

Development of Bluetooth based Smart home Security System and Home Automation

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Abstract- The Home robotization and security system using Arduino Uno is an effective and dependable system that allows druggies to control colorful home appliances and cover security using a mobile device. The proposed system consists of an Arduino Uno board, Bluetooth module, relay module, fire detector, camera, and colorful home appliances. The system can be controlled using a Bluetooth- enabled mobile device, and the stoner can switch on/ off any home appliance or cover the fire status of the home using the fire detector. The Bluetooth module is used to establish a wireless connection between the Arduino board and the mobile device. The mobile device sends commands to the Arduino board, which is also reused by the microcontroller. The relay module is used to control the switching of home appliances. The fire detector is used to descry fire intimate the all person through beep sound. The proposed system is cost-effective, easy to install, and can be customized according to the stoner's requirements. It eliminates the need for physical switches and provides convenience to the stoner and it enhances home security by furnishing real- time monitoring of the home. This IoT that allows is objects to be tasted & controlled ever across being network structure, creating openings for important direct integration of physical world into computer- grounded systems, & performing in bettered effectiveness, delicacy & profitable benefit. In exploration we have integrated Solar grounded system to apply home robotization. Ideal of exploration is Home robotization using IOT within integration of Solar grounded energy system. Integration of seeing systems, connected to Internet, is likely to optimize energy consumption. It is anticipated that IoT bias would be integrated into all forms of energy consuming bias (switches, power outlets, bulbs, boxes etc.) & be suitable to communicate within mileage force company in order to effectively balance energy generation & energy operation. Solar Energy System is that duly installed & adequately sized will not really bear important in way of operation.

Keywords: Bluetooth, Face match, Servo motor, Authorization.

I. INTRODUCTION

The Ideal of exploration is Home robotization using IOT within integration of Solar grounded energy system. Integration of seeing & actuation systems, connected to Internet, is likely optimize energy consumption as a whole. It is anticipated that IoT bias will be integrated into all types of power consuming bias (switches, power outlets, bulbs, boxes, etc.) & be suitable to communicate within mileage force company in order to effectively balance power generation & energy operation. Bluetooth grounded home robotization and security system using Arduino Uno is a design that aims to automate and secure your home by using the Arduino Uno micro- controller and Bluetooth technology. The design uses Bluetooth communication to connect the home robotization and security system with a mobile operation. The stoner can control and cover colorful home appliances and security bias using the mobile operation. The Arduino Uno microcontroller is used to control and communicate with colorful detectors and selectors used in the design. The system is able of detecting colorful home security breaches similar as meddler discovery fire discovery. The system also controls colorful home appliances similar as lights, suckers, and air conditioners. The mobile operation is used to control and cover the colorful bias connected to the home robotization and security system. The stoner can ever turn on or off colorful appliances, admit cautions in case of a security breach, and cover the status of the bias. This design provides an effective and accessible way to automate and secure your home using the Arduino Uno microcontroller and Bluetooth technology

II. LITERATURE SURVEY

1.Embedded System for Home Robotization Using SMS

AUTHOR: Sougat Gat Das, Nilay Debahuti, Rishabh Das, Sayantan Dutta

This paper describes the design and development of a system for ménage appliance control using cell phone through global system for mobile communication (GSM) technology. The cellular dispatches are implicit result for similar remote controlling conditioning. SMS (short communication service) technology can be used to control ménage appliances from distance. Ever, the system allows the home proprietor to cover and control the home appliances via mobile phone set by transferring commands in the form of SMS dispatches and entering the appliances status as well. The proposed system makes use of wireless control hence can be effectively used in systems where unwired connections are asked. The system uses the stoner's mobile handset for control and thus the system is more adaptable and cost-effective and furnishing ubiquitous access for appliance control.

