PROJECT PROPOSAL

CSE331 (Microprocessor Interfacing and Embedded System)

North South University

Project Tittle: Password based door lock system using 8051/PIC microcontroller

Group No: 10

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Project Objectives:

Nowadays most of the systems are automated in order to face new challenges and present day requirements to achieve good results. Automated systems have less manual operations, so that the flexibility, reliabilities are high and accurate. Hence the importance of a low cost electronic home security system designed in co-ordination with other security measure is always there in our society to reduce the risk of home intrusion.

The main objective of designing this password based door lock system is to provide many modern security features than mechanical lock and utilize our understanding in micro controller and Assembly Language learned through CSE331(Microprocessor Interfacing and Embedded System). Our other objective is to utilize different electronic parts available in the market and build an integrated home security system based on ICS, Microcontroller and LCD screen. We tried to build this project in order to obtain these goals:

- To develop a unique safety system through micro controllers.
- Unlock the door just by pressing pre-defined password through keypad.
- Increase the security level to prevent unauthorized access and increase flexibility of user.
- To give user more secure yet cos-efficient way of door locking-unlock system.

Hardware and Software Applications:

The main idea behind this project is of a door-latch opening using a password entered through keypad. As well as turning on the Buzzer when Password is entered wrong for multiple time. User can unlock the door using pre-defined passcode. When a user try to unlock the door using wrong passcode a message as well as a buzzer will be triggered. The door will automatically open when only passcode is matched. The main component in the circuit is 8051 micro controller which is basically used to send and accept text message from user. 4*3 Keypad is used to enter the password. The entered password is compared with the pre-defined password. If it is correct password, the system opens the door by rotating servo motor and display the status of the door on LCD. If the password is wrong then door remain closed and display message to the user and trigger a Sounder. We used Proteus-8 for circuit simulation purpose and Keil-5 for Micro-C code.

Block Diagram: