



HOME APPLIANCES CONTROL USING GOOGLE ASSISTANT AND BLYNK

S. S. Saravana Kumar

Assistant Professor

Sri Chandrasekharendra Saraswathi Viswa Maha Vidyalaya (SCSVMV University).

ABSTRACT

The global increase in automation of products such as automobiles and electronics have been pushing for more efficient and faster. This trend has given rise to technologies specifically for automation in house hold appliances. The problem however is that many of appliances cannot be automated using conventional system. Hence we proposed a new technique where it made easy to control all the appliances in an ease way. Google assistant using Blynk makes it more reliable and also provides the better performance to control the appliances.

Keywords: ASRS, Google Assistant, SSID, Blynk.

1. Introduction

In my school days my principal used to say that, if you want to be a Engineer you need to invent new things and they must be used on a day to day basis, apart from this it must be user friendly. He told us, at the age of 60, as he was old he found difficulty in walking and even unable to switch on his fan. So He went to a show room and bought a device and he installed the device in fan so that he can operate the fan from bed. On that day I thought if a man can operate his fan with the comfort of lying on his bed, then why can't we operate all the devices of our house. And the world of internet made things much more interesting as now the appliances can be controlled using internet.

In this project we can access all the A.C appliances through the internet connection. We have designed it to be operated by blynk app and google assistant (by voice command)

2. System Model

ESP8266 NODE MCU WIFI SOC:-

NODE MCU is a open source prototyping board design. It is acts as a connecting device between software and hardware. These are low-cost breadboard-friendly modules which are aimed at providing a simple to configure and set up, hardware platform for developing ESP8266-based Lua IoT applications.



Fig. 1 - ESP8266 NODE MCU WIFI SOC

* S. S. Saravana Kumar. Tel.: +91 99405 17232.

E-mail address: sssk.saravana@gmail.com

4-WAY RELAY MODULE:-

4-way relay module is a user friendly device to breakout the voltage or current in the circuit. It plays a major role in the project. It works as a bridge if anything over loads it will break down and protect the system.

CONSTRUCTION OF THE PROJECT

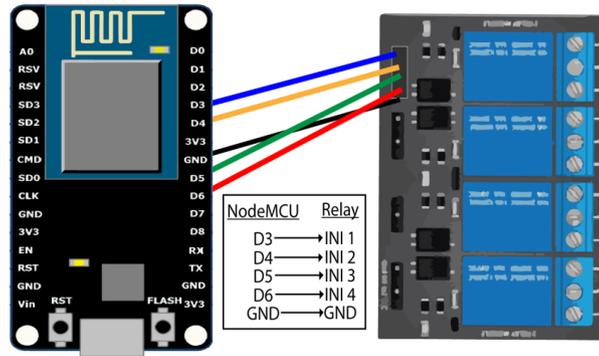


Fig. 2 - 4-WAY RELAY MODULE

Customizing Blynk app:-

Initially we have to download the Blynk app from the play store and log in with our mail id, then we will get a authentication in our mail. We just need to check it and should create new project. Set pin as 0&1 in the given column and should also give the required name whichever we want, similarly should create the other buttons.

Uploading the program in the node mcu with help of ESP8266 LOADER APP:-

We need to connect ESP8266 NODE MCU and connect the OTG to the mobile. In our mobile we should download the ESP8266 LOADER (blynk uploader) and then open the app Enter into the file and select Blynk_Basic.ino.bin from the files. Then we should select set SSID(which means the name of your wifi) and set password (wifi password).

Simultaneously set Blynk authentication number (which was send to our mail). Then we should upload the program into the mcu. After uploading we should scan our device to make sure that the pairing is done properly.

