

UNIVERSITI TEKNOLOGI MARA

**RFID FOR STUDENT EXAMINATION
ATTENDANCE (R-SEAT)**

MICROCONTROLLER BASED RFID READER

MUHAMMAD AKMAL BIN ABDUL LATIP

**BACHELOR OF SCIENCE (HONS)
DATA COMMUNICATIONS AND NETWORKING
FACULTY OF COMPUTER AND MATHEMATICAL SCIENCES**

JULY 2013

ACKNOWLEDGEMENT

The research for this R-SEAT project could not have been conducted without the cooperation, support and guidance from many people. First of all, I would like to thank Mdm Noorhayati Binti Mohamed Noor for always been there, supportive and always given valuable advices and encouragement throughout the entire project. I would also like to express my gratitude to her, as I had been given this opportunity to learn and work on this project.

I would also like to thanks Dr Shahniza Binti Kamal Bashah and Dr Fakariah Hani Binti Mohd Ali for their guidance to help us to write this thesis in each stages of this project. I also want to thanks Sir Hafidz Bin Rahmat, Sir Haji Zaki and all other lecturers that have helps and taught us during the R-SEAT project development.

Other than that, I would also want to thanks my family for their unconditional love, support, encouragements, and also for their constant prayer for me. To Norshatun Radhiah Binti Musa and Nurul Amanina Binti Noor Halim, I would like to thank them from the bottom of my heart for their cooperation, supportive and discipline that lead to this final year project. Finally, I would love to say thank you to everybody who has help and support me the entire time.

ABSTRACT

RFID Reader is needed in order to collect data from RFID Tag where the data will be inserting into database for further process in this RFID for Student Examination Attendance system. This RFID Reader will display whether the student were in the exact examination hall and time via RFID Reader application that is provided at the RFID Reader. This will help student notify if the student goes to the wrong examination hall and time. The reason for the existence of RFID Reader in this system is to provide data memory for the system by writing data into RFID Tag and retrieve data from RFID Tag and to develop application that can display the detail of student that sit for examination and display error message. This RFID Reader also will help to easier student in taking examination. This RFID Reader consists of different item that is specifically build for this system. RFID Tag, Microcontroller, LCD and RFID read/write RFID Tag is used for storing data regarding student. Microcontroller is where the programming of what the RFID Reader need to do is to be done. RFID Read/Write module is where the data is being retrieved from RFID Tag and data were writing into RFID Tag. The result for this RFID Reader is expected that it can display back to the student the information regarding student and examination via RFID Reader application, can connect to the database where the identification of the student can be done and can retrieve data from RFID Tag.

TABLE OF CONTENTS

CONTENTS	PAGE
SUPERVISOR'S APPROVAL	ii
DECLARATION	iii
ACKNOWLEDGEMENT	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	x
LIST OF TABLES	xi
LIST OF ABBREVIATIONS	xii

CHAPTER ONE: INTRODUCTION

1.1	Background of Study	1
1.2	Problem Statement	2
1.3	Objectives	2
1.4	Project Scope	3
1.5	Research Significance	3
1.6	Outline of the Thesis	4

CHAPTER TWO: LITERATURE REVIEW

2.1	Introduction	5
2.2	RFID Applications Area	6
2.2.1	Tracking location of books in library	6
2.2.2	Tracking and identifying animal	7
2.2.3	Tracking the type of the blood packet	7
2.2.4	Tracking of attendance using RFID	7

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Examination is a process where all of the student in the world must go through. Student need to have focus and relax during examination so that they can answer the question in a smooth way. One of the most important things in examination is examination attendance. The examination attendance is important because it will help lecturers to be acknowledge whether the student attend the examination or not.

In the current procedure, student will need to fill up attendance slip and then the slip will be collected by invigilator. The attendance slip will be the id for student when sit for the exam. The current examination attendance procedure produces problems to student, invigilator and lecturer. For student, current procedure will affect the concentration of student when taking the examination. It affect student when they need to fill up the details on the examination attendance form. This current procedure also is time consuming as students need to fill up the form. For invigilator perspective, it is workload for them because invigilator need to focus on invigilate student during the examination. Invigilator also needs to collect all the attendance slip and count all the attendance for recording and this will be a workload for invigilator.

In order to solve all the problem regarding examination attendance, the solution is to develop the system that automatically will record the student examination attendance. It means that student does not need to fill up the attendance slip and invigilator does not need to count back all the attendance slip. All of those procedures will be handling by automatic system. There are some technologies that