Abstract

This paper presents a thorough explanation of diverse, smart homes systems and technologies from the viewpoint of control and safety. This work highlights numerous faults with regard to safety in current smart home systems. Various smart homes machineries are considered in this project, including Internet-based, Short Messaging Service-based, mobile Global System for Mobile communications-based, Bluetooth-based, and Email-based smart home systems. The proposed system is made up of two parts: the hardware and software. The hardware consists of a base station unit (BSU) and several terminal nodes (TNs). The BSU is comprised of the main unit, represented by a Raspberry Pi3, while the TN represented by a Wemos-D1 board, the required sensors and appliances. The software is made up of the programming of the Wi-Fi network and the system protocol. In this paper, an MQTT (Message Queue Telemetry Transportation) broker was built on the Raspberry Pi3 and Wemos-D1. The MQTT broker was utilized as a platform to provide the Internet of Things (IoT) services, which control and monitor smart home appliances. The benefit of the GSM, Internet, and Email is that the home device can be controlled from anywhere in the world.
Using Different Network Technologies and Wireless Sensor Networks to Design and Implement a Fully Smart Home System

References

Index Terms

Computer Science  Wireless

Keywords

Raspberry Pi3; E-mail; IoT; Android application to Bluetooth; GSM; Wemose-d1