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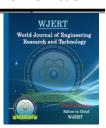
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A STUDY ON INDIAN DIGITAL TECH HOME

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ABSTRACT

Nowadays every time and every day improving technology for easy way to people survive. As we know technology is way through that we can improve our work efficiency and living lifestyle. So in this project, we are control our home electronic device with wireless technology. Here we can control our home device using a mobile phone. We are using Bluetooth technology for controlling home devices. By using this project we are able to control our all type of AC device like as air-condition (AC), motor, Refrigerator, washing machine, fan, light, etc. We can operate and use any AC/DC electronic device from 5 volts to 480volt. It has done by IoT concept.

KEYWORDS: Arduino Uno, Bluetooth, mobile device, remote control, wireless.

1 INTRODUCTION

We have named this project Indian Digital Tech Home, we use the basis of remote control technology. For demonstrate Indian Digital Tech, mobile phone is used as a remote control device through that we have tried to reduce human labor. We are trying to introduce a advancing human invention. In this whole model mobile Phone and HC -5 Bluetooth Module are connected on the basis of wireless technology. And Bluetooth module HC-05 is connected with Arduino board is connected with relay device and home appliances are connected through a 8 channel relay. Brief of all is first the signal send by mobile phone and in end received by relay device .In this way, it sends the signal from one device to another. We can use it in our home, our business, and factory etc.

1.1 AIM OF THE PROJECT

In this project, we want to change the way of control our home equipment because nowadays we are controlling our home equipment using switch so it wastes our very much time and we have seen partially disabled people become more dependent on others people to control their room light, ceiling fan, etc. that's why we want to change control concept of home equipment so it will so much helpful for partially disabled people and also we can save our time. We will be controlling our home devices both ways using mobile phones and switchboards. As we know, sometimes our mobile gets damaged or lost somewhere, and then we have to face a lot of difficulty. That's why we used two methods so if something goes wrong, we can use the second option.

We introduce new concept like, operate this project through internet and there should be some security option so that any other person can't operate the appliances of our house.

1.2 Scope

After using Indian digital tech home project concept we are able to save our time and also save body energy. Through the project, we can reduce our physical effort, save time, prevent the spread of any kind of virus disease, and many companies can use this project to increase their work efficiency. And now days we can able to stop spreading of covid 19 case so it give so many benefit for our community people. This is open source project platforms because we can purchase every device from market and we can live in our home with digital technology. It can provide the benefits of a digital lifestyle. It will save our electricity energy and in digital era it will give the fill of advance technology. It can be a simple and easy way to use.

1.3 Problem Statement

We found that living according to our old idea and old technology is very difficult and time consuming in today's time. We can reduce our physical effort and save time for make our living process easier. According to us, now a time we are wasting our time for on/off our home equipment like light, fan and related to so many home equipment. And we have also watched in our India so many partially disabled people are face problem to control his home equipment he always depend on other people .so that's why we think how It can be possible to remove this type of problem . Now a days we all are facing covid -19 problem in this concept more than more people can't touch and operate electric switch because it increase

covid -19 case. That's why we are doing here a project to solve this type of problem .In our project we are able to control our home equipment by using our mobile phone.

2. LITERATURE REVIEW

We have known about this technique from our reference journal paper. In which, we saw that through wireless technology, we can turn on / off the electric appliance of our home. Now we would like to tell about the reference paper related to our project, in which we have studied everything from this reference. The following literatures have been reviewed based on the relevance work,

[1] A Bluetooth based wireless home the automation system can be used at low cost and is easy to install in existing home. A research work proved that Bluetooth systems are faster than wireless and GSM systems. Bluetooth technology can transmit data via serial up to 3 Mbps at a visible distance of 10m to 100m depending on the type of Bluetooth device. The design of the proposed route is based on Arduino board, Bluetooth module, sensors and smartphone application. The Bluetooth HC-05 module is connected to the Arduino board and electrical equipment is connected to the Arduino board by transmission. The smartphone app is used for serial communication between smartphone and Bluetooth module connected and Arduino board.

[2] Emerging block chain technology plays a vital role by providing a reliable, secure, and a separate method for the identification and verification of IoT devices are used in the proposed home automation system. In addition, the SVM separator is used to separate devices used in the proposed home automation system into two categories, namely, "ON" and "OFF." The system is based on the Raspberry Pi, 5 V relay circuit, and other sensors. The mobile app is made using the Android platform. The server-based Raspberry Pi maintains a website for each machine. HTTP web interface and apache servers are used for communication between the Android app and the Raspberry Pi.

