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A Proposed System Paper on Home Safety, Security and Automation System using Internet of Things

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Abstract: Today's Home Automation industry is growing widely, this is powered by the need to provide system which provides supports for aged and physically handicapped people specially people who lives alone. the proposed system uses the 'Internet Of Things' which proceed control over the system from indoor as well as outdoor and uses various kind of sensors for sensing purpose. We would Developed an authentication to the system for authorized person to access home appliance. Automation system can have a vital role in reducing the total energy consumed by home appliance and the main objective of the system to provided safety security and automation for a person who authenticated person

I. INTRODUCTION

These days, much research has been completed to enhance the Smart Home framework. From the past research different strategies had been acquainted with enhance the Smart Home framework and one of the imperative approaches to enhance the shrewd home framework is to change from wired transmission to the remote correspondence in light of the fact that the real shortcoming of the wired association is the restriction of system runs and updating trouble. On those results, scientists have gone to doing it remotely.
Wireless communication decreases the problem of making another association and will build the system run. In wireless, the Smart Home system range can be stretched out with the usage of wireless sensor arrange through multi-bouncing strategy or alleged impromptu system. In multi-bouncing strategy, the flag from the source to goal is sent through less wireless jumps. In Smart Home framework, an exceptional gadget is expected to control the Smart Home.

A. Home Automation

Home/office automation is the control of any or every electrical gadget in our home or office, regardless of whether we are there or away. Home/office automation is a standout amongst the most energizing advancements in innovation for the home that has tagged along in decades. There are several items accessible today that permit us authority over the gadgets consequently, either by remote control; or even by voice direction. Home automation (likewise called domestics) is the private augmentation of "building automation". It is automation of the home, housework or family unit action. Home automation may incorporate brought together control of lighting, HVAC (warming, ventilation and cooling), apparatuses, and different frameworks, to give enhanced accommodation, comfort, vitality productivity and security. Crippled can give expanded personal satisfaction to people who may some way or another require parental figures or institutional consideration.

B. Need of Automation

1) A robotized gadget can supplant great measure of human working power, in addition people are progressively inclined to mistakes and in serious conditions the likelihood of blunder increments while, a mechanized gadget can work with constancy, adaptability and with very nearly zero blunder.
2) Replacing human administrators in errands that include hard physical or repetitive work. Supplanting people in assignments done in unsafe conditions (i.e. fire, space, volcanoes, atomic offices, submerged, and so on

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II. LITERATURE SURVEY

A. Bhavikpandya, Mihir Mehta, Nilesh Jain, Sandhya Kadam android based home automation system using Bluetooth and voice command

The goal of given framework is to home security and Automaization is to encourage impaired and old matured individuals who will empower them to control home machines and caution them in basic circumstances. In this framework build up a verification to the framework for approved individual to get to home apparatuses. It introduces the plan and execution of robotization framework that can screen and control home apparatuses by means of android telephone or tablet.

B. Anandhavalli d, noorul s. Mubina,bharthimubina. smart home automation control using Bluetooth and gsm.

The given framework made portable application and interfaced with the gadget to control home machines through Bluetooth and GSM for indoor and outside controlling separately. They utilized Bluetooth and GSM to control the machines. Where picked Bluetooth in view of reasonable capacity to control apparatuses from indoor and GSM for open air Monitoring. The GSM client can successfully control and screen the apparatuses from remote places by sending SMS.

C. Rarvindhan, M. ramnathan, D.sanjalkumar, R. kishor home automation using Wi-Fi interconnection.

The system based on the interconnection between Wi-Fi Module in which the client Wi-Fi modules will be connected to the station Wi-Fi module which will be giving commands through the smart phone which is connected to the same as an external device, will have priority in giving instructions and extracting work over them works in master-slave principle.

D. Shruthiraghvan and girimas. tewolde. cloud based low cost home monitoring and automation system.

A cloud based low coast home automation system implemented using the digilent chipKITuno 32 and arduino Uno R3 the controlling of system is connected to internet by which the they can monitor the system at home which can be used for control and safety.

III. CONCLUSION OF LITERATURE SURVEY

Objective of most of the system, to help handicapped person and increase the abilities and benefits. Given system made with different kind of microcontroller and in which some of can operated as indoor and outdoor. With study we find that all system Possess some drawbacks and some of the system having cost high

IV. PROPOSED SYSTEM

The proposed system is a distributed home safety security and automation system using 'IOT'. That consists of server, sensors. Server controls and monitors the various sensors, and can be easily configured to handle more hardware interface module (sensors).The Arduino Uno R3 development board, with Wi-Fi sensor which the card is inserted, acts as web server as well as controller. Automation System can be accessed from the web browser or any local computer using Bluetooth,Wi-Fi technology is selected to be the network infrastructure that connects server and the sensors. IOT is chosen to improve system security (by using secure Wi-Fi connection), and to increase system mobility and scalability. And Internet of Things Provide the control of the system from indoor as well as outdoor.

