

INTELLIHOME (Home Automation using NodeMCU and Google assistant)

Manjesh N¹, P Harathi², S Md Sameer³, P Sravani⁴

Assistant Professor, Department of Electronics and communication Engineering¹

B.E 3rd Year Students, Department of Electronics and communication Engineering^{2,3,4}

R L Jalappa Institute of Technology, Doddaballapur, Karnataka, India

Abstract: *The Internet of Things (IoT) has transformed our lifestyle, and interact with technology. One of the most promising applications of IoT is in the realm of home automation. In this paper, we explore the potential of IoT based home automation systems to improve the comfort, convenience, and energy efficiency of modern homes. Our results show that our system can provide significant energy savings and improve user comfort and convenience. We also discuss the challenges and opportunities for future research in this field, including security, privacy, interoperability, and scalability issues. Our paper provides a comprehensive overview of the current state of IoT-based home automation and identifies key areas for future research and development. We review the state of the art in IoT technologies and their application to home automation, actuators, wireless communication protocols, and cloud computing platforms. We describe a prototype IoT-based home automation system that we developed and evaluated in a real-world setting.*

Keywords: Internet of Things, Home automation, convenience, security, communication protocols.

REFERENCES

- [1] Tianyi Song, Ruinian Li, Bo Mei, Jiguo Yu, Xiaoshuang Xing, and Xiuzhen Cheng, Fellow, IEEE, "A Privacy Preserving Communication Protocol for IoT Applications in Smart Homes", VOL. 4, NO. 6, 23 May 2017.
- [2] Jasmeet Chhabra Punit Gupta, "IoT based Smart Home Design using Power and Security Management", 3 February 2016
- [5] Pavithra.D, Ranjith Balakrishnan, "IoT based Monitoring and Control System for Home Automation", 23 April 2015.
- [3] Ravi Kishore Kodali, Vishal Jain, Suvadeep Bose and Lakshmi Boppana, "IoT Based Smart Security and Home Automation System", 29 April 2016. [4] Enhance Smart Home Automation System based on Internet of Things", by Tushar Churasia and Prashant Kumar Jain; in Proceedings of the Third International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC 2019) IEEE Xplore Part Number: CFP19OSV-ART; ISBN: 978-1-7281-4365-1, 12-14 December 2019
- [5] Waheb A. Jabbar, Mohammed Hayyan Alsibai, Nur Syaira S. Amran, and Samiah K. Mahayadin, "Design and Implementation of IoT- Based Automation System for Smart Home", 19 June 2018
- [6] A Low Cost Home Automation System Using Wi-Fi based Wireless Sensor Network Incorporating internet of Things", by Vikram.N, Harish.K.S, Nihaal.M.S, Raksha Umesh, Shetty Aashik Ashok Kumar; in 2017 IEEE 7th International Advance Computing Conference, 05-07 January 2017