HOME AUTOMATION USING GOOGLE ASSISTANT

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Introduction

In order to help maintain comfortable living conditions within a home,home monitoring and automation are utilized. The standards of human's comfort in homes can be categorized into several types. Among these categories, the most significant ones are the thermal comfort, which is related to temperature and humidity, followed by the visual comfort, related to colour and light, and hygienic comfort, associated with air quality. A system can be set to monitor these parameters to help maintain them within an acceptable range.
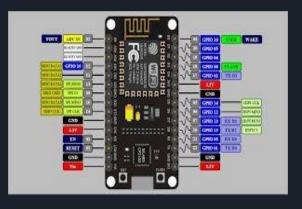
Additionally, making the house smart is to allow for intelligent automatic executing of several commands after analysing the collected data. Automation can be accomplished by using the Internet of Things (IoT). This gives the inhabitant accesses to certain data in the house and the ability to control some parameters remotely.

Objective

The objective is to design a home automation system using google assistant and NODEMCU.

COMPONENTS REQUIRED.

Node MCU

RELAY MODULE

LED'S

GOOGLE ASSISTENT
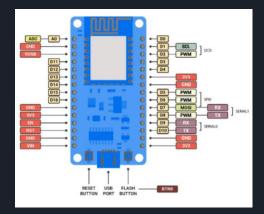
BLYNKAPP

ARDUINO IDE

IFTTT
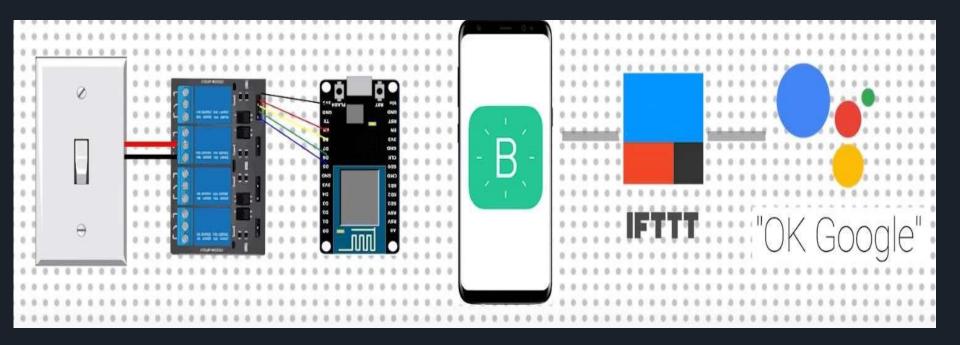
BREAD BOARD

NODE MCU

NodeMCU v3 is a development board which runs on the ESP8266

With the espressif Non-OSSDK, andhardwarebasedontheESP-12

module. The device features 4MB of flash memory 80MHz of system

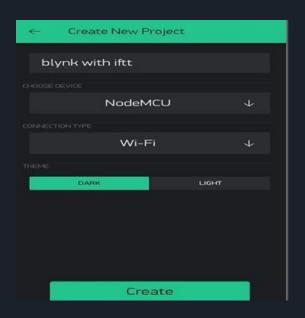 clock, around 50k of usable RAM and an on chip Wifi Transceiver.

PIN DIAGRAM:

Circuit Schematic

IMPLEMENTATION

Create a new project on BLYNK.

we get some blynk token to our mail
We will setup three buttons light 1 , light 2 ,light 3
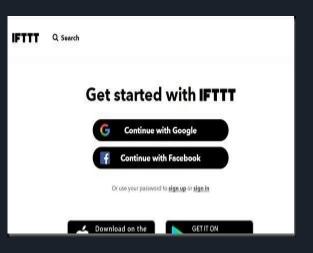
We will change the button settings

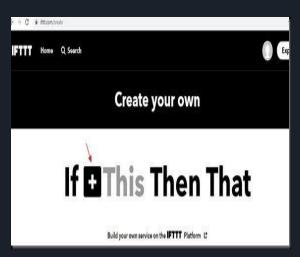# Creating Applet For Relay ON

Now we set IFTTT environment:

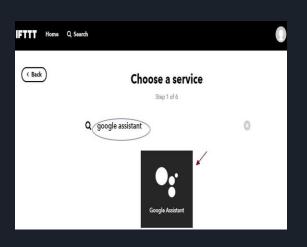We shall use IFTTT to make a chain between Google assistant and Blynk. Open IFTTT
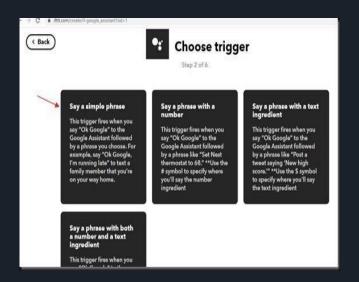
Click on CREATE
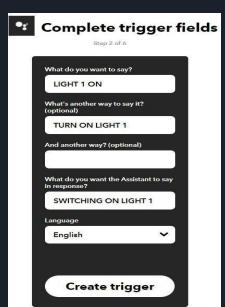
You see a + symbol before THIS. Click on that.

Choose a service ,GOOGLE ASSISTANT

Choose a method to trigger , Say a simple phrase.

