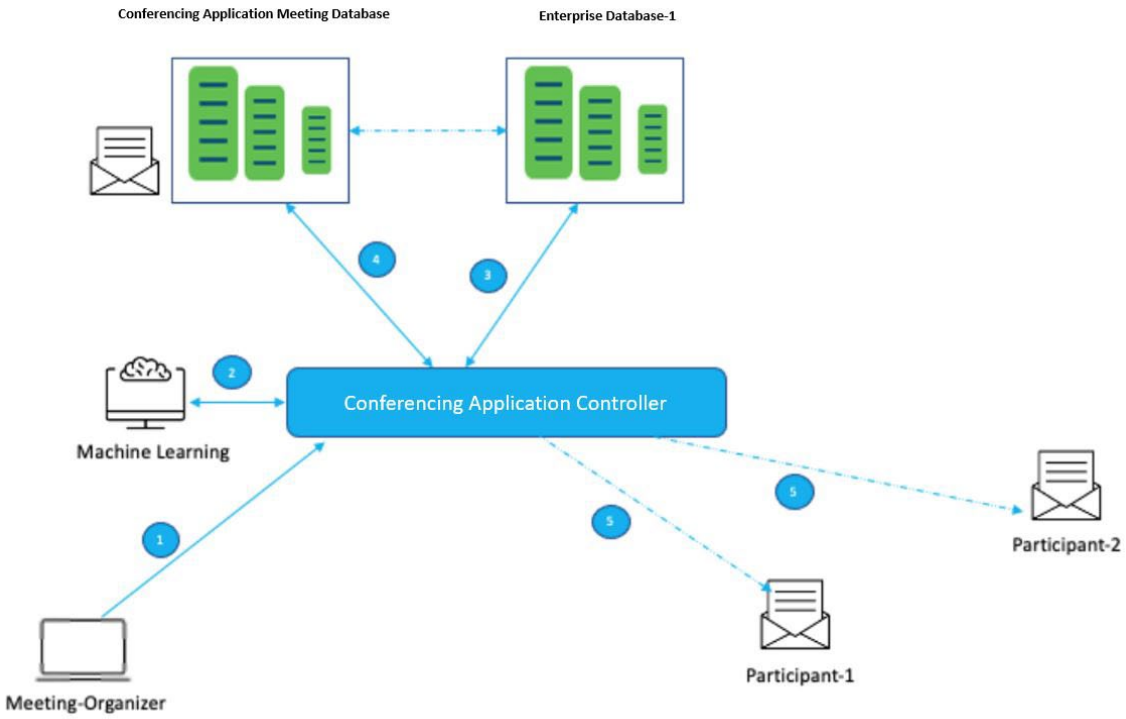

Figure 3: Diagram of Example Flow for Initiating Meeting Request

As illustrated in Figure 3, in a first step, while creating the meeting invite, the meeting context is inferred from the meeting invite or specifically provided by the meeting initiator. At a second step, machine learning is used to infer the meeting context from the personalized ML on the individual meeting creations. The relationship between the participants (e.g., bank manager, banking client, etc.) is determined. At a third step, based on the relationship, role, hierarchy, authorization, policies, and meeting context, the relevant information that needs to be displayed is identified.

At a fourth step, the respective data for each participant with respect to the meeting context is collected. At a fifth step, the collected information is attached/linked to the participants' meeting-specific data. An information filter is applied based on the above

and the participants are allowed to view only other's information that the participant is authorized to view.

According to techniques described herein, a credit score is generated for participants of the meeting based on the context of the meeting and the relative participant's achievements. For example, if there is a MPLS meeting, then the relative credits of the participants are calculated based on their MPLS achievements and role. In addition, any static notes or other information could be keyed for other specific participants and that information is displayed on those specific participants.

Figure 4, below, illustrates credit scores and summary views for participants in a meeting.

