

IoT Based Smart Home Automation using Blynk App and Security Alerting System using E-mail

G. Bhaskar Phani Ram, L. Rajeshwari

Abstract- Now a day's technology is increasing rapidly. Automation in security part makes it progressively credible. There are numerous electrical hardware's are accessible in home which are in need of observing from a remote territory all at once. IoT (internet of things) is developing to an immense degree. it includes coordinated effort of various gadgets and at last accomplishing effective home automation as one application. It allows controlling home machines throughout the web. The house computerization is controlling the light ON/OFF condition using blynk app. This paper report overall mechanization and protection system. If a burglar is detected, the safety system is capturing the picture and sends it e-mails to the user. To trigger the alarm as well.

Keywords- IoT(internet of thing), Home automation, PIR, Security system

I. INTRODUCTION

In the modern, protection and safety system is the funding crucial. In the security machine has the influence of modern-day generation is attaining its top.[1] The smart domestic is light, heating and electronic gadgets can be managed remotely by cell phone and net using Arduino UNO. An internet is controlling domestic electronic gadgets complete inside or out of doors your private home.[2]

In this paper, we will develop a home and security System utilizing PIR Sensor and PI Camera. This gadget will discover the occurrence of interloper and speedy alert the consumer by sending user an alert E-mail. This e-mail will even include the demonstration of the prowler or any objective, captured through the Pi digital camera. Raspberry Pi is utilizing to manage the total framework. This device can be Mounted on the principal door of your house or office and you may display it from everywhere in the world using your Email Over internet.[3]

The focus of the project is domestic safety using IoT. The Pi digital camera seize pictures may be saved in a database

II. LITERATURE SURVEY

Subhajit dey[2015] give an explanation for their net primarily based real-time domestic computerization and defence system. In this undertaking automatic way of controlling home equipment via human interplay also through self-manipulate of the gadget itself is provided. The foremost fraction of the gadget is formed of a microcontroller with an Ethernet module for controlling. The module is connected 4 appliances through relay gadgets to mechanically turn of the gadgets. PIR module is worn to alert the consumer about an outsider.[4]

Biplav Choudhury defined the paper SMS based home safety device is to offer it consume with an easy, rapid and solid approach to get help all through emergency conditions. The tool may be set at any remote area which may be without problems accessed by the user. It utilize a microcontroller for contraption control, GSM innovation for discussion and sends SMS containing the crisis message and the GPS zone of the sender. The undertaking comprises of an eight-piece microcontroller ATmega sixteen, GSM SIM900A module and Android applications for UI with the equipment.[5]

N. Muthu [2013] Prabhu proposed a low energy intake far-flung domestic protection alarm system applied by WSN and GSM generation. It can come across robbery, leakage of gasoline or hearth and ship alarm message remotely. The equipment of the framework is single chip, WI-FI accepting and distribution chip just as GSM module. The software program element is C51 languages of potential of accumulating and wi-fi receiving and sending statistics and send notification to the user's phone.[6]

III. PROPOSED METHOD

The Fig 1 is the general setup of the projected diagram. This is the total of automation and safety alerting system

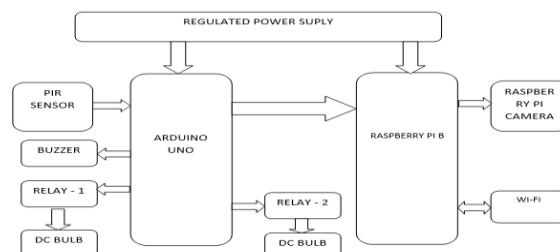


Fig 1. Block diagram

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The block drawing of the scheme is consisting of Arduino UNO interface with PIR sensor, buzzer, relay driver circuits and raspberry pi model B interface with the raspberry pi camera module (Rev 1.3).

The Arduino UNO is interactive with relay driver circuits. The relay circuits connected to DC bulbs. In this first set SSID (provider set identifier) and password. Both SSID and password match, they may be ready to operate. Blynk is the official application should be installed authentication token is being given. The blynk application controlling the bulbs ON/OFF condition. If relay driver circuits are low the bulbs are not active and its high the bulbs are the active condition.

When PIR sensor is high raspberry pi interaction with python. When the output from the movement sensor is low no intruder is detected. When sensor high intruder is detected. It invokes the raspberry pi digital camera is capturing the photos of the person entered the house. It triggers the alarm and capture photographs may be sent to user mail. The seize photos are stored in database additionally.