[3] The Internet of things (IoT) devices not only controls but also monitors the electronic, electrical and various mechanical systems which are used in various types of infrastructure. These cloud-connected devices are managed by a single user (also known as admin) and are transmitted or notified to all authorized users connected to that network $(2 - 5)$. A variety of electrical and electronic components are connected and controlled remote through different network infrastructure.

[4] A smart home automation architecture that uses a smart phone system to remotely control various electrical items such as door entry, fans, geysers, CCTV, lights, air conditioning, electricity and domestic water.Different components with advanced technology are used to build an automated home application. The whole system which includes different appliances are preprogramed, remotely controlled, and are constantly monitored.

[5] Arduino is equipment which is utilized to interface PC and the task model with the goal that we can control it by utilizing Arduino code as needs be. Arduino is a small controller exactly like a human mind measuring data and then playing some logical and numerical process on that data. Arduino is associated with a Bluetooth module that receives data from the client. Arduino is similarly associated with a transfer module, which receives data from Arduino and plays the function as a switch. The new invention of Bluetooth is a short-lived wireless radio broadcast that provides the necessary transformation to make sense and control. This produces a local area network in the home environment, where all these devices can be connected and tested using an Arduino microcontroller using a smart phone.

[6] This is the design and implementation of a home automation system based on low cost but yet flexible and secure. The design is based on the independent Arduino BT board and the electrical appliances are connected to the input / output ports of this board via a transfer. The connection between the phone and the Arduino BT board is wireless. This system is designed to be low-cost and measurable that allows a variety of devices to be controlled with minimal changes in key password protection used only to allow authorized users to access electronic devices at home.

[7] Home automation can be implemented by two ways wired and wireless network. Wired network work (home automation system) is traditional way of home wiring system. In this there is electrical wiring are present between switch and electrical appliances, where in wireless network the home appliances physically connected to the controller via relays. Android phone sends signal to controller. The received signal was processed to properly control the home machine.

[8] The user can also use different devices to control with the help of a web browser, smart phone or IR remote module. To demonstrate the efficiency and effectiveness of this system, in this paper we introduce a home automation system using the Arduino UNO microcontroller and esp8266-01 as the connecting module. It helps the user to control various

electronic devices such as light, fan, TV and can make decision based on sensory feedback remotely. It helps the user to control various electronic devices such as light, fan, TV and can make a decision based on sensory feedback remotely.

[9] The user can also use different devices for controlling by the help of web-browser, smart phone or IR remote module. Arduino UNO microcontroller and esp8266-01 as a connectivity module. It helps the user to control various electronic devices such as light, fan, TV and can make a decision based on sensory feedback remotely. These cloud-connected devices are managed by a single user (also known as admin) and are transmitted or notified to all authorized users connected to that network.[2 - 5] Various electronics and electrical devices are connected and controlled remote through different network infrastructures.

[10] It implemented through Bluetooth based home automation system using android app and microcontroller Arduino Uno. Any home automation system can use ON / off home lighting, garage door engine, water pump, and any other load at home or office using a smartphone system with Bluetooth wireless technology. The system uses a separate component of Arduino Uno as a processor and connecting electronic devices using a transmitter module as an output and a Bluetooth module to receive signal from an Android smartphone and an Android home app management device. Bluetooth communication technology had operating range at least ten.[10] meters from the receiver and it can controlled from anywhere inside of home, By using a smartphone system we can control any household appliances to avoid the risk of electric shock and ease especially for the elderly and physically disabled, who can easily access and control household appliances by sitting somewhere and accessing them remotely.

CONCLUSION

We can make our lifestyle comfortable and easy by using smart technology, our project is very beneficial for making human life happy. As we know we are trying to make our living life style easier so we introduce this advance technology to make your life easy and happy. We are using wireless and wire base technology in this project. So that we can do our work easily and in less time, we can turn on / off any type of AC / DC home electric appliance with the help of mobile, we can use it in our homes, government and business offices, factory etc. we can take a lot of benefits from it. Also it's less power consuming and control through any kind of smart phone. It can reduce our electricity bill and save electric energy by using our project.

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