International Journal of Advanced Research

in Electrical, Electronics and Instrumentation Engineering

Configurable Password Protected Security System

Ritesh Shah[1], Sumit Mate[2], Aditya Pawar[3], Mohan Jahav[4]

Department of Electrical Engineering, MGM Polytechnic Aurangabad, India[1,2,3,4]

ABSTRACT: In the numbering world, the proposed project runs a password-protected security system that provides significant benefits over traditional locks and better security. It only allows authorized access to users with passwords. The project includes 8,051 EEPROM-connected family microcontrollers that store passwords, users can perform operations such as unlocking and closing, changing the current password through the keyboard, the project aims to create such a type lock that will ensure security as well as affordable implementation.

KEYWORDS:password, protected, security, user.

I.INTRODUCTION

Science and technology changed us in many things. This provides modernization in industrialization. The project is a security system based on an electronic lock system. The system has a feature to change the password at any time authorized by users if needed. The project includes an 8,051-family microcontroller connected to an EEPROM that stores passwords.The project requires a keyboard to enter a password, and a drive engine attached to a microcontroller to lock or unlock a door or any security system.

Warnings will be generated if there is any improper attempt and the door opens if the attempt is correct. The project can be used for security purposes at home, office, organization and others. The proposed system provides a user-friendly security system for organizations and homes. The system is password-based and only allows authorized people to access it with a password. It also has a source to change passwords.

II.SYSTEM MODEL AND ASSUMPTIONS

The technical overview of the electronic lock allows the activation of an electric device only in the correct password login. Here we offer an electronic locking system in which the PIC18F452 microcontroller acts as a processing unit. The MCU is connected to the interface with a 4×4 keyboard and a 16-×-CD. The system lights up the device when entering a three-step password. The entire system block chart is given in the image.1
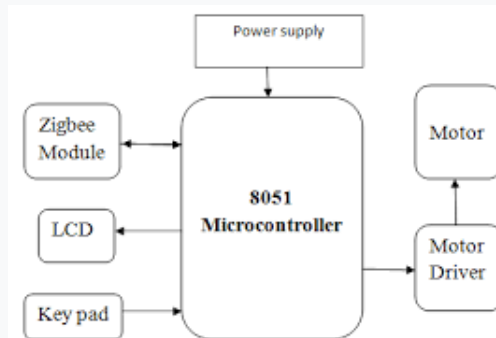

Fig.1: Block diagram

III.EFFICIENT COMMUNICATION

There are many advanced automated door locking systems developed and they are popularly used in buildings and commercial organizations. Some of these automatic door lock systems are based on RFID (radio frequency identification). RFID cards are used as keys. RFID card readers detect and verify user access. When the card is brought near the reader, it identifies the card's radio frequency and therefore confirms the key. However, this system is expensive. Various control systems over the years have been designed to prevent access by unauthorized users. The ultimate goal of providing keys to our homes, schools, offices and buildings is to secure our lives and property.

Therefore, it is important to have an easy way to achieve this goal. Automatic door locking systems have become a standard feature in many types of buildings and homes. Leia Camelia, Elfin Nurjan Sr, Mada Sanjaya and WS have run Eddie Muliana's "Door - Automation System Using Bluetooth," running it based on the Android platform.Therefore, the cost of implementation is less and affordable by ordinary users. By connecting wireless Bluetooth in the microcontroller allows the system to be installed in an easier way.

Shilpi Baanerjee has implemented an automated password-based door lock system. The system works on the concept of a reset password. This increases the level of security to prevent unauthorized lock ingress performed by an attacker. If the user forgets the password, the system gives the user the flexibility to change or reset the password. This password-based auto lock system provides users with a safer way to lock the system lock [5].Arpitta Mishra, Sidhart Sharma, Sakin Dubai, SK Dubai have implemented a "password-based security key system," which works using a keyboard to enter passwords into the system. If the password entered is correct then the door is opened by the engine used to rotate the door lock holder. The system also includes additional features such as adding new users and changing old passwords etc.