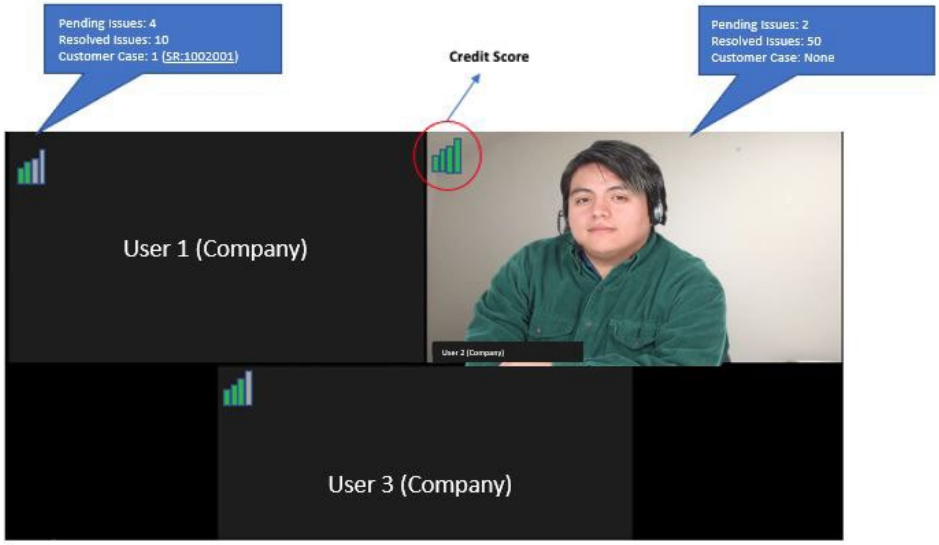

Figure 4: Example Summary View

As illustrated in Figure 4, the participants' credit scores and the summary of each participant is displayed with respect to the meeting context.

Figure 5, below, illustrates a detailed view of a participant during a meeting/conference.

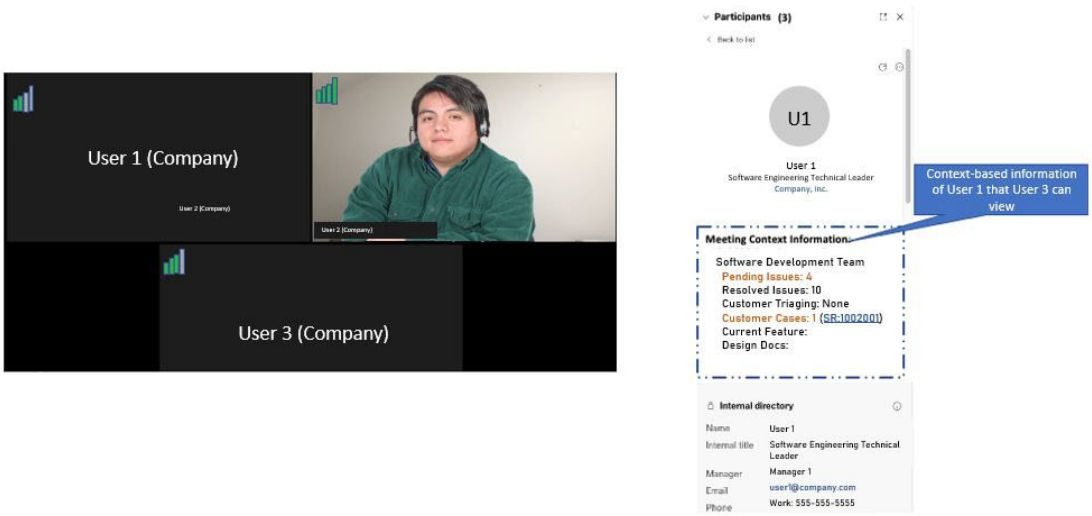

Figure 5: Example Detailed View of a Participant

Any participant could view another participant's detailed information in the context of the meeting. As illustrated in Figure 5, information about User 1 (role in the team (dev or test, etc.), pending issues, resolved issues, current customer triages, current customer cases, current features, specific design documents, etc.) is displayed for other participants to view.

According to techniques described herein, if the conferencing application identifies any other participants other than the registered participants, the conferencing application can also dynamically validate the person based on their video/voice and display their information based on the meeting context. According to additional techniques described herein, the conferencing application can also group the participants based on their role (e.g., dev, test, TAC, etc.), and determine a hierarchy based on the context of the meeting.

According to another technique, the context information can be more granular such that some participants within an enterprise or the group (who are entitled to view the sensitive (or more granular) information) are able to see some context information, and other participants cannot. For example, in a meeting where the human resources (HR) member, Employee1, and the manager are the participants, the HR member will be able to see more HR-centric information about Employee1, while the manager will be able to see only limited information associated with the meeting/participant.

In summary, techniques described herein collect respective context-aware data (and metadata) for each participant in a conference/meeting from multiple sources with respect to the meeting's context and apply an information filter to allow the relevant participants to view only other's information (based on the relevancy) that the participant is authorized to view. Conferencing application agents collect the context-specific information from an enterprise database and filter the information that needs be viewed by different participants based on their roles. Eye tracking and point of gaze tracking may be used to view a summary or detailed information about a user instead of using the computer device. This is very useful when a participant is interacting with clients and does not want to interact with their computer device to view more information about their clients.

According to techniques described above, a shared view of the participants may be displayed and a credit score for each participant may be determined based on the meeting context and their role/expertise. Techniques described herein allow for contextualizing user-related data and metadata in a collaboration setting and in a way that highlights the most relevant and related pieces, including intersectional data among sub-set of participants, and allows for specific control.