

Home Security System

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Abstract— Now a days people are facing more problems about security in day to day life, nowadays security is the most essential issue in the world; so security of everything gains higher and higher importance in recent years. Here, trying to reproduce the comprehensive literature study related to the various door locks and security systems that are necessary in the places such as home, industries and where possibilities of incursion are increasing day by day. In last few days, the research is going on various security systems like traditional security systems which provides an indication using alarm system. Due to the advancement in techniques, some door lock security systems are based on microcontroller, GSM, GPS, many sensors, software like MATLAB, PROTEUS, biometrics like face recognition, Iris scanner, RFID, Smart Card and password etc. Each system has their own advantages and disadvantages. In systems, SMS technique is used for communications so the system will become cheaper, more reliable and it will take less time to deliver message on authorized person. As security becomes major problem, the security monitoring systems today needs to make use of the latest technology. In some papers, the developers have present door lock security monitoring systems based upon embedded and wifi modules, and sometimes the lock is protected by automatic password detector system hence it was difficult to hack. Also, the enhanced security systems are available based on android platform, wireless techniques and embedded systems. Here a lot of modification takes places in various home security, Home lock system from the last few decades, in next coming years many changes will takes place in this security field.

Key words: Door Lock Security, GSM, RFID, SMS, Sensors, Camera, Alarm, Biometrics, WI FI, Password

I. INTRODUCTION

Security represents protection of our life and assets. Ensuring safety of people and their valuable things is very important for the prevention of illegal handling. Hence, focusing on door lock security or Home security is very important to avoid the further problems. Even with the use of mechanical locks, the crimes get happened due to the fact that such locks were easily broken. So, there is a need to invent other kind of locks which cannot be easily broken. So, to aid such requirements, different kinds of digital door locks, automatic password based door locks etc. have been widely used in houses and offices.

The cure of unauthorized entry into buildings through the main doors is done by using ordinary, electronically operated locks, digital codes and biometrics technique like the finger print technology or some are based on thumb printing only. Also some advanced automatic door security systems are available in the market which use palmtop recognition systems, face detection systems, smart sensors, RFID readers, smart cameras and many more equipments that helps people to make their home and organizations safe and secure from long distances. Hence,

people need not worry about the home security even though they are away from their home.

In this project, firstly, proposed system will be described, which basically includes the design of hardware process and practical implementation of circuit. Moreover, will present the results along with discussing the functional sequence of practical circuit. Finally, the whole research.

II. LITERATURE REVIEW

The purpose of this research is to create the system for surveillance of home services easily. Wireless technologies are becoming more popular around the world and for a short distance communication.[2] Sadeque Reza Khan et al.

These current systems are expensive and require a lot of database to be stored, so we have come up with an idea which is cheap and simple to implement but at the same time it is on power with the current systems in efficiency and the quality of security provided by them.

III. PROBLEM STATEMENT

To build a security system to keep a specific home secured

IV. METHODOLOGY

- 1) Requirement gathering
- 2) Logic development
- 3) Programming
- 4) Simulation
- 5) PCB design and printing
- 6) Mounting and Soldering
- 7) Debugging
- 8) Testing

All this are the different process which are required for the different purpose of methodologies which is basically used for the project development.

Methodology plays an important role while developing a system for proper management of the system establishment. In which the content of the Project data.

V. DESCRIPTION OF SYSTEM

The block diagram of the proposed microcontroller based home security system has been shown below

It consists of three sections. Those are input, controller and output sections. At first the controller polls for receiving a signal from input section which includes 4 × 4 Keypad,

In input section, a mobile phone through an ESP8266 device has been used for interfacing with microcontroller to lock or unlock the door of the system. Consequently, a manual keypad performs the similar function without communication with Zigbee device.

In this project we are taking a 4 digit password as an input from the keypad. If the password matches to the password stored in the controller then access is granted to the concerned personnel and the confirmation of this message will be displayed on the LCD and the motor will rotate in anti-clockwise direction denoting the opening of

the door and after some delay the motor will rotate in the clockwise direction to again close the door. The password of the lock keeps on changing periodically and the new password is sent to the user's mobile via zigbee.

There is a laser placed at the back of the door which is being continuously monitored, if it gets cut by any object without the correct password being entered, the system detects a security breach. The system also runs into security breach if the wrong password is entered 5 times.

Whenever someone tries to access the system his/her face gets captured and stored using the webcam that is interfaced. Whenever the system goes into a security breach, the buzzer goes off and the electro-magnet gets turned on via the relay which brings down the security gate of the place causing the place to go in to lock

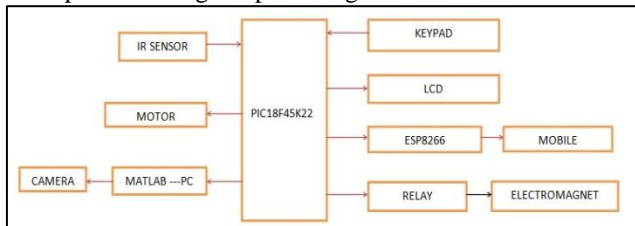
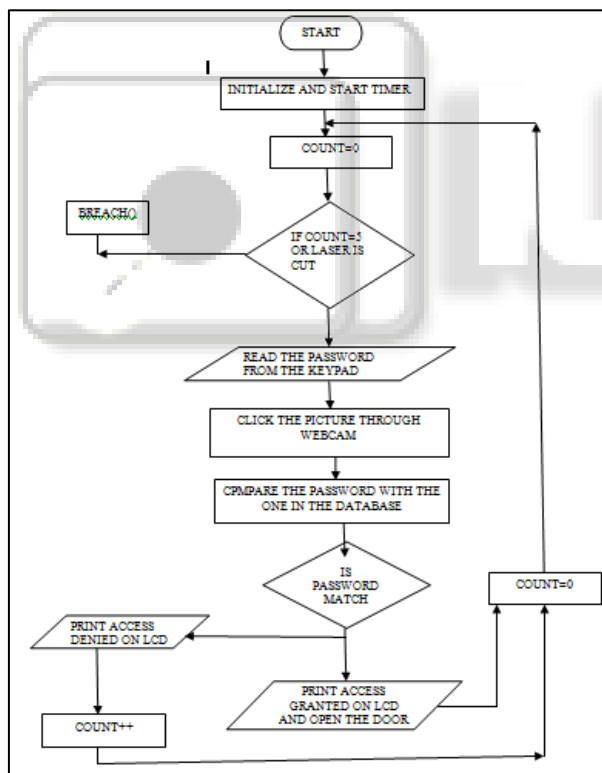


Fig. 1: Block Diagram of Proposed Home Security S

VI. FLOW CHART



VII. ALGORITHM

- 1) If the number of attempts exceed five times or more than five times then set off the buzzer and send a notification on the mobile about the breach and drop down the security gate.
- 2) If the laser gets cut then set off the buzzer and send a notification about breach on the mobile and drop down the security gate.
- 3) Change the password periodically and send it on mobile
- 4) Stop.

VIII. CONCLUSION & OUTLOOK

This paper introduces a security system, with Microcontroller support support, for home security purposed. The proposed system is compared with related integrations in the filed. Future directions this research could adopt Additional security and safety schemes.

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