October 2019

Toy robot with customized virtual assistant personality

N/A

Toy robot with customized virtual assistant personality

ABSTRACT

This disclosure describes a toy robot with a customized virtual assistant personality. The virtual assistant is displayed as a face on a robot with a screen. The personality, tone of spoken responses, and the displayed avatar of the virtual assistant can be customized for different users. With user and parent permission, the virtual assistant can use an on-board camera to perform visual searches. The virtual assistant provides responses that include audio and graphics, with little to no text.

KEYWORDS

- Toy robot
- Virtual assistant
- Assistant personality
- Custom personality
- Assistant character
- Visual search
- Robot programming

BACKGROUND

User interfaces for virtual assistants, e.g., as available on smart speakers and other appliances, smartphones, wearable devices, etc. provide results that are mostly textual and intended for adult use. The personality and programming of the virtual assistant are uniform across all users. Children currently use the same user interface with virtual assistant as adults; however, it may be preferable to provide a graphical and audio-focused interface for children, e.g., to account for limited reading capability of children. While toy robots that include virtual

assistants are available, such virtual assistants do not have a customizable personality and their features are not customizable.

DESCRIPTION

This disclosure describes a customizable toy robot with a virtual assistant. The toy robot includes a display screen to display a customizable character for the virtual assistant. The toy robot also includes a camera that can be activated to perform visual searches. Further, the virtual assistant on the toy robot can be programmed.

Visual search using a toy robot

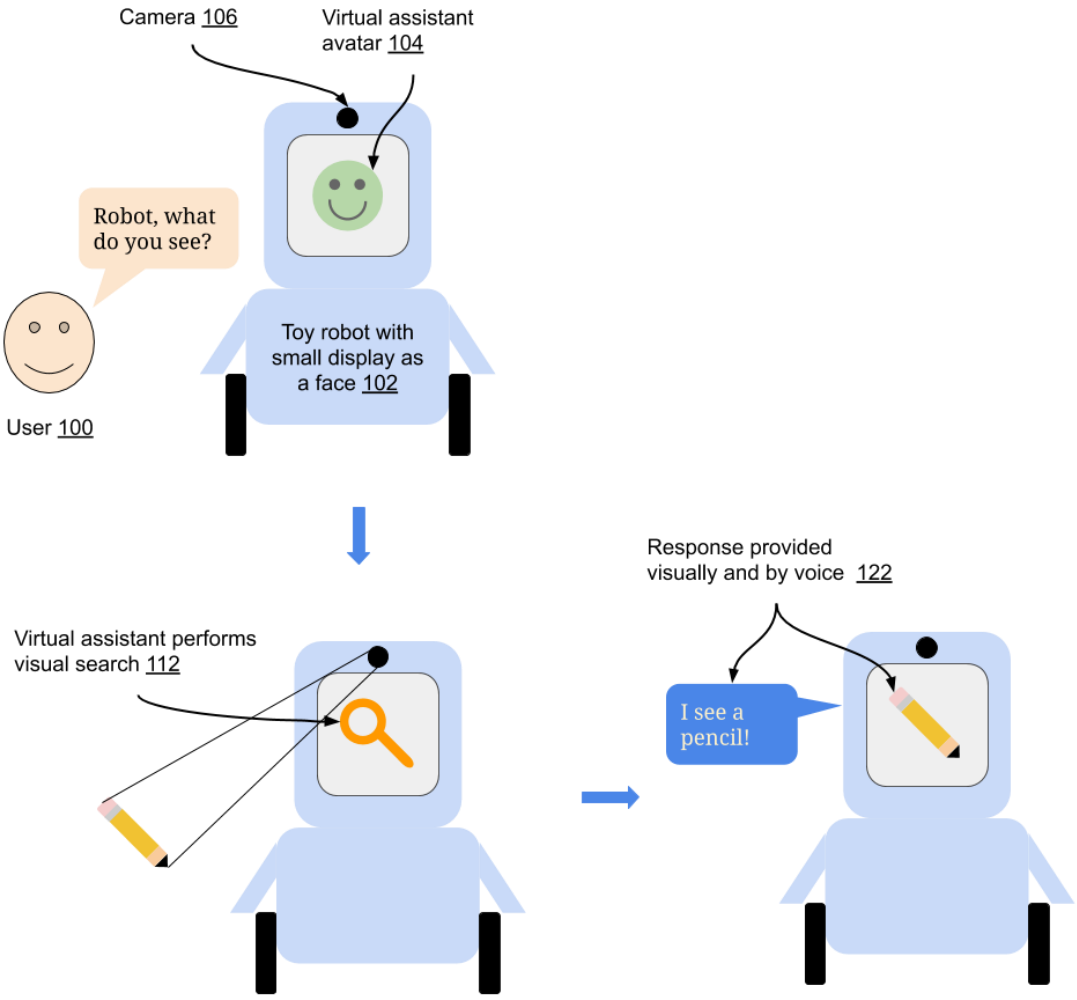

Fig. 1: Visual search by toy robot with a virtual assistant

Fig. 1 illustrates an example of a toy robot (102) that includes a display and a movable camera (106), per techniques of this disclosure. The display is used to display a customized virtual assistant avatar (104). The personality, tone of the spoken response, and the virtual assistant avatar can be customized specifically for different users, e.g., for children.

