Home Automation and Monitoring Elderly People using IOT

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Abstract: Now a day's smart home technology is very most widely used in today's generation that can give much kind of applications that makes everything is easy. The home devices controlled by wireless communication topology and can be processed by the channel of internet that will makes residents life easier and live happily. Internet based house automation system is designed to assist the people with physical disabilities and also physically challenged people, old age people to support and also monitor and control the devices values using smart phones. The Load devices like fan, light other electrical sources are controlled by the relay boards. Here the relay can acts as a switching logic to ON/OFF loads according to the user commands. The Moto of to control system of wireless topology to provide remotely handle from tablet or smart phone is used to establish wireless communication between the smart mobile and the Arduinonano module. Web server is developed and it is to provide a user friendly graphical user interface for remotely monitoring, controlling on house appliances. In future we recommend ate, the mobile device graphical user interface can be provided with voice recognition voice control and house hold appliance. In addition to a timer can be added to the application it will provides different types of controlling options, manual, automatic. In presences of external attacks accesses to the system can be provided to know person through IOT by using face recognition. In such a condition, the integration of a flexible Internet middleware to tack many information channels and which are interconnected modules, with a free policies enforcement we propose a face identification and resolution scheme processing's performed and analyzed based on cloud computing.

Keywords: Node Mcu, Internet of Things (IoT), Web Server, Home Automation.

I. INTRODUCTION

Monitoring device and control the house appliance and equipment effectively through the network and it is connected via internet, so we can monitor or control the device state by connecting through the network. Cam stroke that internet protocol address any one make the module identify by the unique address on internet.

Then it is started at network based connection. Previous research analysts have forecast an speed development in the turn of controlling of devices that will be connected to the Internet. The resulting network is called the Internet of Things. IOT is having the potential to change the sprit style of the great unwashed. In day today's sprit, masses prefer more of automatic rifle system rather than any manual system. The major element of IOT based home automation can be defined as a mechanism removing as much homo inter legal action technically possible and disable in various domestic physical process and replacing with programmed electronic system of rules. Ultimately it is a system that aims to heighten quality of life with the automation of the house appliances that may be controlled over the Internet. Senescence aged60 population, Wellness Organization world Wellness transformation diseases dependent cure and integrated fore though. These actions are likely to be auditory sensation investment in the smart set'sfuture tense. Whenever the population increases the utilization power is also gradually increases, so we can take care of the future aspects also, when coming to the homes the power wastage is the one of the important factor. i.e the elder people cannot operate Loads properly, so we can develop a system that can be help to the physically challenged people, old age people, major accidents are to be done and injure to loss his parts and cannot to walk and manually operate the electrical devices like fan, light etc. So we can help and support this kind of people to control the loads with their hand using the gesture control and internet based devices control system through the network, and user can maintain by using the smart mobile to control the devices remotely through the network.

II. INTERNET OF THINGS

A dynamic overall association of establishment of with own-structuring limitations subject to fixed and interoperable symmetricalness models here analog and virtual objects have characters, physical properties, and virtual personalities and use sharp interfaces, and are reliably planned into the information sort out. The Internet of Things is portrayed by dynamic overall organize establishment with self-structure limits depletement on standard besides, interoperable correspondence traditions where physical and virtual "Equivalent words/Hyponyms (Ordered by Estimated Frequency) of thing " have characters, physical character and virtual personalities, use canny interfaces and are reliably planned into the information orchestrate.

Over the span of the latest twelvemonth, IoT has moved from being a Synonyms/Hyponyms (Ordered by Estimated Frequency) of thing cut - edge vision - with once in a while a particular dimension of progression - to a growing basic supply world. Telecom official consider that Inter-net are transforming into an inside business focus, uncovering basic development in the amount of related inquiries in their framework. Gadget makes e.g. concerning wearable comfort anticipate a full new business partition towards a more broad allotment of the IoT. These geographic campaign results are as of now sustaining into headway, and a movement of sections is open, which could accommodatingly be mishandled and overhauled by the market. Though greater players in a few applications program zones still don't see the voltage, numerous them spring watchful situation or even enliven the walk by bringing forth new terminal figure for the IoT and including additional portions to it. Likewise end client in the private and business space have nowadays acquired an important capacity in overseeing canny devices and masterminded applications. As the Internet of Things keeps on development, advance potential is assessed by a mix with related advancement strategies and thoughts for instance, Cloud figuring, Hereafter Internet, Big Data, Robotics and Semantic loan. The 1 feeling of believe is clearly not new everything considered yet rather, as these thoughts cover in a couple of segments (concentrated and advantage models, virtualization, interoperability , computerization), veritable trailblazer see progressively the piece of correspondingly instead of guarding particular space.

