International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056
Volume: 06 Issue: 02 | Feb 2019 www.irjet.net p-ISSN: 2395-0072

A survey on Home Automation by Voice based Google Assistant

Y. Swapnika[1], V. Sai Sravani[2], N. Aditya[3]

[1,2,3]*B.Tech Student, Department of Information Technology, Sreenidhi Institute of Science and Technology, Telangana, India*

ABSTRACT - Voice controlled Home automation by utilizing Google assistant. Home automation or domestics a term for home automation coined by Jim Hill has been evolving drastically. We saw many home automation technologies introduced over these years from ZigBee automation to Amazon Echo, Google Home and Home from Apple. It has become a craze these days. In this survey we describe ordinary household appliances, natural language voice commands given to Google Assistant. Micro controller control the relays connected to it as required, turning the bulb connected to respective relay ON or OFF as per users request to Google Assistant. In this work we discussed about different techniques or method used in home automation and their compactness.

Keywords: automation, voice, Google, assistant, home, methods..

1.INTRODUCTION

People came to their home fatigued later than a long tough working day. Some people are tired very much that they are unable to move from sofa or bed. So any small device/technology that would help them switch theirs lights on or off, or play their favorite music etc. on a go with their voice with the aid of their smart phones would make their home more comfortable. Voice identification is a technique and created to recognize, differentiate and authenticate the voice of an individual [1].

Furthermore, everything would be altered to room temperature previously completed before people reach their home by giving some voice command through smart phone gives relax and comfortable to recover from their tiredness. In previous years, people are hiring human assistants like housekeepers and they can do some extent but not up to the mark. Now a day's technology changing human routine life enough with theses new smart home devices as these devices cost is expensive. Though, some people are not able to have enough money to hire human assistant or smart home kit.

The Google Assistant is software which allows its users to control all the apps in their device to be controlled directly through it. It allows the users to control and command most of the apps in their devices using voice commands. This provides more convenience to the people as they only have to command the Google assistant thorough voice command.

2. DIFFERENT METHODS USING GOOGLE ASSISTANT:

SDK existing in Google Assistant [2] which is provided by Google is able to correspond with the Inter of things Raspberry Pi and the peoples. Whenever the humans furnish voice commands to the machine to manage the home appliances in their home, alter the temperature, talk to the Google Assistant to get flawless data and information, and also utilize it to connecting to the smart lights and TVs.

Fig 1: controlling home appliances by using smart phone voice command.

The Raspberry Pi [3] connected camera and motion sensors used to create a web user interface based home inspection and automation system. The system [4] which can be used to manage home appliances by interpretation the commands the issue of an email acknowledged to the exclusively programmed email of the machine. A flexible and low-cost home control and monitoring system [5] is developed for using implanted micro server with IP address for controlling machines remotely via an Android application. Advancements of mobile IP [6] is integrated with the smart home system and implemented the standards of mobile IP to afford mobility on the design for mobile internet protocol based Smart home. The Siri technology powered by Apple Inc., is proposed by the system [7] to control the system via built in voice commands.

3. ARCHITECTURE DESIGN

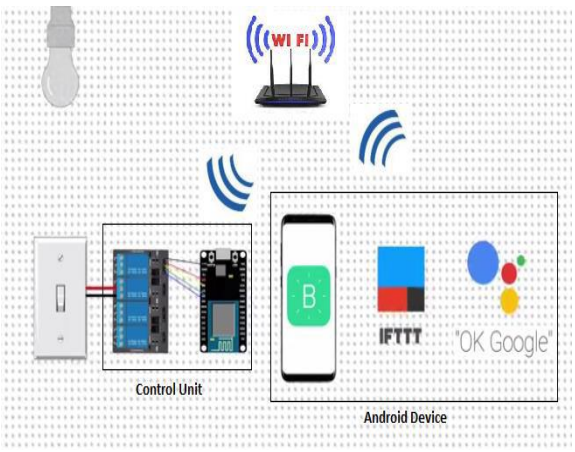

Fig1. Basic system architecture.

This architecture design only tells us how does the series of actions take place in the system proposed. Here the google assistant voice controller is not mentioned as it is just a tool for controlling the relays.

We must first start the process by turning ON the device

Later the google assistant needs to be activated

Command is being given by the user

The command is being matched by the IFTTT command

Basing on this command the bulb turns ON/OFF

Then turn off the device

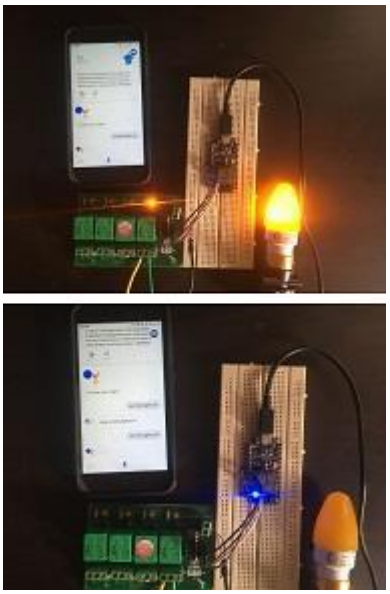

Fig 2. Light on/ off by voice command

Fig 3. Home automation

4. CONCLUSION

A cost effective voice controlled home automation handling general home appliances originate in home which is known as Google Assistant Controlled Home Automation design was effectively implemented. This system is highly reliable and efficient for the aged people and differently able person on a wheel chair who cannot reach the switch for the switching ON/OFF the device and are dependent on others.

5. FUTURE ENHANCEMENT

In future work, we will improve many factors to make Google Assistant Controlled Home Automation more powerful, intelligent, scalable, and to become better overall for home automation. For instance, changing the swiftness of the fan, more devices can be integrated and also the response of machine is also improved. In future, we will implement face reorganization technique through Google assistant for controlling the home for better security prospective.

6. REFERENCES

[1] https://www.techopedia.com/definition/9961/voice-recognition

[2] Mummaka Sai Srinath et al., "INTERACTIVE HOME AUTOMATION SYSTEM

WITH GOOGLE ASSISTANT", International Journal of Pure and Applied Mathematics

Volume 119 No. 12 2018, 14083-14086.

[3] Hari Babu Kandala et al., "A Smart Home Automation Technique with Raspberry Pi using IoT" 2015 International Conference on Smart Sensors and Systems (IC-SSS).

[4] Anant Vaibhav et al., "Raspberry Pi based Interactive Home Automation System through E-mail" 2014 International Conference on Reliability, Optimization and Information Technology - ICROIT 2014, India, Feb 6- 8 2014

[5] Seong Ro Lee et al., "Smart Home- Control and Monitoring System Using Smart Phone" 1st International Conference on Convergence and its Application (ICCA), Volume: 24

[6] Byungjoo Park et al., "Mobile IP-Based Architecture for Smart Homes" International Journal of Smart Home Vol. 6, No. 1, January, 2012

[7] Ana Marie. et al., "Home Automation Using Raspberry Pi through Siri Enabled Mobile Devices" 8th IEEE International Conference Humanoid, Nanotechnology, Information Technology Communication and Control, Environment and Management (HNICEM).