The toy robot with the virtual assistant includes features that enable users to utilize the toy robot to perform visual queries. In the example illustrated in Fig. 1, a user (100) invokes the virtual assistant with a query "robot, what do you see?" In response, the camera is activated (with user permission) and the vicinity of the robot is scanned to detect an object in the field of view. For example, the robot camera detects a pencil and provides a response. As illustrated in Fig. 1, the response can be in the form of audio (""I see a pencil") and/or visual (a picture of a pencil shown on the display of the robot. Still further, the virtual assistant capture may also return results of a search based on the image, e.g., visuals of pencils or other writing instruments, etc. and/or audio. Other types of queries, e.g., spoken queries, are also supported.

Customization of a virtual assistant

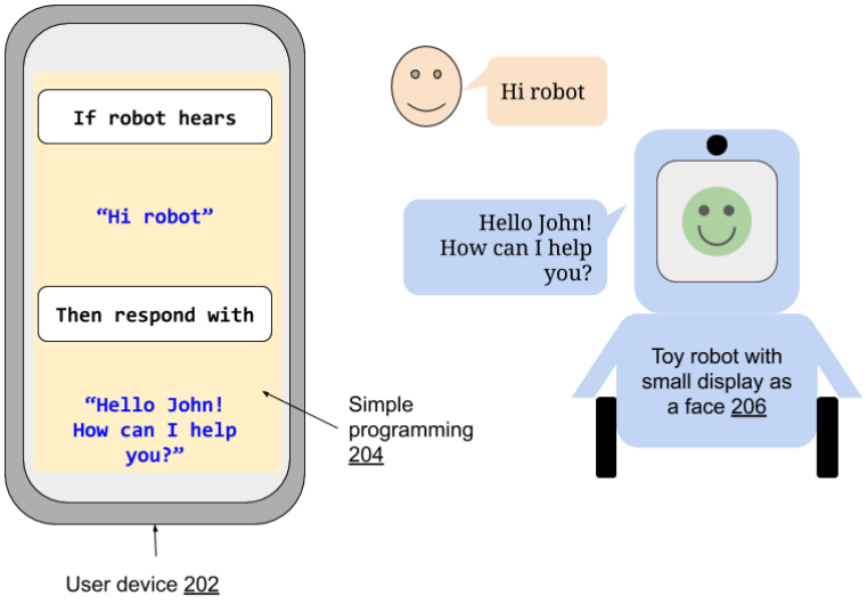

Fig. 2: Customization of a virtual assistant

Fig. 2 illustrates an example in which the virtual assistant is customized through simple programming. The toy robot displays a face (206) of the virtual assistant. Simple programming (204) can be performed using a user device (202) such as a smartphone or tablet to customize the virtual assistant. In the example illustrated in Fig. 2, the user programs the toy robot to respond with "Hello John! How can I help you?" when the virtual assistant detects a user spoken command "Hi robot." Similarly, the virtual assistant can be programmed to recognize a command such as "search for what you see." When such a command is spoken, the virtual assistant uses the on-board camera to scan and recognize objects in the vicinity of the robot.

Further to the descriptions above, the user, e.g., a child using the device and/or parent or other authority, is 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., a user's preferences; sensor data such as a camera feed, user's current location, ambient sound levels, etc.), and if the user is sent content or communications from a server. In addition, certain data is treated before it is stored or used, so that personally identifiable information is removed. For example, a user's identity is treated so that no personally identifiable information can be determined for the user; a user's geographic location is generalized where location information is obtained so that a particular location of a user cannot be determined. Thus, the user has control over whether and 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 toy robot with a customized virtual assistant personality. The virtual assistant is displayed as a face on a robot with a screen. The personality, tone of spoken responses, and the displayed avatar of the virtual assistant can be customized for different users.

With user and parent permission, the virtual assistant can use an on-board camera to perform visual searches. The virtual assistant provides responses that include audio and graphics, with little to no text.

REFERENCES

1. https://www.ijert.org/research/study-of-a-home-robot-jibo-IJERTV3IS100361.pdf accessed June 25, 2019.
2. Jibo Robot https://www.jibo.com/
3. Anki Vector Robot, https://anki.com/en-us/vector.html
4. Miko - your child's companion, https://www.emotix.in/store