IV.SECURITY

A. Keypad:

The 4 × 4-matrice keyboard is used to provide commands and passwords to the MCU. It contains 16 keys (S2-S17 arranged in the form of a triangular matrix of four rows and four columns). Each key in the mascot is labeled according to the operation assigned to it. The connection from the keyboard exit PIN to the MCU PIN is shown in Figure 3. Lines 1 to 4 are connected to RB3, RB2, RB1 and RB0 B MCU port pins, respectively. Columns 1 to 4 are connected to RB4 pins to RB7 Port B, respectively. Image 2 shows the keyboard chart we have used.

Fig.2 Keypad.

B. Hardware design:

Hardware implementation includes a PIC (peripheral interface controller) 18F4552 [7] microcontroller interface with marice keyboard (4 × 4), a cedar engine (which moves keys) and an PCD (16 × 2 or 20 × 2), also includes a single supply power.Running the software means loading orders to the microcontroller, which allows the microcontroller to authenticate the entry from the keyboard with a stored password, to communicate with the device and change the current password. The full work of the project is divided into several sections. The design of the electronic lock system was first simulated with PROTEUS as given in Figure 3.
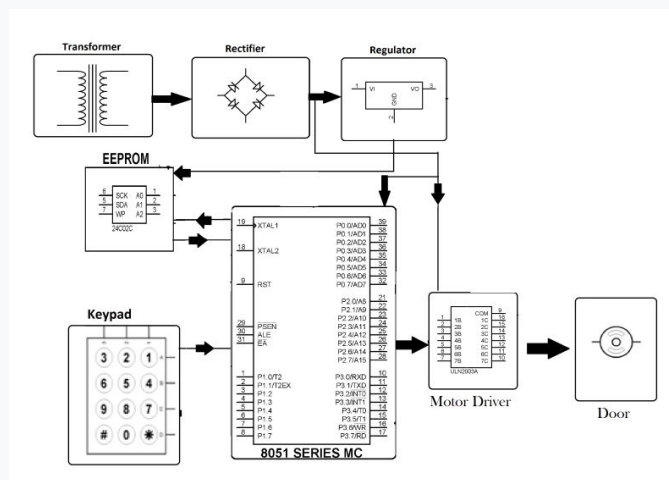

Fig 3. Circuit diagram

C. working software

Micro C PRO is a powerful and enriched tool for Micro. this was designed to provide the simplest solution for developing applications for the systems included in this project, which we used to develop software and perform operations.

V.RESULT AND DISCUSSION

Implementation of this project will address issues related to unauthorized access to rooms or closets. It will be fully automated and password protected. A person can use it for door operations or for private Locker's protection or in IT & Banking sector offices where information security is required or where outsiders are banned.
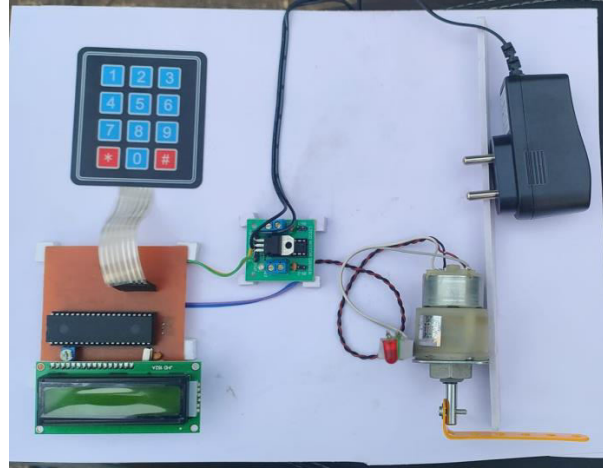
VI. CONCLUSION

In the case of a fire, alarms and doors are automatically opened. We can make appropriate use of the dactomy sensors. For security reasons we can use the camera for remote verification. Remote system comfort.

