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Long conversation mode for virtual assistant

ABSTRACT

This disclosure describes a virtual assistant that, with specific user permission, can perform queries and offer suggestions based on user conversation and context. When configured by the user with suitable permissions, the virtual assistant can perform queries without the user explicitly issuing a hotword to activate the virtual assistant. For example, the user can enable a long conversation mode for a virtual assistant on a device such as a smartphone, tablet, smartwatch, etc. The virtual assistant can automatically provide suggestions, responses, etc.

KEYWORDS

- virtual assistant
- automatic queries
- automatic response
- user context

BACKGROUND

Virtual assistant applications provide assistance to users in various contexts. To make a request to a virtual assistant, the user typically provides a predefined hot word or performs other input actions to trigger the virtual assistant to listen for a command. With current techniques, the virtual assistant is triggered to perform queries only when initiated by the user. Such a requirement can interrupt the flow of a conversation, e.g., when the user is speaking to other persons. For example, a discussion about baseball at a party may include a question about a baseball player's career batting average. To obtain the information, a user that participates in the discussion currently needs to interrupt the conversation and make an explicit request to the virtual assistant for the player's batting average.

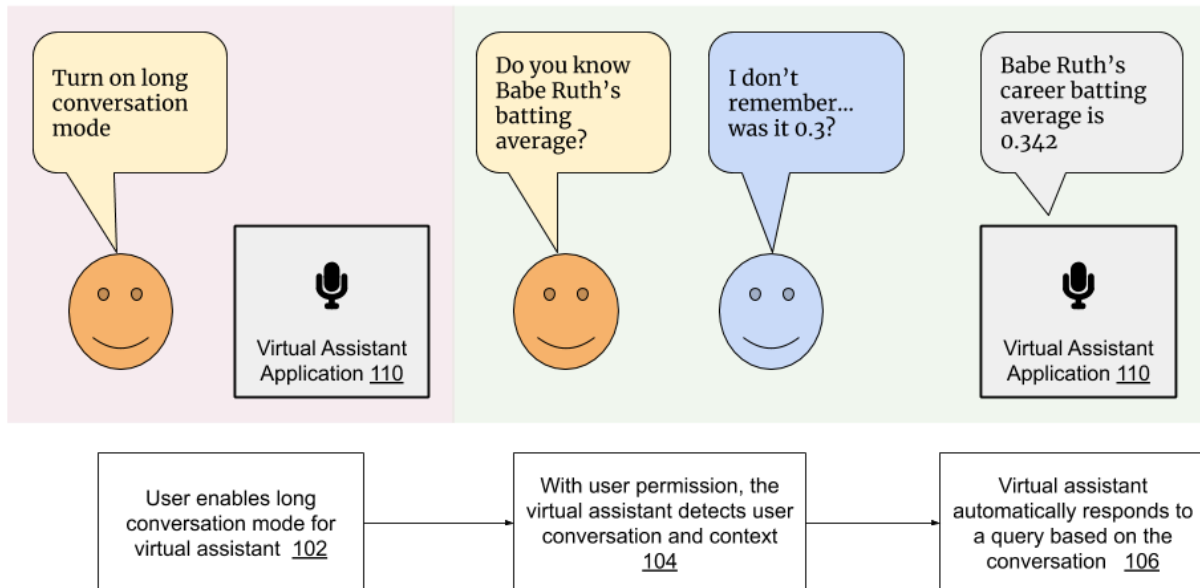
DESCRIPTION**Fig. 1: Long conversation mode for virtual assistant**

Fig. 1 illustrates an example of a virtual assistant with long conversation mode, configured and activated upon specific user permission. The user enables long conversation mode (102) for a virtual assistant application on a device (110) such as a smartphone, tablet, smartwatch, etc. with a virtual assistant application. When the long conversation mode is enabled, the user is not required to dictate the hotword to trigger the virtual assistant.

With user permission, the virtual assistant obtains user contextual information, e.g., based on user conversation, context, location, etc. while the long conversation mode is enabled (104). A clear indication that the virtual assistant is active is provided to the user, e.g., via a prominent indicator on a user device. The virtual assistant automatically provides suggestions, responses, etc. based on the user's conversation, context, location, etc. (106).

As illustrated in Fig. 1, the user enables long conversation mode for the virtual assistant application. While the long conversation mode is enabled, the user has a discussion with another

person about Babe Ruth's career batting average. The virtual assistant automatically performs a search for Babe Ruth's batting average and provides the answer to the users. For example, the virtual assistant may provide audio output by reading out the average, display the average on a screen, provide an indication that information suitable to the current context is available, etc.

A virtual assistant with long conversation mode enabled can also automatically provide information based on location. For example, if the user is detected to be present at Fifth Avenue in New York city, can automatically provide information about restaurants, boutiques, cafes, etc. near the user's location. The user can select the contextual factors that are available to the virtual assistant in long conversation mode, e.g., device location, microphone data, etc.

Example of use

Consider a user that is driving to a destination. When long conversation mode for the virtual assistant has been activated, the virtual assistant automatically determines interesting places, restaurants, etc. that the user is near to, based on accessing the user location. The virtual assistant automatically provides such information to the user, e.g., via an in-car display, as audio, etc. without an explicit user request.

Further to the descriptions above, a user may be 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., information about a user's social network, social actions or activities, profession, a user's preferences, or a user's current location), and if the user is sent content or communications from a server. In addition, certain data may be 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 may be treated so that no personally identifiable information can be determined for the user, or a user's geographic location may be generalized where location

information is obtained (such as to a city, ZIP code, or state level), so that a particular location of a user cannot be determined. Thus, the user may have 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 a virtual assistant that, with specific user permission, can perform queries and offer suggestions based on user conversation and context. When configured by the user with suitable permissions, the virtual assistant can perform queries without the user explicitly issuing a hotword to activate the virtual assistant. For example, the user can enable a long conversation mode for a virtual assistant on a device such as a smartphone, tablet, smartwatch, etc. The virtual assistant can automatically provide suggestions, responses, etc.