

Universiti Teknologi MARA

**Implementing QR Code System
On Student Attendance By Using Mobile Apps**

Meor Muhammad Nazrin Bin Norazman

**Thesis submitted in fulfillment of the requirement for Bachelor
of Science (Hons.) Data Communication and Networking
Faculty of Computer and Mathematical Science**

December 2018

STUDENT DECLARATION

I certify that this thesis and the project to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

.....
MEOR MUHAMMAD NAZRIN B. NORAZMAN
2016598619

NOVEMBER 30, 2018

ABSTRACT

Web-based student attendance system is a system that integrated with mobile apps and web-based system to implement the QR code technology on student attendance using MySQL as a cloud database which was developed specifically to reduce the workload and reduce time taken for lecturer to take the students attendance in class. This system using QR code function to update and scan the attendance by using mobile apps generated by web-based. Besides, the web-based features such as sent warning email to the student who below eighty percent which can alert the student that was in warning state before they got barred from the final examination for the specific registered course. Other than that, admin and lecturer also can generate QR code for new class attendance for the student to scan and take the attendance and data was stored in the cloud database. Furthermore, the mobile apps was for students, which provided the information about registered courses and percentage of attendance and also QR scanner function to scan the attendance. The development of student attendance system using QR code used the System Development Cycle (SDLC) which contains five phases in the project management. A user acceptance test and network performance test were applied for the testing phase. User acceptance test was conducted with 30 respondents, which are UiTM Arau students and lecturers by evaluating the questionnaires. Results of the questionnaires showed that most of the participant were satisfied with all categories provided. Moreover, another part of testing that was carried out is the network performance test on the network response time, and packet loss was shown a good result and acceptable. Therefore, based on features and functionality offered in this system will benefit to UiTM Arau citizens.

TABLE OF CONTENTS

CONTENT	PAGE
SUPERVISOR’S APPROVAL	II
STUDENT DECLARATION	V
ACKNOWLEDGEMENT	VI
ABSTRACT	VII
TABLE OF CONTENTS	VIII
LIST OF FIGURES	XII
LIST OF TABLES	XIV
LIST OF ABBREVIATIONS	XV
 CHAPTER ONE: INTRODUCTION	 1
1.1 Background of the study	1
1.2 Problem Statement	2
1.3 Project Objective	3
1.4 Project Scopes	3
1.5 Project Significance	4
1.6 Project Outline	4
 CHAPTER TWO: LITERATURE REVIEW	 5
2.1 Mobile Technology	6
2.2 Type of Mobile Application	6
2.2.1 Web Application	6
2.2.2 Native Application	8
2.2.3 Hybrid Application	9
2.3 Mobile Application Development Platform	10
2.3.1 Android Development	11

5.1 User Evaluation	60
5.1.1 Demographic Profile	61
5.1.2 Content Category	61
5.1.3 Satisfaction Category	63
5.1.4 Consistency Category	66
5.1.5 Efficient Category	68
5.1.6 User Interface Category	70
5.2 Network Performance Testing	73
5.2.1 Graph of Response Time	73
5.2.2 Graph of Packet Loss	74
5.3 Total Mean Summary	74
 CHAPTER SIX: CONCLUSION AND RECOMMENDATION	 76
6.1 Project Result	76
6.2 Conclusion	78
6.3 Limitation	79
6.4 Recommendation	79
 REFERENCES	 81
APPENDICE	85
Appendix A: Questionnaire	86