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Sean Zarringhalam

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Portable Smart Home Gateway for Easy Setup of Smart Home Devices

ABSTRACT

Smart home devices need to be set up to access home WiFi networks and registered to a user account before the device can be used in a home. The multi-step setup procedure can be different for different devices and can take considerable time and user effort. This disclosure describes a portable smart home gateway that simplifies the process of adding new smart home devices to a home network. The smart home gateway can connect to a home WiFi network and to other smart devices via a home networking protocol. New devices can be connected to the smart home gateway via USB (or other suitable connector). Upon connection, the smart home gateway can route requests from the device to the WiFi network and can automate the setup process.

KEYWORDS

- Smart home
- Internet-of-Things (IoT)
- Device setup
- Home networking
- Home gateway
- Setup time
- Setup effort

BACKGROUND

Smart home devices need to be set up to access home WiFi networks and registered to a user account before the device can be used in a home. The setup procedure can be different for different devices and involve multiple steps. Setting up a smart home device can take

considerable time - the user needs to read instructions for the device, connect the device via Bluetooth, and follow on-screen instructions to register the device. The process can be difficult for many users.

DESCRIPTION

This disclosure describes a portable smart home gateway that simplifies the process of adding new smart home devices to a home network. The smart home gateway reduces user effort and enables new devices to be connected quickly.

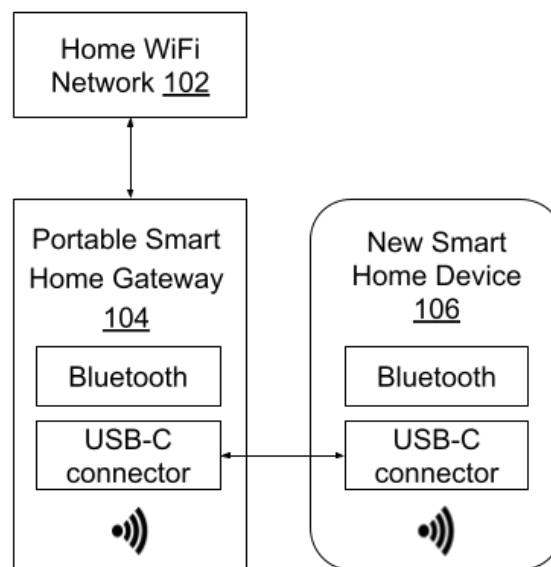


Fig. 1: Smart home gateway for setting up smart home devices

Fig. 1 illustrates the use of a smart home gateway for setting up smart home devices. The portable smart home gateway (104) is a device that includes a WiFi module, a Bluetooth module, and USB (e.g., USB-C) connector. The device is discoverable via a home networking protocol. A user can use any smart home application that supports the protocol to set up the smart home gateway. Upon setup, the smart home gateway connects to the home WiFi network (102) and can access the home network, including other smart devices.

When the user acquires a new smart home device (106) that supports the same home networking protocol, the smart home gateway can be used to set up the new device. The new smart home device and portable smart setup device are connected through a USB-C connector (or other suitable connector) as shown in Fig. 1. Upon such connection, the new device can access the home WiFi network and other devices within the smart home. Network requests from the new device are forwarded through the smart home gateway. For example, the smart home gateway can provide an application programming interface (API) for such features as a service that is local to the device. The service can also include an option to attach authentication credentials to specific requests.

By providing a configurable smart home gateway that can be configured within a home network and that can subsequently enable automatic configuration of new smart home devices, the techniques described herein simplify and speed up the setup process for smart home devices. Any manufacturer of smart home devices such as smart displays/speakers, smart appliances, smart doorbells, security cameras, smart lights, etc. can support the smart home gateway to simplify setup of their devices.

CONCLUSION

This disclosure describes a portable smart home gateway that simplifies the process of adding new smart home devices to a home network. The smart home gateway can connect to a home WiFi network and to other smart devices via a home networking protocol. New devices can be connected to the smart home gateway via USB (or other suitable connector). Upon connection, the smart home gateway can route requests from the device to the WiFi network and can automate the setup process.