2.GSM Grounded Electrical Control System for Smart Home Application

AUTHOR: Mohd Helmy Abd Wahab, Norzilawati Abdullah, Ayob Johari

This paper presents the development of GSM grounded control home appliances for smart home system. The main end of the prototype development is to reduce electricity destruction. GSM module was used for entering short communication service (SMS) from stoner’s mobile phone that automatically enable the regulator to take any farther action similar as to switch ON and OFF the home appliances similar as light, air-conditioner etc. The system was integrated with microcontroller and GSM network interface using assembly language. MPLAB software was employed to actuated when stoner sends the SMS to regulator at home. Upon entering the SMS command, the microcontroller unit also automatically controls the electrical home appliances by switching ON or OFF the device according to the stoner order. In other word, it read communication from the mobile phone and response to control the bias according to the entered communication. The prototype has been successfully developed and it could give an effective medium in exercising the energy source efficiently.

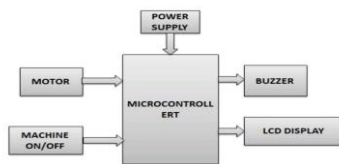
3.Design of Real Time Data Acquisition with Multi Node Bedded Systems

AUTHOR: Mukesh Kumar, Sanjeev Sharma, Mansav Joshi

This paper is about the operation of data accession systems in artificial conditions for real time prosecution of events with artificial process control and robotization. Multiple bedded bumps are measuring colorful artificial parameters to cover and control artificial process. Data acquired from each knot is reused, displayed, and transferred to master processor (CPLD XC9572) that collect data entered from different bumps and shoot this information to remote position using GSM technology and contemporaneously display the variations in volume under dimension to original and remote system configured with Lab VIEW platform. In addition, the master processor process this information and generates controls signals grounded on predefined cases or can admit the controlling action from remote regulator to control the artificial operation like CNC machines, Electric drives etc. The paper adds the value towards the low cost, lower manufacturing time, ease of perpetration with dependable measuring, controlling and data logging demands of assiduity.

III. EXISTING SYSTEM

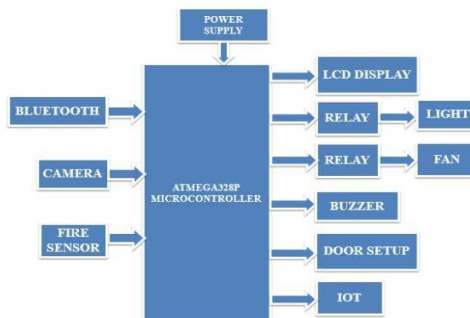
In existing system, the device can be controlled manually with the man power. if there is wastage of energy in the form of running devices in the industry, it results in huge loss of power and thereby contributing to the economical fall. When the machine goes abnormal condition, it indicated to the user via buzzer. Mainly, the automatic detection of cautious environment in the industry is quite less in the existing system. Some of the disadvantages of existing systems are Power wastages are more, Man power is needed, Tendency for accidents to occur. The main disadvantage in the existing system is the man power accidental conditions through which various load losses are evolved. The regular switching characteristics of the loads are further mishandled due to human error.



IV. PROPOSED SYSTEM

The proposed system is a Bluetooth-based home automation and security system that uses an Arduino Uno board. This system can be used to control various home appliances and monitor the security of the home remotely using a smartphone app. The sensors monitor the home environment and send the data to the Arduino board. The Arduino board processes the sensor data and sends it to the smartphone app via Bluetooth. The smartphone app displays the sensor data and allows the user to control the various appliances. The user can also set up security alerts, such as an alert when the fire sensor uses the fire detection, and receive them on their smartphone. The user can remotely control the home appliances using the smartphone app. This system provides a convenient and efficient way to control home appliances and monitor home security remotely using a smartphone app

