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Enabling Calls to Public Contacts via Smart Devices

ABSTRACT

Devices with support for virtual assistants, such as smart displays, smart speakers, etc. include features that enable users to place audio or video calls to their contacts. The calling features are restricted to the user that is logged in to the device, since contacts are private to the user. This disclosure describes techniques to enable other users to place calls. A user, such as a device owner, can configure their address book to mark a subset of their contacts as public contacts. Public contacts are accessible to other users, who can then place calls to such contacts.

KEYWORDS

- Smart display
- Smart speaker
- Smart appliance
- Virtual assistant
- Contacts
- Address book
- Speed dial

BACKGROUND

Devices with support for virtual assistants, such as smart displays, smart speakers, etc. include features that enable users to place audio or video calls to their contacts. The calling features are restricted to the user that is logged in to the device, since contacts are private to the user. Other users that are proximate to such as a device, e.g., members of the household or guests that are not registered or signed-in to the device are therefore not able to place calls.

DESCRIPTION

This disclosure describes techniques to enable non-registered users to place calls using devices such as smart displays, smart speakers, or other types of smart devices. Per techniques of this disclosure, a signed-in user of the device can configure a subset of their contacts, e.g., stored in an address book associated with a user account of the signed-in user, as public contacts. Public contacts are accessible to other users of the assistant device such as guests that are not signed-in to the device or users with a different sign-in. Such users can access the public contacts via the device to place calls.

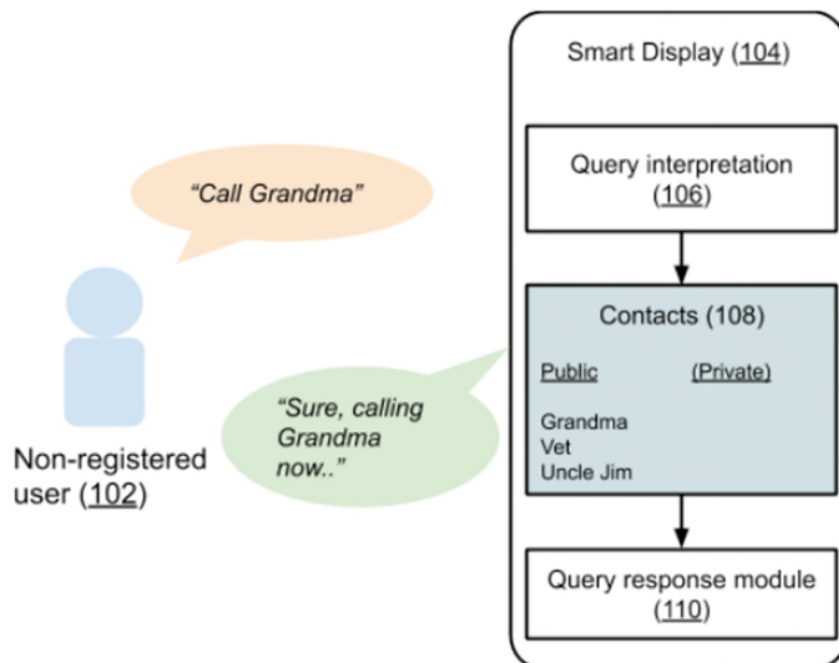


Fig. 1: Placing calls via a smart device

Fig. 1 illustrates an example of a non-registered user placing a call to a public contact using a smart display (104), per techniques of this disclosure. In this illustrative example, a non-registered user (102) makes a request to place a call ("Call grandma"). The request can be made by any person in the household where the smart display is located.

The query is received and analyzed by a query interpretation module (106), e.g., contacts (108) of a user account that is associated with the smart display are searched to determine if a public contact exists that matches the person specified in the request. In this illustrative example, the requested contact (“Grandma”) is a public contact. Once the contact is identified, a call is placed via a query response module (110). Contact disambiguation can be performed, e.g., multiple names may be associated with the same contact (“Grandma,” “Granny,” “Aunt Jemima,” etc.).

The user can specify a contact as a public contact using a field within their address book. Public contacts associated with a registered (signed-in) user are made accessible to other users. For example, if the device includes a screen, one or more of the public contacts are displayed on the screen.

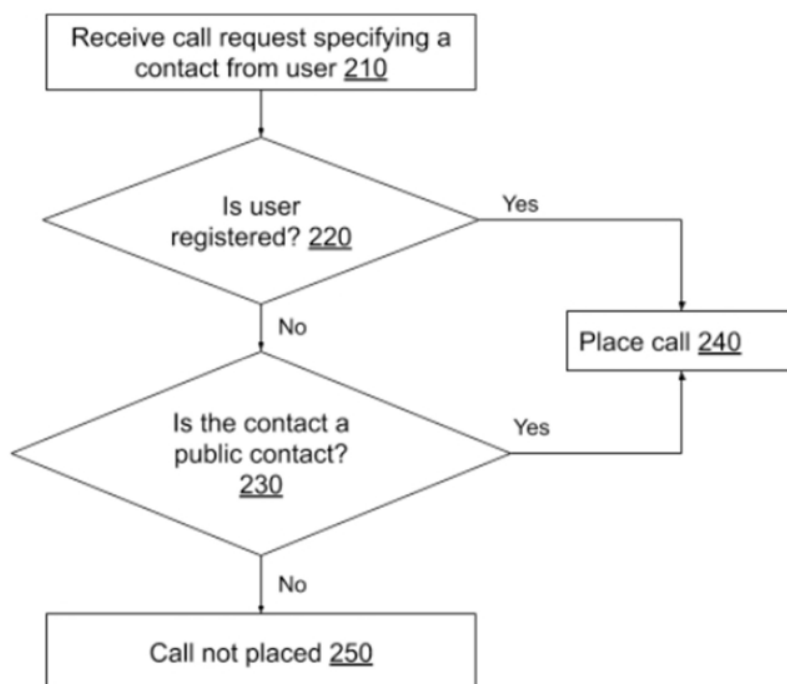


Fig. 2: Handling call requests

Fig. 2 illustrates the workflow for the placement of calls. A request to place a call to a contact is received from a user (210). With user permission, it is determined if the requesting user is a registered user of the device (220), e.g., by verification of the user's voice.

If it is determined that the user is a registered user, a call is placed (240). If it is determined that the user is not a registered user (for example, other household member, guest, etc.), it is determined (230) whether the contact is a public contact. If the contact is a public contact, the call is placed (240), else no call is placed (250) and a suitable message is provided to the requesting user.

Techniques of this disclosure can enable access via a smart device to shared contacts of a user by other household members, guests, etc. Device owners can utilize this feature to share important contacts with other users.

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

Devices with support for virtual assistants, such as smart displays, smart speakers, etc. include features that enable users to place audio or video calls to their contacts. The calling features are restricted to the user that is logged in to the device, since contacts are private to the user. This disclosure describes techniques to enable other users to place calls. A user, such as a device owner, can configure their address book to mark a subset of their contacts as public contacts. Public contacts are accessible to other users, who can then place calls to such contacts.

REFERENCES

[1] Vinh Quoc Ly, Raunaq Shah, Okan Kolak, Deniz Binay, Tianyu Wang. "Handling calls on a shared speech-enabled device." U.S. Patent Application 15/980,836, filed May 16, 2018.