REFERENCES

1. 8051 MICRO CONTROLLER & TEREBEAM SYSTEM-BY MAZIDI
2. Electronic password – presented by northern University of Bangladesh
3. Password – based security lock system – from the international Journal of Advance technology in Engineering &Science.
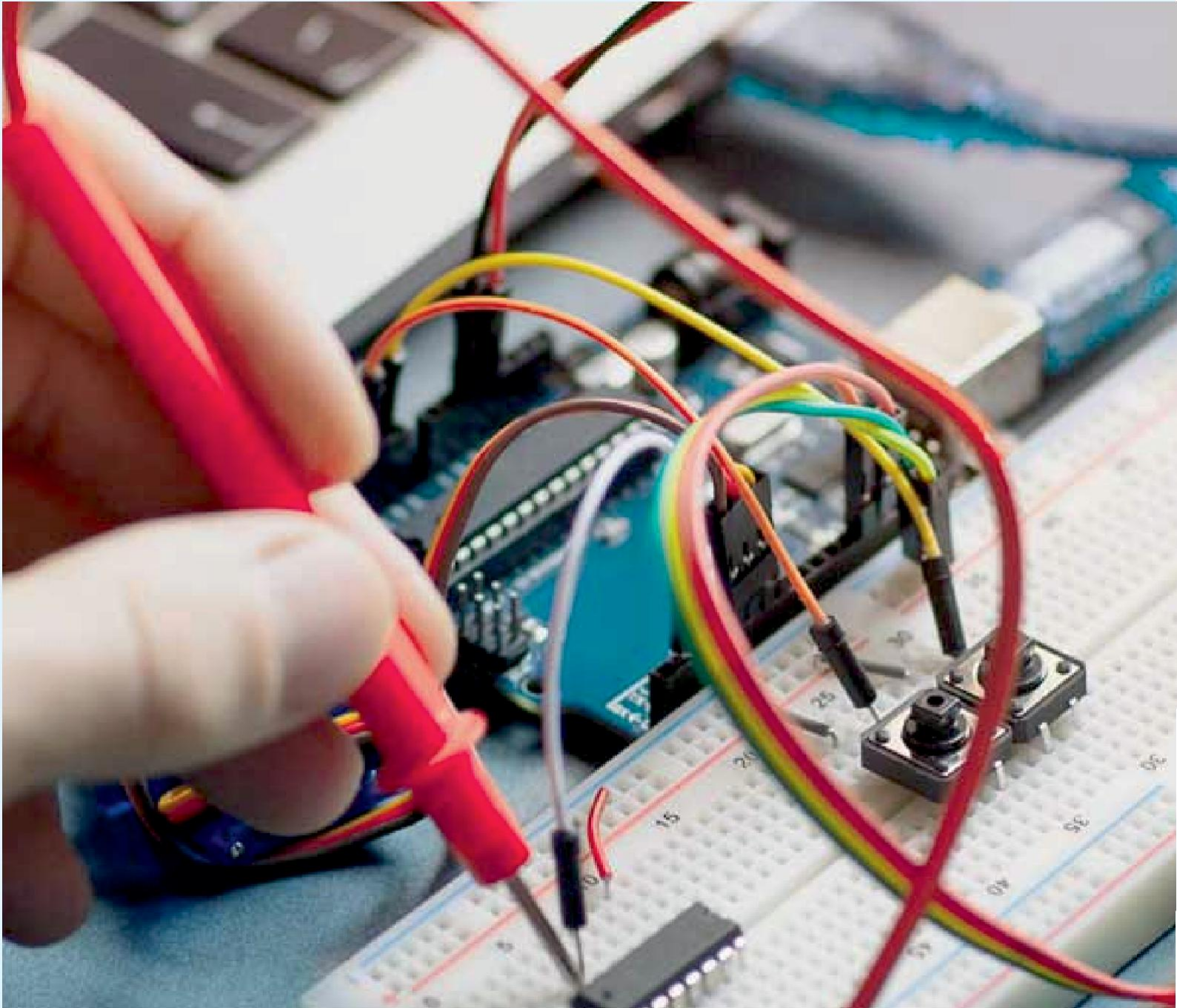
INNO SPACE
SJIF Scientific Journal Impact Factor

Impact Factor: 8.18

DOI® crossref

ISSN INTERNATIONAL STANDARD SERIAL NUMBER INDIA

निस्केयर NISCAIR

International Journal of Advanced Research

in Electrical, Electronics and Instrumentation Engineering

📱 9940 572 462 🟢 6381 907 438 ✉ ijareeie@gmail.com

Scan to save the contact details