Characteristics of IOT:

1. Inter-connectivity: concerning the internet, anything should be inter-connected with the overall information and corresponding hypothetical record.

2. Things-related administrations: The IoT is fit for giving thing-related advantages inside the farthest point of issue , for instance, security protection and

semantic consistency between physical Synonyms/Hyponyms (Ordered by Estimated Frequency) of thing and their related virtual issue . With the true objective to give thing-related foundation s inside the jussive state of mind of things, both the ahead movement in physical world and information world will assortment. The device in the IoT are heterogeneous as subject to differing gear point and association . They can associate with other contraption or organization arrange through different association.

3. Dynamic changes: The country of wind change powerfully e.g. resting what's more, awakening , related and also disconnected and moreover the Set of contraptions including zone and speed. In addition, the proportion of contraptions can change logically.

III. LITERATURE SURVEY

This paper is portrays about web of things that interfacing remotely and observing certifiable protests through the web .When it goes ours house, is that idea should be appropriately confused makes it too brilliant, moreover safety and mechanized . This venture centers around building a savvy remote house security sending precautions

to the proprieter by utilization the web .The current IR and Bluetooth remote controls present in the market are when all is said in done apparatuses associated through Bluetooth making utilization of Bluetooth advance smart phones should not be overseen from a far off area .This is the ease with least necessities deals with both home security and in addition home computerization framework does not utilize any PDA application or any kind of UI rather utilizes digits from the keypad on the telephone the framework is stage autonomous and consequently can be gotten to from an extensive variety of telephones with various working frameworks. This alarms and the status of the IOT framework can be gotten to by the client from anyplace even where Internet network may not promptly accessible for the cell phone to be associated with the web just board is required to have an entrance to WIFI a similar arrangement of movement sensors can be sent for home robotization and also security framework the framework is straightforward and modest. In this paper describes the people who are not physically not perfect to done their daily activities those are completely dependent on others, So we can makes a new system that can be help full to physically challenged persons, elder people, old age people, who damaged their body during the major road accidents, fire accidents those are having main body injuries are able to use this type of system are very use full to done their works easily and safely without depending on others, So we can give confidence to stand on their foots and without any disadvantages easy for building of smart home automation. The gesture can have the sooner systems that are having the employment of the color markers however it's time taking method and typically it's terribly inconvenient for the users. This method is principally useful for the hand gesture individuals and it's having the human pc interface and therefore the development of the interval. Then that communication can be with the individuals of the various components of the human beings there are some signs for the gestures and it's useful for the unfit individual's victimization the gesture recognition for the disabled people.

IV. THEORITICAL ANALYSIS

This paper describes how to control the devices remotely in easier way and also what are the important parameters that we can consider to manage them or to control them in general. Here node mcu microcontroller can used to control the devices through remotely via internet. The system can be transmit the information in to cloud and then web server can access the data from the server and then that information can be control and monitoring using the mobile application, i.e, blynk application is used as a web application that can be control the devices remotely through the internet. Whenever the person is identifies the IR sensor can activate and send that information to the microcontroller, and the load like fan, light and, other sources can be controlled through remotely via relay board, here relay board acts as a switching logic of ON/OFF operations can be takes place through this relay board only.

This paper is portrays about web of things that interfacing remotely and observing certifiable protests through the web .When it goes to our home, is idea can be appropriately fused to make it more brilliant , more secure and mechanized . This venture centers around building a savvy remote home security framework which sends cautions to the proprietor by utilizing the web .The current IR and Bluetooth remote controls present in the market are when all is said in done apparatuses associated through Bluetooth making utilization of Bluetooth empowered advanced mobile phones can't be overseen from a far off area .This is the ease with least necessities deals with both home security and in addition home computerization framework does not utilize any PDA application or any kind of UI rather utilizes digits from the keypad on the telephone the framework is stage autonomous and consequently can be gotten to from an extensive variety of telephones with various working frameworks. This alarms and the status of the IOT framework can be gotten to by the client from anyplace even where Internet network may not promptly accessible for the cell phone to be associated with the web just board is required to have an entrance to WIFI a similar arrangement of movement sensors can be sent for home robotization and also security framework the framework is straightforward and modest.