IV. EXPERIMENT RESULTS

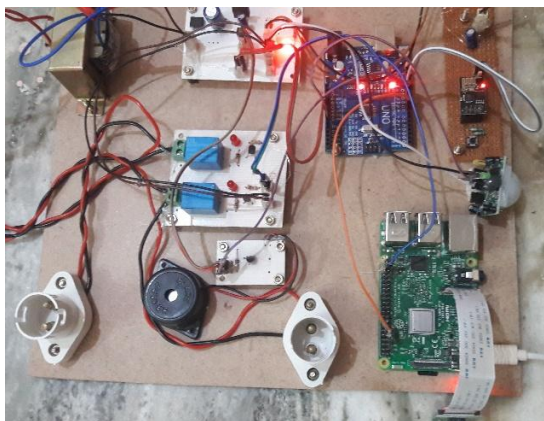


Fig 2 Project setup

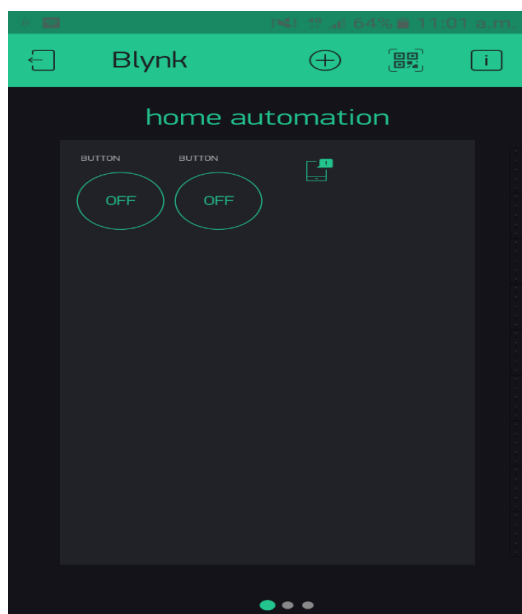


Fig 3. When Lights turn OFF

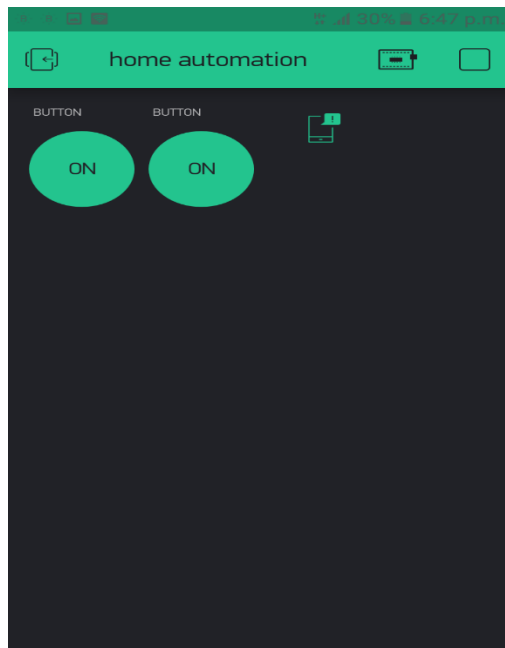


Fig 4. When Lights turn ON

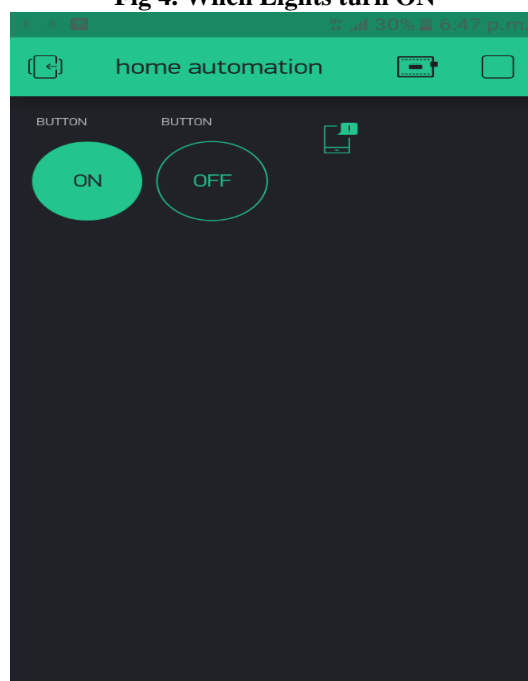


Fig 5. When Lights turn ON/OFF

Table- I: PIR sensor values (a>500)

