Methodology for adapting 802.15.4 standards to a gateway

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Abstract

Nowadays, the wireless communication systems have experienced a great advance in efficiency, infrastructure and coverage, which has allowed the appearance of new standards that help in the digital interconnection of different devices in a local network. Today, the Internet of things (IoT) is considered the next great opportunity and challenge for the Internet engineering community, wireless technology users, companies and society in general. There are several wireless transmission standards such as Wi-Fi, Bluetooth, ZigBee and all of them are designed for low power operations; they can be left unused for a long period of time without the need to recharge the battery of the device, which avoids the need to recharge the battery frequently. This paper aims to analyze the implementation of a gateway for the IEEE 802.15.4 standard with open source tools and the Raspberry Pi 3 development board, using the agile development methodology.

Keywords

Gateway, 802.15.4 protocols, Open source

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