V. PROPOSED SCHEME
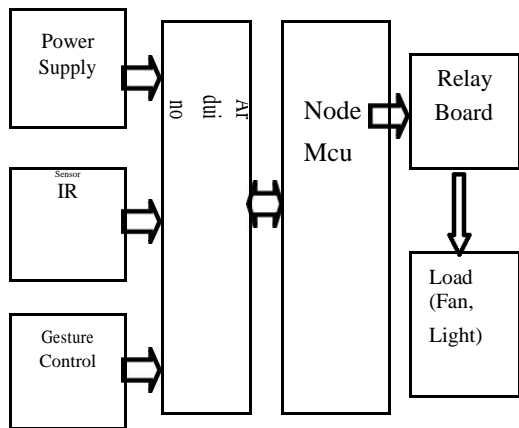
Fig.1 Block Diagram of Home Automation using IoT

Gestures will sense the elderly people in the home and if anything want for the elderly people based on the motion it will send the information for the important person and it is having the connected with the microcontroller and it is having the signals send to the person that are having any use of the person it will send the information of the elderly people in the home and there should be connected with the gesture sensor and that are having the motion of the persons and that are very sensitive and should be having the some pins that are mainly connected with the node MCU and that are having the more reliable and connected with many things these are open-source and are having the prototype and more interactive and it is more comfortable and simple to construct and easily to built and smart that are connected to the WIFI and that are enabled and it is reasonable cost for

the people. Node MCU is connected with the prototype of the development of the sensors and it is continuously monitor of the sensor and sensing the various works of the people and the rooms and the different sensors having the various frequencies and that should be more reliable and these are mainly used for the IOT products and some of the script lines and that are open-source and less pins and that are having the complex of the IOT things and are low cost and smart and easy to development of the kit and also helpful to easily programmable.
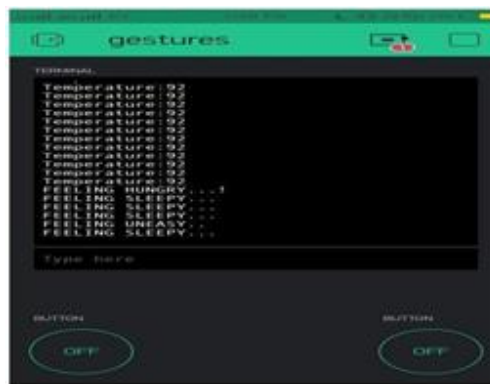
VI. EXPERIMENTAL RESULTS

Fig.2 Before Implementation

Fig.3 After Implementation

Fig.4 Result Using Tool

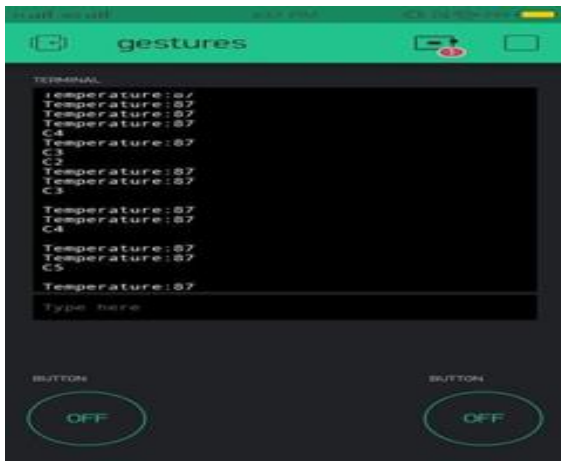# Home Automation and Monitoring Elderly People Using IOT

Fig.5 Result Using Tool

VIII. CONCLUSION

The light and fan are controlled based on the IR sensor and based on the intensity of light frequency it is automatically switch off or switch on the light and these are useful for the smart homes and are having more advantages than the normal homes with these we are saving more power. Relay is an electronic device used instead of switch these relay is used for the low voltage in the circuit to turn ON or OFF the device based on these it consumes less power the battery power is also sufficient to configure the circuit. We are using the open contactors electrical that are used to turn OFF and ON instead of the switch two relays are used on is giving for input and one is output. Temperature sensor is used to maintain the constant room temperature based on the human temperature the fan is controlled and it should be connected to the smart fans that are having connected wireless to the arduinonano board. By sensing the motion of the people and by using the cyber environment these are used for the elderly peoples based on the motion of the people the node mcu is connected with the sensor and that is having the more pins when compared to the other board and are having more comfortable with the connecting wires and flexibility with the internet and based on the motion it will send the information the connected person to the phone and there should be mobile application is installed and that is connected with the power supply and it should be limited voltage. The arduinonano is used because it is having more pins because it is more comfortable. This project can be done based on the home automation monitoring elderly people is completed and we propose another finger signal acknowledgment gadget, for incapacitated and elderly individuals, requesting minimal effort also, low-asset. Examinations with test aggregate recommend that the gadget is exceptionally exact for 5 motions including finger motions furtherlly, it can be intend of control gadgets for physically handicapped, old age peoples, elderly individuals furthermore fuse criticism makes them gadget more easy to use.

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