Complete the fields for Light 1 ON control as shown below & click Create Trigger

Now you can see the GOOGLE ASSISTANT Logo at the THIS position. Click on the + symbol before THAT

Search for WEBHOOKS and select it.

Then click on " Make a WEB REQUEST".

If 😊 Then ➕That

Choose action service

Step 3 of 6

Q webhooks

Webhooks

< Back

Choose action

Step 4 of 6

Make a web request

This action will make a web request to a publicly accessible URL. NOTE: Requests may into limited.
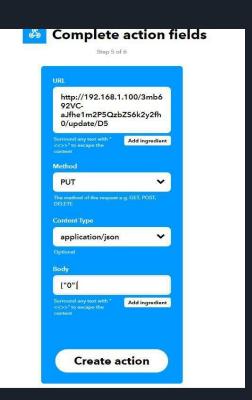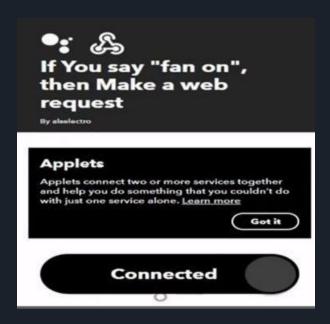
Method to be selected is PUT
content type is :
application/json
& the body is ["0"]

A 0 within double quotes &
square brackets used to switch
on the relay.As the 4 channel
relay board we used is a LOW
enabled (LOW at input
switches ON the relay) we
need to feed 0 for ON.

Now the first APPLET is
created and Connected.
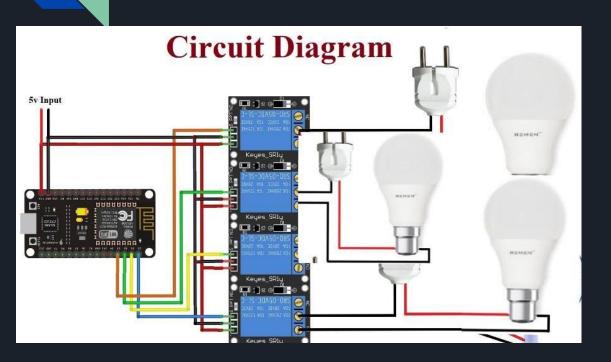
Finishing of APPLETS connections

Click on FINISH.

In the same way we need to create 5 more Applets for LIGHT 1 OFF,LIGHT 2 ON , LIGHT 2 OFF,LIGHT 3 ON & LIGHT 3 OFF.

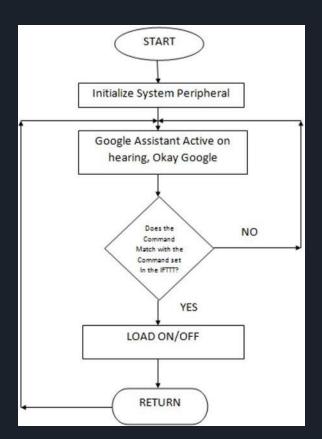Note that in Body you should send a 1 under double quotes & square brackets for switching OFF the relay.

Dumping code into NODEMCU using Arduino

CODE:

```
#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>

// You should get Auth Token in the Blynk App.
// Go to the Project Settings (nut icon).
char auth[] = "3mb692VC-aJfhe1m2P5QzbZS6k2y2fh0";
// blynk token is added

// Your WiFi credentials.
// Set password to "" for open networks.
char ssid[] = "tarp"; char pass[] = "tarp";

void setup()
{
// Debug console Serial.begin(9600); digitalWrite(D5,HIGH); digitalWrite(D6,HIGH); digitalWrite(D7,HIGH);

Blynk.begin(auth, ssid, pass);
// You can also specify server:
//Blynk.begin(auth, ssid, pass, "blynk-cloud.com", 80);
//Blynk.begin(auth, ssid, pass, IPAddress(192,168,1,100), 8080);
}

void loop()
{
Blynk.run();
}
```

Circuit Diagram

Flowchart

CONCLUSION:

The operating system of the smart mobile phone in android we develop remote control program. The program connected with wi-fi to communicate with the robot. Wireless control is the most important basic needs for all the people. Wireless network controlled robots use wi-fi modules.

References

[1] IFTTT: https://ifttt.com/discover
https://www.pocketlint.com/SmartHome/SmarHomenew s
[2] Blynk : https://www.blynk.cc/   https://docs.blynk.cc/
[3] NodeMCU: https://nodemcu.readthedocs.io/en/master
https://iotbytes.wordpress.com/nodemcupinout/
[4] Google Assistant: https://assistant.google.com/intl/en_in/
https://www.pocketlint.com/Apps/Appsnews/Googleapp news
[5] IoT: https://internetofthingsagenda.techtarget.com/definition
/IoT-device
[6] ULN2803 IC working: http://www.gadgetronicx.com/working-of-uln2803-ic/
[7] Webhooks:
https://webhooks.pbworks.com/w/page/13385124/Fro ntPage
[8] Application/JSON: https://www.json.org/
[9] Arduino IDE: https://www.arduino.cc/en/Guide/Environment
[10]Wkipedia: https://www.wikipedia.org/