Functioning of the project:-

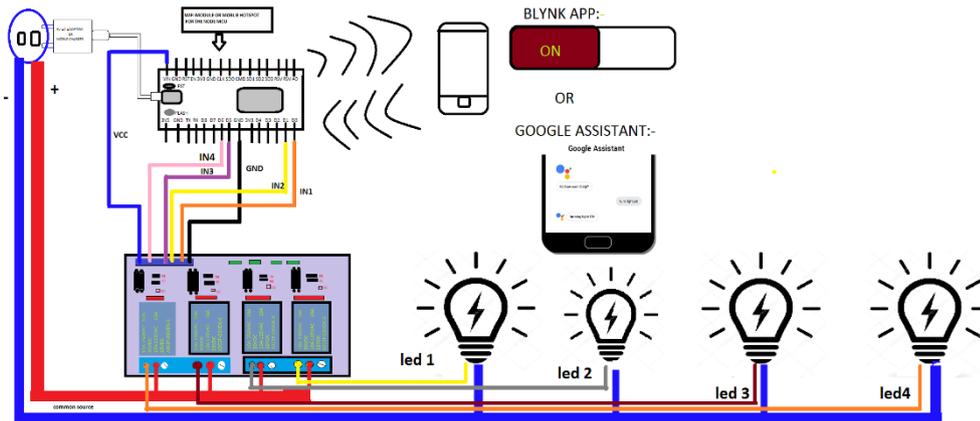


Fig. 1 - Block diagram of working of proposed system

The 5V AC power source is given to the node mcu. When the node mcu get the source, it will pair with the required Wi-Fi module automatically and is ready to function. In our mobile we should provide the command by blynk app or google assistant. It transmits the signal to the mobile network. Then the network sends the data to the connected Wi-Fi module then Wi-Fi module transfers the data to node mcu where the node mcu

receives the signal and starts processing, it gives permission to the relay by transmitting signal from node mcu to the relay module. The relay module transfers the AC current to the AC appliances.

3. Conclusion

The aim of the project was to propose a cost effective voice controlled automation (google assistant) for controlling appliances found in one's home. The project was successful as blynk app and google assistant controlled home automation (GACHA) design was successfully implemented. The system is highly reliable and efficient for the aged people and differently abled personnel who cannot reach the switch and are dependent on others. The future scope of GACHA and blynk app can be huge. There are many ways to improve and make GACHA more powerful, intelligent, scalable, and to be efficient for home automation.

For example to control a fan, a coffee machine, a light, an air conditioner etc. To make the system respond on private blynk server can perform perfectly for our needs. No system is perfect. There is always scope for improvement and betterment. One just needs to put on a thinking cap and need to make things better and better

REFERENCES

- Singh, G. and Ahuja, I.S. (2012) 'Just-in-time manufacturing: literature review and directions', *Int. J. Business Continuity and Risk Management*, Vol. 3, No. 1, pp.57-98.
- Fetch robotics. 2018. WHAT IS ON-DEMAND AUTOMATION. [Online]. [1 November 2019]. Available from: <https://fetchrobotics.com/what-is-on-demand-automation/>
- Jun-tao Li, Hong-jian Liu. Design Optimization of Amazon Robotics. *Automation, Control and Intelligent Systems*. Vol. 4, No. 2, 2016, pp. 48-52. DOI: 10.11648/j.acis.20160402.17
- Liang, Conghui & Chee, K.J. & Zou, Y. & Zhu, Haifei & Causo, Albert & Vidas, Stephen & Teng, T. & Chen, I-Ming & Low, K.H. & Cheah, C.C.. (2015). Automated Robot Picking System for E-Commerce Fulfillment Warehouse Application.
- Khan, A. and Turowski, K. A Perspective on Industry 4.0: From Challenges to Opportunities in Production Systems. DOI: 10.5220/0005929704410448 In *Proceedings of the International Conference on Internet of Things and Big Data (IoTBD 2016)*, pages 441-448 ISBN: 978-989-758-183-0
- Pakdaman, Mehran & Sanaatiyan, Mohammad Mehdi & Rezaei, Mahdi. (2010). A line follower robot from design to implementation: Technical issues and problems. 5 - 9. 10.1109/ICCAE.2010.5451881.
- Arduino. 2019. ARDUINO MEGA 2560 REV 3. [Online]. [2 November 2019]. Available from: <https://store.arduino.cc/usa/mega-2560-r3>
- Arduino. 2019. Arduino. [Online]. [2 November 2019]. Available from: <https://www.arduino.cc/en/main/software>
- Arduinocc. 2019. ARDUINO UNO 3. [Online]. [1 November 2019]. Available from: <https://store.arduino.cc/usa/uno>.