PROJECT PHASE - 1

HOME AUTOMATION

Problem statement:

Controlling devices through wires and managing them through switches are not energy efficient and convenient for the people using them.Managing all devices at a place is not completely possible with the wired and normal connections

Aim / objective:

Designing a system that enables wireless control of devices in a room at home or workplace,without the direct usage of an Arduino board.

COMPONENTS REQUIRED

- NodeMCU.
- Blynk app.
- 4 channel relay.
- IFTTT
- Google assistant

Working:

- Initially the blynk app,ifttt and google assistant should be configured.In the Blynk app,buttons can be inserted according to the pin number.

- Then using the auth code of the project created in the blynk app,NodeMCU can be connected to it.

- To automate the process,Google assistant and IFTTT are used.The major role of IFTTT is to connect the Google assistant with the Blynk app.

- In IFTTT, webhooks is used to access the blynk app through google assistant and two applets should be created for on and off of a single device.

- Thus, the devices can be controlled through voice command and also through the buttons in blynk app.

CONFIGURATION OF IFTTT:

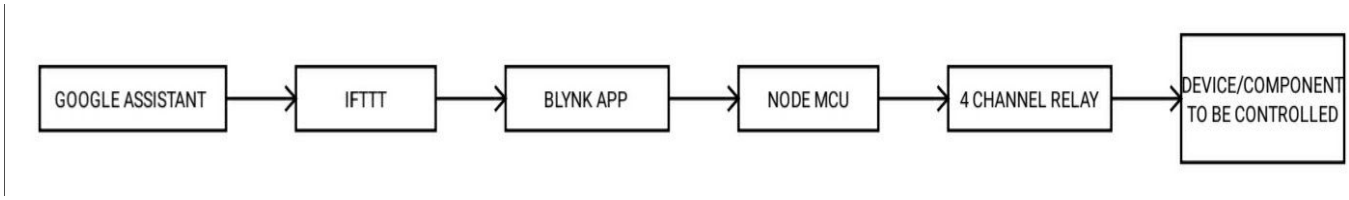
In “this+” google assistant is added and commands are given to it.

Next, “that” was given as webhooks.The URL which has to be given is

”http://188.166.206.43/auth_token/update/pin_number”

Similarly for turn off, but only the commands given changes.

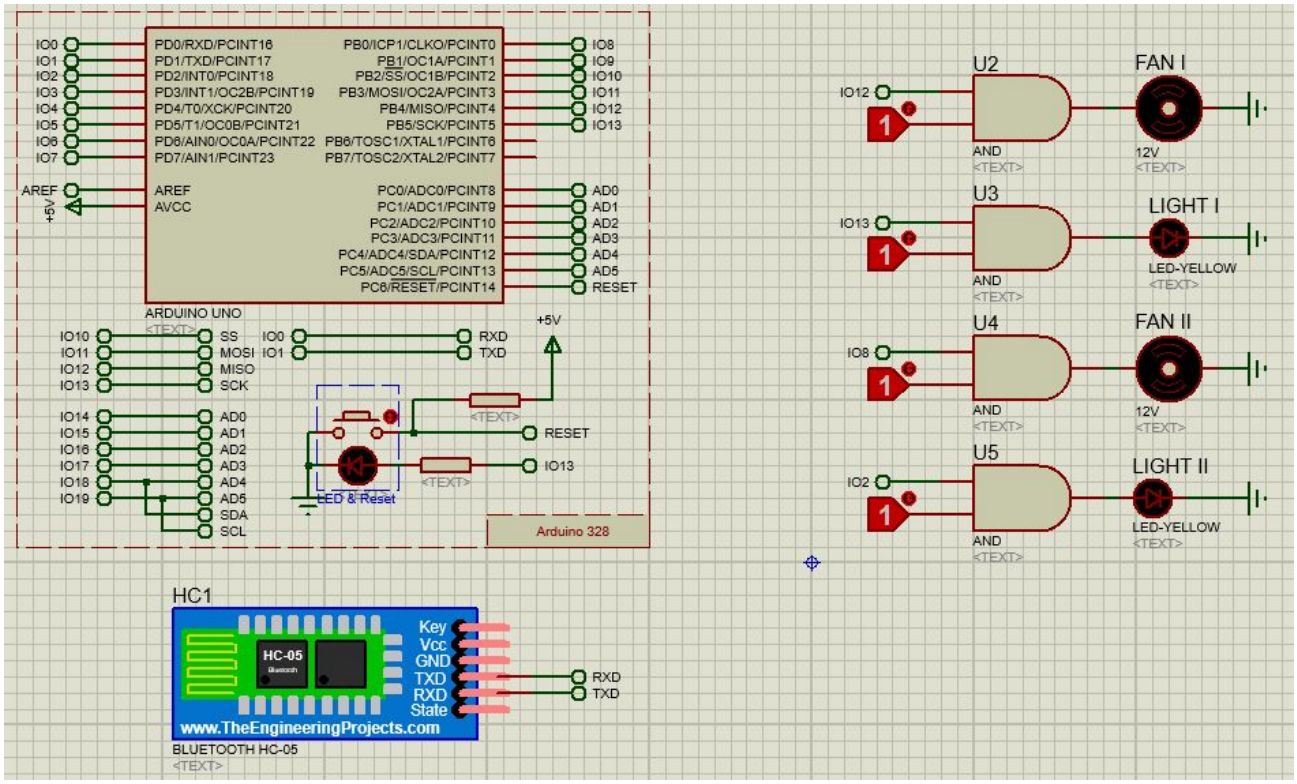
Block diagram:



PROOF OF CONCEPT was made using bluetooth module

Circuit diagram:

Simple simulation was made using the Atmega 328 and Bluetooth module for proof of concept. The circuit diagram for this is given below -



Project code:

```
#define BLYNK_USE_DIRECT_CONNECT
#include <SoftwareSerial.h>
#include <BlynkSimpleSerialBLE.h>
char auth[] = "dIkUgJxJpYpxq7rmp7GyoPzs0_IvWwvg";
void setup()
{
  pinMode(13,OUTPUT);
  pinMode(12,OUTPUT);
  pinMode(8,OUTPUT);
  pinMode(2,OUTPUT);
  Serial.begin(9600);
  Blynk.begin(Serial, auth);
}
void loop()
{
  Blynk.run();
}
```

Model / Simulation:

Click the image below to find the link for the simulation

https://youtu.be/3MM7NzY7ZXs