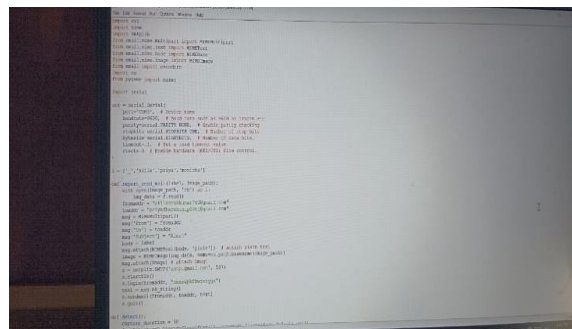
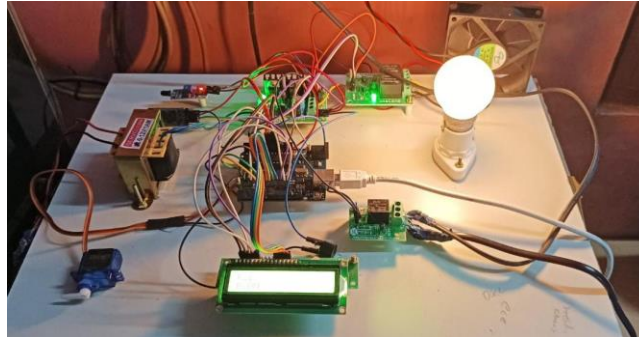
V. BLOCK DIAGRAM:

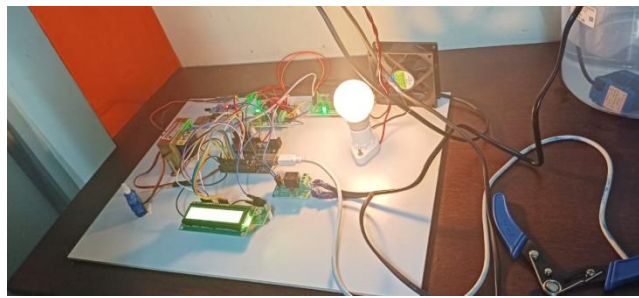


In our proposed system we can control the loads by using Raspberry PI and giving commands with bluetooth to Raspberry PI. According to the given commands the raspberry pi will turn on /turn off the loads(light, fan..) through the Wi-Fi connectivity. The proper access to the door can be automated which includes Face Detection. For security purpose if unknown person try to enter the

home, camera will analyze and send information via email. In the gas detection system we can detect the LPG gas in the home using the gas sensor. We also add a buzzer to the circuit to alert the surroundings. The command for the system is given by IOT website and all the information displayed with lcd display.

VI. OUTPUT AND RESULTS:





VII. CONCLUSION

In this paper, the home robotization is enforced using IOT. A smart home integrates colorful electrical appliances in the home and automates them with no or minimal stoner intervention. The smart home keeps track of different terrain variables present and attendants the appliances are controlled grounded on the command form the IOT. From the energy is consumed. We achieved the development of Smart Home by using the Internet of effects technologies. From the trial, it was set up that we can manage to make low cost, flexible and energy effective smart home for the better and greener future.

In conclusion, the Bluetooth-grounded home robotization and security system using Arduino Uno is a useful and innovative design that can help enhance the security and convenience of homes. With this system, druggies can control colorful bias and appliances in their homes ever using a smartphone or other Bluetooth-Arduino. The design involves using Arduino Uno as the microcontroller, Bluetooth module as the communication interface, and colorful detectors and selectors for robotization and security purpose. The Arduino Uno is programmed using the Arduino IDE, and the law is uploaded to the board to control the colorful detectors and selectors. Overall, the design is fairly easy to apply and can be customized to meet specific conditions. With the adding fashionability of smart homes, this design provides an affordable and practical result for home robotization and security. In conclusion, the Bluetooth-grounded home robotization and security system using Arduino Uno is an excellent design for anyone interested in electronics, microcontrollers, and home robotization. In this paper, the home robotization is enforced using IOT. A smart home integrates colorful electrical appliances in the home and automates them with no or minimal stoner intervention. The smart home keeps track of different terrain variables present and attendants the appliances are controlled grounded on the command from the IOT. From the energy is consumed. We achieved the development of Smart home by using the Internet of effects technologies. From the trial, it was set up that we can manage to make low cost, flexible and energy effective smart home for the better and greener future.

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