Block Diagram

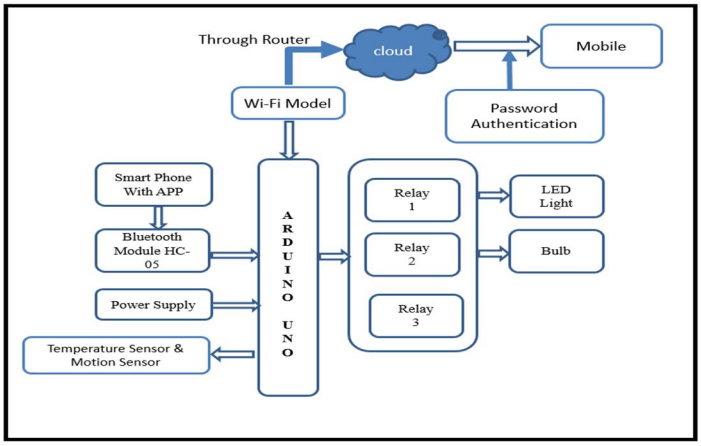


Fig. Block Diagram Of Proposed System

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A. Proposed System Functions

The proposed home automation system has the capabilities to control the following components in users home and monitor the following alarms

1) Authentication
2) Temperature Sensing
3) Motion detection
4) Gas Leakage detection
5) Finger Print Authentication

B. Hardware Required

1) Microcontroller ATMEGA 328
2) Bluetooth Module HC-05
3) Wi-Fi Module
4) MotionSensor
5) Temperature Sensor
6) Relay Module
7) Mobile Phone
8) Power Supply

C. Software Required

1) Arduino IDE
2) Web Server
3) Cloud Application
4) Android Application For online Controlling
5) Android Application For Bluetooth

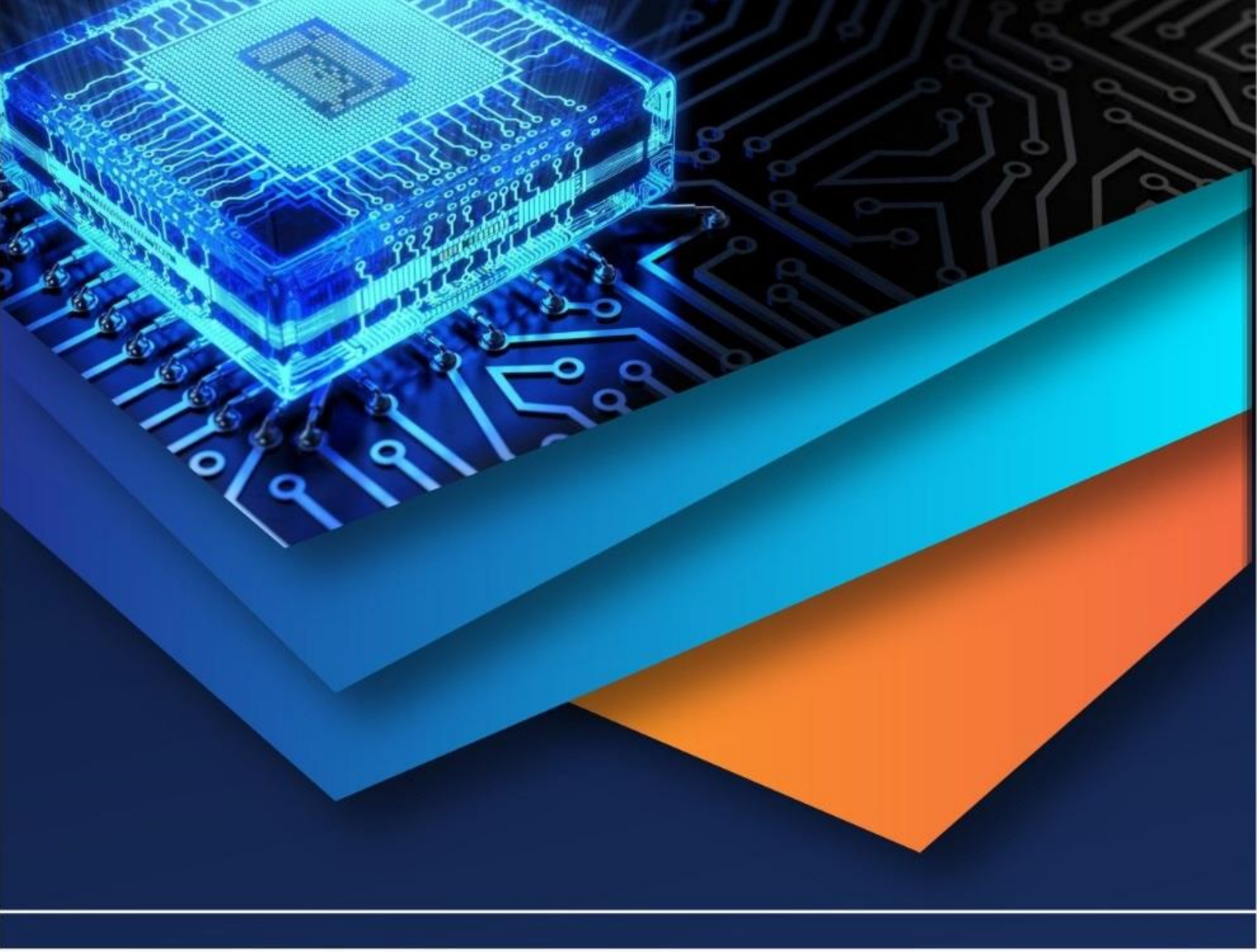
V. EXPECTED RESULT

system is to provide the control of home appliances from indoor as well as outdoor. With using single ATmega328 microcontroller due to using of single microcontroller the cost of the system is get reduces and uses various kind of sensor to provide appropriate data which are use for application like fire safety, motion detection and authentication to authorized person.

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