

**UNIVERSITI TEKNOLOGI MARA
FACULTY OF ELECTRICAL ENGINEERING**

EE358

**FINAL YEAR PROJECT 2
FINAL PROJECT PROPOSAL**

SMART LIBRARY ACCESS

MOHAMMAD NAYEIM FAZUMY B. MOHD TAJUDIN

2014220682

MOHD RAZIS B. ABU BAKAR

2014227306

PANEL

CIK SHAHIDAH SADIMIN

PUAN AZIZAH AHMAD

SUPERVISOR

CIK FARIDAH BT. ABDUL RAZAK

ACKNOWLEDGEMENTS

Alhamdulillah, in the name of Allah S.W.T, Most Gracious, Most Merciful. Being grateful for His Blessings that we are finally able to complete our final project in a given time.

Firstly, we like to thank to our supervisor, Cik Faridah BT. Abdul Razak for always spending her time to help us about final year project progression weekly. Also, much thank for her kindness in giving advices, guidelines, and support in order to finish this project

Besides, we also like to thank both of our parents and families for their support. Without their help, we would surely not finish this project on time.

Lastly, we would also like to offer our sincerest gratitude to our fellow friends who always keep support and provide additional ideas and suggestions. Without them, we are hardly in finishing this project.

ABSTRACT

This project is about smart Library access where the student or staff use code or password to access the library that have been given password, this is because to prevent from outsider enter the library without permission and to prevent many unwanted event from outsider. This project need to key in the password required to enter the library, if the person enter wrong password the display will show warning and the buzzer beeping and need to reenter the the true password. This access is a device built around PIC 16F877A which act as interface between hardware and software. This access actives an output when correct access cade has been entered on keypad. This code consist of six digit in the range 0 to 9. The code can be changed by user and is also remembered when the power is off. The main objective of this project is to product low cost and user friendly electronic device. This project were control by using PIC16F877A and need to burn a coding that were made into the PIC, the coding were made by using the software name MPLAB X IDE v1.85. The design prototype has been fabricated and the output was shown in the software name Proteus 8 Professional. Therefore, through this proposed techniques, it is expected that not only will efficiently smart access but as hight technology security.

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CHAPTER 1

INTRODUCTION

1.1 Background

It seems that there is an increasing demand for security system for library among university recently because lacking of security management control. Because of lack in security, so outsider people can enter the library without having any hesitation and can enter the library anytime their want. The system that we introduce is on electronic security system with a password protection which is more secure than a previous access. The number of time allowed to enter a password is limited to three. Student must use their own password that has been given to access the library. This system is more reliable, sensitive and intelligent and also low power consuming and cost effective. Security is a prime concern in our day-today life. Everyone wants to be as much secure as possible. An access control for doors forms a vital link in a security chain. The microcontroller based digital lock for Doors is an access control system that allows only authorized persons to access a restricted area.

An electronic lock or digital lock is a device which has an electronic control assembly attached to it. They are provided with an access control system. This system allows the user to unlock the device with a password. The password is entered by making use of a keypad. The user can also set his password to ensure better protection. The major components include a Keypad, LCD and the controller PIC16F877A. This article describes the making of an electronic code lock using the 16F877A microcontroller.

The system is fully controlled by the 8 bit microcontroller 16F877A which has a 8Kbytes of ROM for the program memory. The password is stored in the EPROM so that we can change it at any time. The system has a Keypad by which the password can be entered through it. When the entered password equals with the password stored in the memory then the relay gets on and so that the door is opened.