AIUB DSpace Publication Details

Title:	Smart Home Automation and Security System Design Based on IoT Applications
Author(s) Name:	Shameem Ahmad, Arghya Saha, Leong Wen Chek, Saad Mekhilef, Tariful Azam, Mahrous Ahmed, Mohamed Orabi, Sherif Ghoneim, Mosleh Alharthi, Farhan Salem, Basem Alamri
Contact Email(s):	ahmad.shameem@aiub.edu
Published Journal Name:	ASEAN Engineering Journal
Type of Publication:	Journal
Volume:	9 Issue 2
Publisher:	UTM Press
Publication Date:	01/12/2019
ISSN:	2229-127X
DOI:	10.11113/aej.v9.15513
URL:	https://journals.utm.my/aej/article/view/15513
Other Related Info.:	Page 57-71, Scopus indexed

Abstract:

Conventional Home Automation Systems lack many of the essential properties of home automation system, which are now easily accessible with modern technologies like IoT where every device is connected and can be controlled through internet. The proposed system presents a standard home automation system with all requirements an automation system has like – scalable, configurable, DIY and serves the most important function which is plug and play. Firstly, this paper discuss the merits and demerits of mainstream works on home automation system. Next, key enabling technologies – Cloud (Pubnub), Android Applications, WiFi Module (ESP 8266), Raspberry Pi have been discussed. User interfaces for web, pc and mobile devices are designed for this system. Also, algorithm has been constructed for connecting Wi-Fi/Bluetooth module with the system to control wirelessly. Smart home security system has been added by using PIR motion Sensor. Lastly, data have been measured from the different sensors and power consumption of the devices were calculated and showed on a graph. . Then, electricity bill consumption has been calculated and sent by sms to the user. Global and local accessing from web interface and Android Application to control devices and configurable feature (change as per require) makes the system a standard home automation framework

Faculty of Engineering

American International University-