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Map interface for control of smart home appliances

ABSTRACT

As homeowners increasingly adopt and install smart appliances and devices, differentiating such appliances and devices by names has become difficult. For example, a typical house may have tens of appliances such as lights, computers, televisions, audio units, game consoles, heaters, air-conditioners, etc. Attempting to control such appliances/devices by assigning names can become tedious and error-prone. This disclosure describes techniques that visually situate home appliances on an indoor map. To control an appliance, a user can quickly select an appliance by its location on the map.

KEYWORDS

- Smart home
- Smart appliance
- Virtual assistant
- Energy savings
- Indoor map
- Map interface

BACKGROUND

As homeowners increasingly adopt and install smart appliances and devices, differentiating such appliances and devices by names has become difficult. For example, a typical house may have tens of appliances such as lights, computers, televisions, audio units, game consoles, heaters, air-conditioners, etc. Attempting to control such appliances/devices by assigning names can become tedious and error-prone.

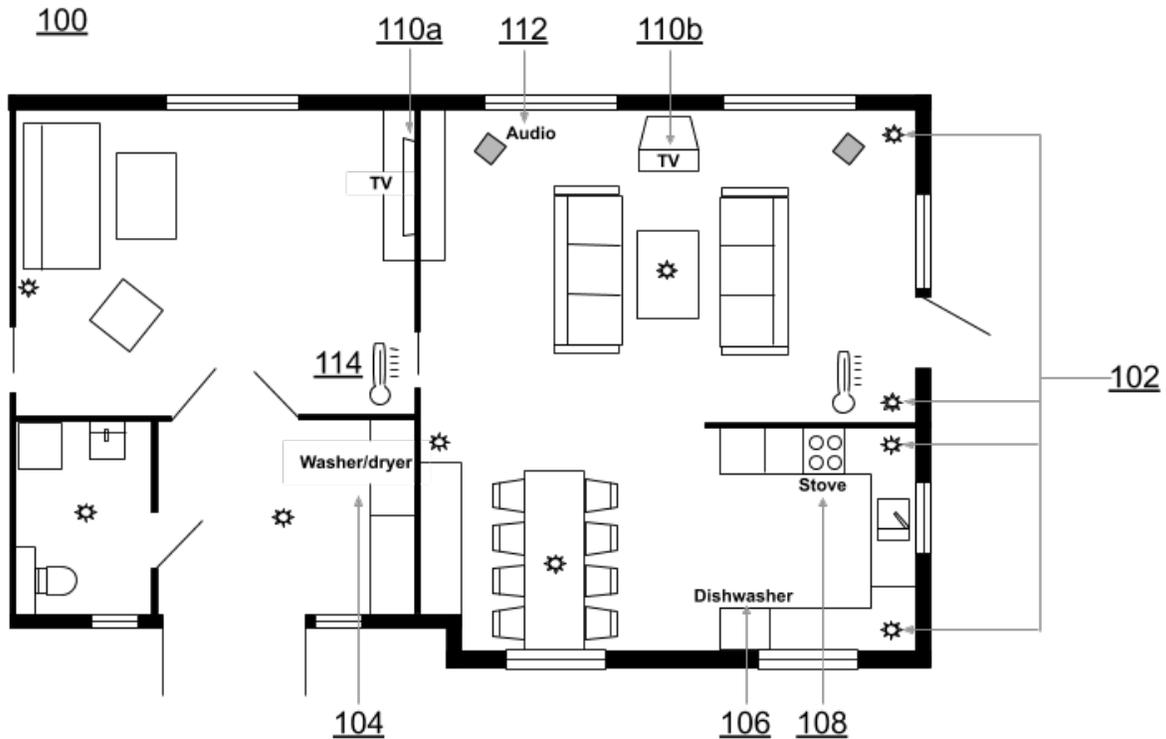
DESCRIPTION

Fig. 1: A visual map of smart home appliances

Fig. 1 illustrates situating smart home appliances on a visual map of the house, per techniques of this disclosure. Locations of home appliances that are individually controllable, e.g., lights (102), washer/dryer (104), dishwasher (106), stove (108), television units (110a-b), audio units (112), thermostats (114), etc. are marked on a floor plan (100) of a house. A map such as that of Fig. 1 is presented on a device screen such that a user can remotely control a home appliance by selecting the home appliance on the screen.

The map used to situate home appliances can originate from various sources, e.g., architectural drawings, indoor mapping applications on mobile devices, smart home mapping APIs, floor-plan CAD software, user-drawn floor plans, camera-based augmented reality floor-

plan generators, robot-based floor-plan generators, etc. The map is obtained and utilized with user permission.

Indoor maps, as described herein, offer an intuitive and precise way to access and control home appliances. Coordination between different appliances within a home also becomes easier, as the spatial relationship between the appliances is indicated clearly on the map. The techniques can be used in conjunction with a virtual assistant to control smart home 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 that visually situate home appliances on an indoor map. To control an appliance, a user can quickly select an appliance by its location on the map.