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Customized query responses based on available appliances

ABSTRACT

This disclosure describes techniques to provide customized responses to user queries for household tasks, e.g., use of an appliance such as a washer/dryer. The responses are customized based on information regarding appliances available within the household, obtained with user permission. The query may be received by a virtual assistant, e.g., available via a household appliance, or via device such as a smartphone, smart speaker, personal computer, etc. Information regarding the appliances is obtained, e.g., by indexing product manuals and other information. Results are provided that guide the user to complete the household task using an available appliance.

KEYWORDS

- voice query
- smart appliance
- product manual
- smart speaker
- virtual assistant

BACKGROUND

More and more home appliances are now connected to the internet and either include built-in virtual assistant functionality, or can be controlled by a virtual assistant application, e.g., as an Internet-of-Things (IoT) device. Users often perform queries related to usage of appliances, e.g., “how to wash baby clothes?” “dishwasher mode for oily dishes” etc. Such queries may be answered by a virtual assistant or a search engine.

Currently, the virtual assistant or search engine provides search results without considerations made to smart appliances that may be available to the user. For example, when a user that owns a smart dishwasher issues a query “how should I wash oily dishes?” the query response may list general techniques for cleaning oily dishes.

DESCRIPTION

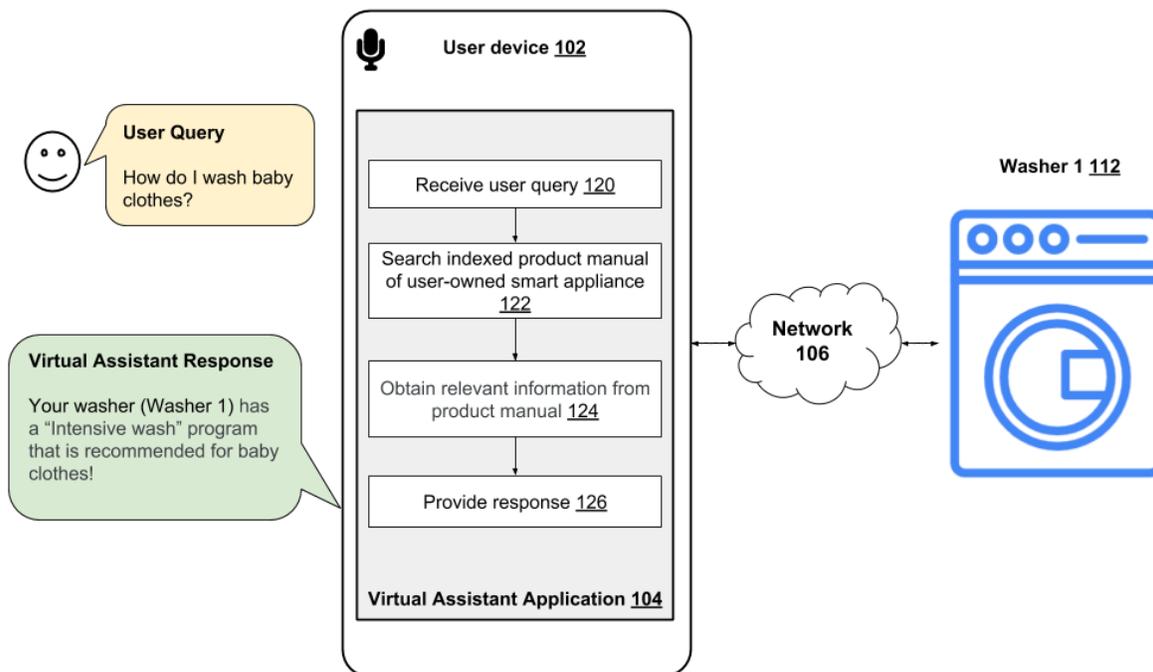


Fig. 1: Customized query responses based on available appliances

Fig. 1 illustrates an example of provision of customized query responses, per techniques described herein. As illustrated in Fig. 1, the user issues a voice query “How do I wash baby clothes?” to a virtual assistant application (104) on a user device (102), e.g., a smartphone, smart speaker, or other device.

With user permission, the provider of the virtual assistant application or search engine determines that the home network (106) of the user includes a washer (112) and other appliances.

The provider also has a stored database that includes product manuals and other information for different appliances and that indexes information retrieved from such material.

Upon determining the presence of various appliances or receiving user input indicating appliances they own, the provider determines that the user has a particular type of dishwasher, e.g., “Washer 1”. Upon receipt of the user query (120), the provider performs a search (122) to determine whether information specific for “Washer 1” is available. If such information is available, relevance matching techniques are used to match the user query to information in the database to obtain relevant information (124) from the product manual or other materials. For example, in response to the user query for washing baby clothes, the relevant information may be that Washer 1 has an intensive wash program that is recommended for baby clothes. A response (126) is formulated based on the relevant information and is provided to the user.

While Fig. 1 illustrates a query relevant for a dishwasher appliance, queries for any household appliance, e.g., a washer/dryer, air-conditioner, heater, oven or other cooking appliance, etc. can be answered using the techniques described herein. Also, users can be provided with options to enable them to provide information regarding appliances they own, e.g., that are available but are not connected to the internet. Information sources other than product manuals, e.g., frequently asked question pages, online help pages, product discussion forums, etc. can also be indexed and utilized to respond to user queries.

The described techniques can be implemented as part of a virtual assistant application, a search engine, etc. The described techniques are implemented with specific user permission to obtain information regarding appliances available to the user, e.g., appliances connected to the same network as the device that received the query, appliances determined to be present in the user’s household, etc. If the user denies or restrict permission to access data about their smart

appliances, only such data are accessed as permitted by the user. Users are provided with options to turn-off access to information regarding smart appliances.

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 techniques to provide customized responses to user queries for household tasks, e.g., use of an appliance such as a washer/dryer. The responses are customized based on information regarding appliances available within the household, obtained with user permission. The query may be received by a virtual assistant, e.g., available via a household appliance, or via device such as a smartphone, smart speaker, personal computer, etc. Information regarding the appliances is obtained, e.g., by indexing product manuals and other information. Results are provided that guide the user to complete the household task using an available appliance.

REFERENCES

1. Candy Smart Touch, available online at <http://www.candysmarttouch.com/eu/>, accessed April 8, 2019.