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SMART ACCESS CONTROL SYSTEM

Ved Marale^{*1}, Vandana Labade², Pratiksha Ghule³ & Priti Bhalerao⁴

^{*1,2,3&4}Electronics and Telecommunication Department Jaihind Polytechnic, Kuran(Pune)

ABSTRACT

The paper is designed for access control with help of password only the electric safety system makes use of a new password it is found that fatal electric accidents to line man are increasing during the electric line repair. Due to lack of communication and co-ordination between the maintenance staff and electric substations staff.

This system is also useful for if any accidents happen in industry .for example short circuit then there is very critical to handle the situation .most important thing the supply is quickly turn off by without manpower through password. Hence to avoid this password based circuit implemented

Keywords- Matrix keypad, embedded C programming, microcontroller, relay driver IC, Power supply.

1. INTRODUCTION

Any machine, instrument on line in industry, electric circuit which is normally continuous in process while repairing or working that circuit many accident are happen now a days .for that precaution purpose this project are develop . To avoid the accident this circuit is most important for industries, wireman, and biggest societies which used most electrics facilities like lift, automatic electrical gates etc. In day to day life most technologies are develop based on embedded system , microcontroller ,VLSI, PLC, etc The microcontroller password is an access control system that allows only authorized persons to access a restricted area.The password is stored in Flash memory. A matrix keypad is interfaced to the microcontroller to enter the password while a relay driver IC is used to switch on loads through relays. The system is fully controlled by the 8 bit microcontroller which has flash memory inside it to store the password.



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2. BLOCK DIAGRAM

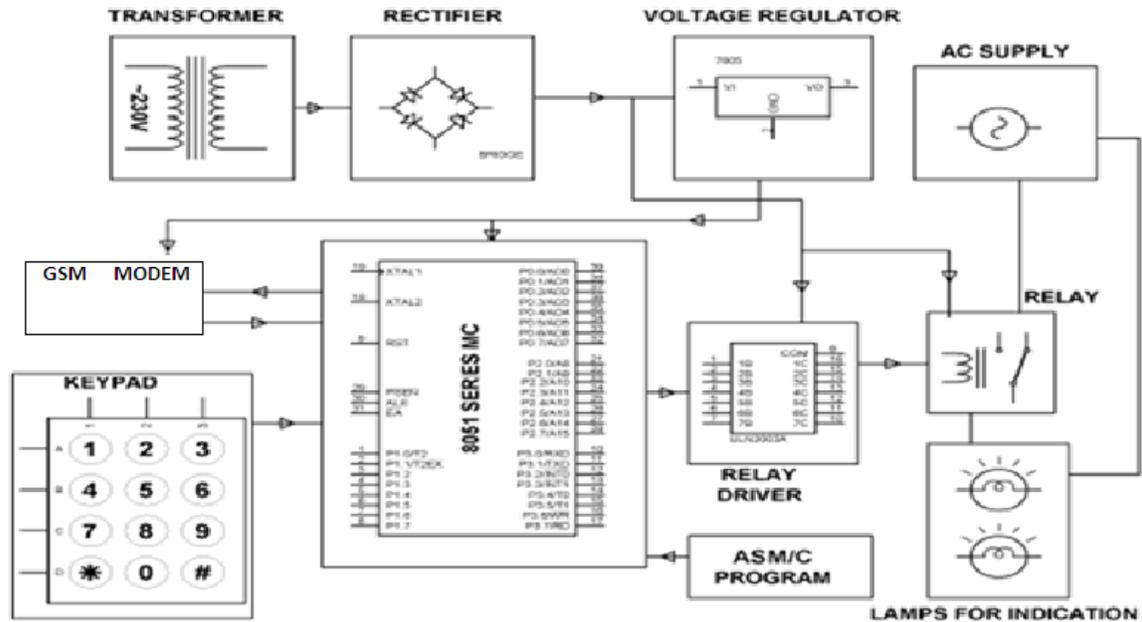


Fig. Smart access control system

Technologies Used in this Project

- 89C51 Microcontroller
- Relay Driver IC(ULN 2803)
- GSM Module

Requirements of Project

- LCD Display
- Matrix Keypad
- Microcontroller(89C51)
- GSM Module
- Relay Driver IC(ULN2803)
- Transformer
- Voltage Regulator
- Lamps, Crystal
- Capacitor, Resistors
- Diode, Relays
- Kiel Software with Embedded C programming
- Proteus Software



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3. WORKING

This system is fully controlled by microcontroller from 8051 family. A matrix keypad is interfaced to the microcontroller to enter the password the entered password is compared with the password stored in the Flash memory inside the microcontroller of the 8051 family. If the password entered is correct, then only line can be turned on/off. Activation/deactivation of the circuit breaker are indicated by a lamp (on/off) provided in the project.

The project can be enhanced by integrating a GSM module such that the password can be sent over a GSM network for the user to change/enter the password for more secured system to remotely control circuit breaker via SMS.

4. APPLICATIONS

- This system can be applicable in buildings and houses, society.
- It can be used in electric substation to ensure line man safety
- To use anywhere the short circuits are happen where the short circuits are happen where the required immediately turn off system without manually.

5. ADVANTAGES

- Avoid electric Accidents to lineman.
- Project is simple and easy
- Uses commonly available component
- Save time of maintenance staff and substations

6. CONCLUSION AND RESULT

This paper can be used to ensure safety of the maintenance staff, industrial area, Houses etc. The component required for the circuit are commonly used and it can be used in industries where the lineman can turn off other three electric lines which are not to be used and he can turn on only a single line if any fault is occurred in that line.

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