Modular Design and Implementation of a Low Cost Home Automation System using Web-Services

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Abstract

The idea of home automation has existed and worked on by several researchers. The idea of controlling devices, around a home, in way to provide improved comfort and security has been in the way since early 19th century.

Current advancements in computing and communication technology allow for designing smart home automation systems that can manage several devices from one central location. Several researchers have been working in designing one that can manage, maintain and process data with very little user interaction. Therefore, the aim of this thesis is to design and implement a low-cost home automation system that is independent of networking protocol, is scalable and easy to deploy & maintain.

The system works as several modules operating independently while coordinating with a central gateway. Zigbee protocol was used provided wireless communication to devices that require low-power and not a whole lot of computing. Lastly a discussion was made to use Open-source software to keep cost to minimum.

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