PIR VALUES	Status of Detection
513	Detected
500	Not detected
509	Detected
521	Detected
500	Not detected

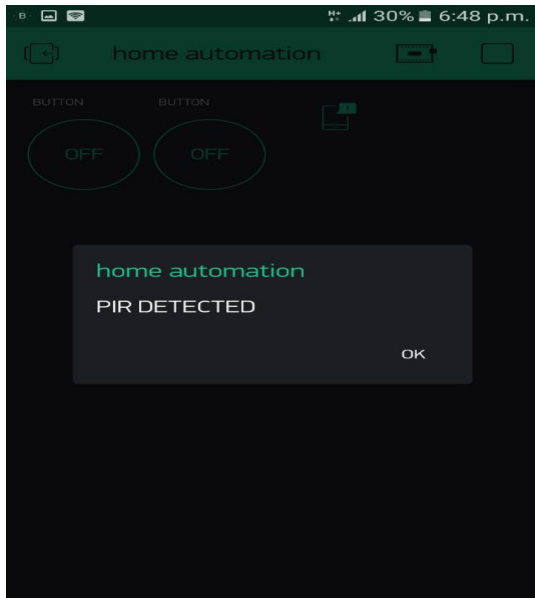


Fig 5. When PIR detected

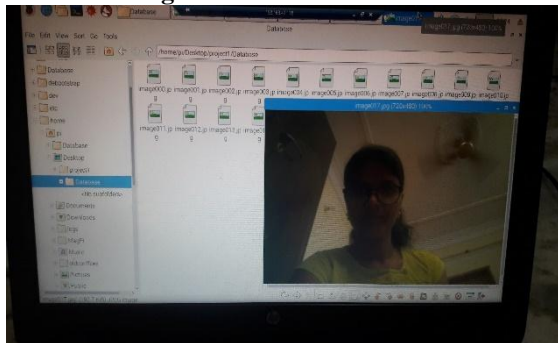


Fig 7. Stored Database images

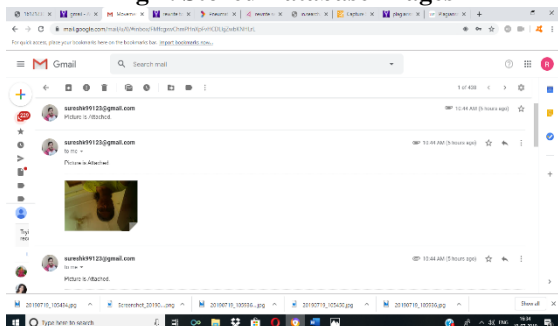


Fig 8. Mail output

V. CONCLUSION

In this paper, we expand and execute a abode management system and safety security. The security framework alerts the client by giving notification to the user. The raspberry pi module is associated with the raspberry pi camera which catches the pictures of the gate crusher. The model of our proposed framework rises an alert if an interloper is available. This paper deal with people faced troubles in day-to-day life. This system is easily operated, low consumption and low cost. In this future develops a more efficient security system and reducing more complexity.

REFERENCES

1. Krithiga, SRM Institute os Science and Technology, Home security system using IoT, International Journal of Pure and Applied Mathematics Volume 119 No. 15 2018, 1863-1868
2. Nathan David, Abafor Chima, Aronu Ugochukwu, Edoga Obinna, Design of a Home Automation System Using Arduino, International

3. R. Rani, S. Lavanya, B. Poojitha, Vemu Institute of Technology, P.Kothakota, India, IoT Based Home Security System Using Raspberry Pi with Email and Voice Alert, International Journals of Advanced Research in Computer Science and Software Engineering ISSN: 2277-128X (Volume-8, Issue-4)
4. Subhajit Dey, Tamaghna Kund, Sourav Mukherjee and Mili Sarkar, Web based real-time home automation and security system, ISSN 2319 – 2518 www.ijeetc.com Vol. 4, No. 3, July 2015 © 2015 IJEETC
5. Biplav Choudhury), Tameem S. Choudhury, Aniket Pramanik, Wasim Arif, J. Mehedis, National Institute of Technology, Design and Implementation of an SMS Based Home Security System
6. N. Muthu , S. Sai Mithun , sasurie academy of engineering, A remote home security system based on wireless sensor network and GSM technology, International journal of engineering research and technology, ISSN: 2278-0181, vol.2 issues 12,December 2013

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