Activating Digital Voice Assistant Without Activation Keyword

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Activating Digital Voice Assistant Without Activation Keyword

ABSTRACT

A digital voice assistant that understands and responds to natural language voice commands. To activate such a voice assistant, the user is required to utter an activation keyword. Such explicit activation requires the user to interrupt the natural flow of conversation, e.g., with others in the household. Many households are multilingual, e.g., where members of the household speak with each other in a particular language, but are capable of speaking other languages. This disclosure enables automatic activation of a digital voice assistant upon detection of a specific spoken language. For example, if the household members speak to each other in Polish, but are also capable of speaking English, the voice assistant can be set up to automatically detect spoken English and determine that a command was issued. The described techniques are applicable in any situation where users converse in a language different from the activation language of the voice assistant.

KEYWORDS

- Voice assistant
- Virtual assistant
- Hotword
- Wake word
- Activation keyword
- Smart speaker
- Language detection
- Voice recognition
BACKGROUND

A digital voice assistant that understands and responds to natural language voice commands. Users can use digital voice assistants to perform various operations, e.g., access information, control home automation devices, control media playback, and manage emails, to-do lists, calendars, etc. To activate such a voice assistant, the user is required to utter an activation keyword (also known as “wake word), e.g., that may include a specific name or phrase. Such explicit activation requires the user to interrupt the natural flow of conversation, e.g., with others in the household. Many households are multilingual, e.g., where members of the household speak with each other in a particular language, but are capable of speaking other languages.

DESCRIPTION

This disclosure enables automatic activation of a digital voice assistant upon detection of a specific spoken language. For example, if the household members speak to each other in Polish, but are also capable of speaking English, the voice assistant can be set up to automatically detect spoken English and determine that a command was issued. The described techniques are applicable in any situation where users converse in a language different from the activation language of the voice assistant. The techniques eliminate the need for a user to interrupt a conversation or utter an activation keyword, and instead, enable activation of the voice assistant simply by speaking in an activation language. The techniques enable better conversational flow.

Automatic language detection and activation of the voice assistant is performed with specific user permission. The voice assistant can also be set up to activate only for certain voices,
e.g., those of the users in the household Users can turn off language-based activation at any time, in which case the voice assistant defaults to activation via a wake word.

**Fig. 1: Activating a digital voice assistant by speaking in a particular language**

Fig. 1 illustrates an example activation of a digital voice assistant provided via a smart speaker when the user switches from Polish to English. As seen in Fig. 1, two individuals (106, 108) are conversing with each other in Polish. The first user asks (in Polish) the second user if she wants to go on a trek. The second user responds that she would love to go on a trek.

The second user then switches language (as indicated by the English text shown in blue) and asks a question about the weather. In the example of Fig. 1, the digital voice assistant provided via the smart speaker (112) is configured to be activated by the use of English and upon
detection of the voice of the second user. The voice assistant detects the command and responds with the requested weather information (110). Thus, when enabled with the appropriate user permissions, the voice assistant automatically detects speech in the activation language as set by the user. Upon detection, the voice assistant provides a response to the command. Thus, no wake word is required to summon the voice assistant.

The language-based activation techniques of this disclosure can be utilized in any situation where conversations are typically in a different language. The techniques enable users to activate the voice assistant without interrupting conversation flow.

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 primary and secondary spoken languages, a user’s preferences), 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. 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 enables automatic activation of a digital voice assistant upon detection of a specific spoken language. For example, if the household members speak to each other in Polish, but are also capable of speaking English, the voice assistant can be set up to automatically detect spoken English and determine that a command was issued. The techniques eliminate the need for a user to interrupt a conversation or utter an activation keyword, and instead, enable activation of the voice assistant simply by speaking in an activation language.
The described techniques are applicable in any situation where users converse in a language different from the activation language of the voice assistant.