CUSTOM ASSISTANT PERSONAS

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CUSTOM ASSISTANT PERSONAS

ABSTRACT

A virtual, intelligent, or computational assistant (e.g., also referred to simply as an “assistant”) is described that is configured to have a customizable persona (e.g., attitude, voice, dialect, syntax, etc.). Assistants can have different personas when interacting with different users. For instance, an assistant may instantiate (e.g., use) one persona when interacting with a first user and another persona when interacting with a second user.

DESCRIPTION

Assistants execute on counter-top devices, mobile phones, automobiles, and many other type of computing devices. Assistants output useful information, responds to users’ needs, or otherwise performs certain operations to help users complete real-world and/or virtual tasks. Some assistants may always use the same persona, regardless of with-which users they are interacting. This persona may be selected by a publisher of the assistants to be generally acceptable to everyone, such as by using relatively neutral language and vocal tones.

The example system shown in FIG. 1 provides an assistant that is configured to use different personas when interacting with different users. For example, the assistant may determine the identify of a user that is currently interacting with the assistant. The assistant may then select a persona based on the identity of the user and use the selected persona to interact with the user.
The system of FIG. 1 includes one or more external systems and computing devices A–N communicating across a network with each of computing devices A–N executing an assistant.
that performs operations involving groups of people. The network of FIG. 1 represents a combination of any one or more public or private communication networks, for instance, television broadcast networks, cable or satellite networks, cellular networks, Wi-Fi networks, broadband networks, and/or other type of network for transmitting data (e.g., telecommunications and/or media data) between various computing devices, systems, and other communications and media equipment. Computing devices A–N represent any type of computing device, server, cloud computing environment, or other system that is configured to execute an assistant and communicate on a network. The external systems represent any type of server or other computing system that is configured to support the assistants executing at computing devices A–N.

Computing devices A–N can be personal computing devices. In some examples, the external systems and/or computing devices A–N may be shared assets of multiple users. Examples of computing devices A–N include mobile phones, tablet computers, wearable computing devices, countertop computing devices, home automation computing devices, laptop computers, desktop computers, televisions, stereos, automobiles, and any and all other type of mobile and non-mobile computing device that is configured to execute an assistant. For example, computing device A may be a countertop assistant device and computing device N may be a mobile phone or automobile infotainment system.

An assistant executes across any combination of external systems one or more of computing devices A–N to provide assistant services to users of computing devices A–N. Examples of assistant services include: setting up reminders, creating calendar entries, booking travel, online ordering, sending messages or other communications, reading text aloud, controlling televisions, lights, thermostats, appliances, or other computing devices, providing
navigational instructions, or any other conceivable task or operation that may be performed by an assistant.

As a user interacts with the assistant, the assistant may obtain personal information about the user. Examples of personal information include: habits, voice samples, routines, preferences, notes, lists, contacts, communications, interests, assistant persona preferences, location histories, and other types of user information. After receiving explicit permission from the user, the assistant may store, the personal information at user information data stores and in the course of providing assistant services, make use of the personal information stored at the user information data stores.

The external systems and computing devices A–N and the assistant treat the information stored at the information stores so that the information is protected, encrypted, or otherwise not susceptible to unauthorized use. The information stored at the information data stores may be stored locally at each of computing devices A–N and/or remotely (e.g., in a cloud computing environment provided by the external systems and which is accessible via the network of FIG. 1).

Further to the descriptions below, a user may be provided with controls allowing the user to make an election as to both if and when the assistant, the computing device, or the computing systems described herein can collect or make use of supplemental data (e.g., user information or contextual information about a user’s social network, social actions or activities, profession, a user’s preferences, or a user’s current location), and if and when 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 supplemental data is collected about the user, how that supplemental data is used, and what supplemental data is provided to the user.

In operation, the assistant can change personas based on the identity of the user that is currently interacting with the assistant (i.e., the identity of the current user). For instance, the assistant may instantiate one persona when interacting with user A but instantiate a different persona when interacting with user B.

The assistant may determine the identity of the current user using a variety of techniques. As one example, the assistant may use voice recognition to determine the identity of the current user. For instance, when a shared device (e.g., a countertop device) captures audio data provided by a user, the assistant may compare the audio data with voice prints of known users and determine the identity of the user that spoke the query. In particular, if the assistant determines that the captured audio data corresponds to a voice print of user A, the assistant may determine that the identity of the current user is user A and select a persona that is customized to user A when responding to the query. Similarly, if the assistant determines that the captured audio data corresponds to a voice print of user B, the assistant may determine that the identity of the current user is user B and select a persona that is customized to user B when responding to the query.

As another example, when the assistant is being accessed via a non-shared device (e.g., a mobile phone of a particular user), the assistant may determine that the identity of the current user is the owner of the non-shared device (e.g., the particular user). For instance, if the non-shared device is owned (e.g., primarily used by, not necessarily owns in the property sense as the primary user of a mobile phone provided by their work or their parents may not actually legally own the mobile device) by user B, the assistant may select a persona that is customized to user B when interacting via the non-shared device.
As stated above, the assistant can interact with users using various personas. Different personas may have different attitudes, voices, dialect selections, grammar, intelligence, etc. In some examples, a persona may be dictated by values of one or more attributes (e.g., humor, charm, sensuality, courage, tenacity, empathy, curiosity, imagination, decisiveness, patience, humility, meekness, coordination, candor, general intelligence, vivacity, etc.).

The assistant personas may be customized to the users in a variety of ways. As one example, users may expressly customize the persona used by the assistant to interact with them. For instance, user A (or user A’s parents) may adjust the values of one or more attributes of the assistant persona. As another example, the assistant may automatically customize the personas used to interact with users. For instance, the assistant may adjust one or more aspects of the persona used to interact with user A based on demographical data of user A (e.g., use more familiar, more colloquial, more basic vocabulary when interacting with a child than when interacting with an adult, e.g., “pick out” for “select”) and/or based on interactions with user A.

By performing using a persona customized to a user when interacting with the user, the assistant may allow for more natural and productive interactions with the user. The above examples are just some use cases for the assistant architecture shown in FIG. 1, the assistant architecture has many other applications and use cases.