

A Review on Smart Home Automation using Virtue of IoT

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Abstract

Smart home automation system in daily routine plays a starring role which helps in reducing work. Smart home automation is flattering trendy due to its various advantages. With development of Automation technology, life is getting effortless and uncomplicated in all aspects and it is intended to save the electric power and human energy besides automated systems are being favored more than manual system. With the speedy enhancement in the number of users of internet over the past decade has made Internet an essential part of life. Nowadays IoT is the most recent and promising internet technology. This paper describes the literature survey of existing system. We will perceive a review of the technology used to design this system. Comparisons of different system technology are studied in this paper.

Keywords: Intel galileo gen 2, IoT, sensors, smart home, Wi-Fi

INTRODUCTION

Internet of things (IoT) is an environment in which all the devices communicate with each other to make the world smarter [1, 2]. IoT has the endowment to broadcast the information to the devices without intercommunication between human-to-human or human-to-computer. In this eon, IoT is the promoted topic among technology giants and business communities. IoT is a patchwork of interconnected things which are encapsulated with sensors, software, network connectivity and necessary electronics that enables them to aggregate and exchange data making them responsive. Smart home automation is the urban extension of building automation and involves the regulation and computerization of lighting, heating, ventilation, air conditioning and security as well as home appliances such as dryers, ovens, freezers that use Wi-Fi for remote monitoring [3]. Present systems broadly consist of switches and sensors connected to a foremost hub called a portal from which the system is governed by a user that is united either with a mobile phone

software, tablet or a web interface often but not always via internet cloud services. This provides the user more control of their devices and can simplify many manual actions.

RELATED WORK

This section describes study of the previous works related to the proposed system.

Governing of Light

In the paper [4] problem is due to architecture limitation . The existing light control system cannot be successfully applied. A solution to this problem is automatically to adjust the home light intensity values by sensing the intensity of sunlight to enhance the energy efficiency.

In the paper [5] problem is the user has to switch on or off the light manually . A solution of this problem is when somebody enters the room led light switch on and when leaves the room the light will be off.

Power Window

In the paper [6] problem is window does not open automatically . A solution of this problem is automatically turns up the glass upward when rainfall is detected and glass goes down when no rain detected.

In the paper [7] problem is at present electronic buttons and crank handles are used as control units for power window . A solution to this problem is introducing a touch screen interface for the same.

Smart Terrace Garden

In the paper [8] problem is systems are too expensive and not compatible with the app or both . A solution of this problem is it will help to save time, money and help the environment through reducing water loss.

Child Back to Home

In the paper [9] system is not present in the real world or unimplemented . The only idea related to this system is provided. On the basis of same idea there is the design of an application called child back to home.

From a study of the existing system, it is observed that it has various limitations. These limitations can be overcome using the proposed system.

COMPARATIVE STUDY

The existing system has many limitations such as the problem of energy consumption, wastage of water, child security etc. By using proposed system the energy consumption is going to reduce due to which the cost of the energy bills is also going to reduce. Now a day, wastage of water is the big issue and the existing system is not capable of dealing with these issues, but these issues can be solved by the proposed system. Now a days parents are working or many of the time they are out of the home and they are worried about their child security for e.g. The child returns to home from school or not. In this

respect no other existing system which will tell the parents that child reaches at home from school safely. But by using proposed system parents will know about their child, whether returns or not.

CONCLUSION

After comparative study due to limitations of other existing systems, there was a proposal of a system which will give a better understanding of environmental conditions at home. After that there was discussion of smart home control and monitoring system using IoT. Use of different sensors that will be useful in implementing this system. With this system, there is management of flexible, smart home with low cost to adjust its environmental conditions and insist its errors with energy saving.

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