CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

IT249 – Software Group Project-II
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Synopsis

This project presents a proposal for home automation using voice via Google Assistant. 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. Google Home price is around 150$ (USD) with an additional cost of the devices to be connected to, the total cost of the system reaches over 250$ (USD). Similarly, Belikin's Wemo light is priced around 44$ (USD) per unit and this can be controlled both by Siri and Google Assistant. So, overall we can see here that to make our home smart we need to invest quite a lot, let's say some 250$ (USD) for a basic setup. What if we can automate our house within (cost of the Smartphone is not included as it is assumed to be owned by every individual these days) 10$ and can control up to 8 appliances using Google Assistant? Well, this project describes the implementation of such a system. There are many ways to control a smart home system, including wireless communication over internet. This project will help in creating a new generation of smart homes in which user can control the home appliances such as Refrigerator, Air Conditioner, Fans, and Bulbs etc. The system is implemented using ordinary household appliances Natural language voice commands are given to the Google Assistant and with the help of IFTTT (If This Then That) application and the Blynk application the commands are decoded and then sent to the microcontroller, the microcontroller in turn

controls the relays connected to it as required, turning the device connected to the respective relay On or OFF as per the users request to the Google Assistant. The microcontroller used is NodeMCU (ESP8266) and the communication between the microcontroller and the application is established via Wi-Fi (Internet).

AIM: The aim of this project is propose a cost effective voice controlled (Google Assistant) for home automation controlling general appliances found in one's home. The approach discussed in the project is successful as GACHA's (Google Assistant Controlled Home Automation) design was successfully implemented Objective.

Hardware Requirement

NodeMCU
Relay board
Arduino circuit
Breadboard
Lights
Jumper wires

Software Requirement

Language: Arduino
Google assistant
Blynk app

Functionality

Using nodmcu, we can make our home automatic by connecting it to nodemcu and connecting it with Google Assistant.

Limitations

1. Installation
2. Cost
3. Complex technology