



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

**DEVELOPMENT OF WEB BASED BOARDING
SCHOOL OUTING SYSTEM**

This report is submitted in accordance with the requirement of the Universiti Teknikal Malaysia Melaka (UTeM) for the Bachelor of Electronic Engineering Technology (Telecommunication) with Honours.

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TECHNOLOGY

2021

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Tajuk: Development Of Web Based Boarding School Outing System

Sesi Pengajian: 2020

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ABSTRAK

Sebilangan besar sekolah berasrama masih menggunakan kaedah manual kelulusan pelajar. Sebelum mereka dibenarkan keluar, mereka perlu mengisi kad tersebut. Selepas itu, mereka perlu menyerahkan kad tersebut dan warden akan menandatangani kad keluar untuk persetujuan. Sekiranya anda mengalami kecemasan, anda mesti pergi ke rumah warden untuk mendapatkan kebenaran mereka dengan menandatangani kad keluar. Dengan berbuat demikian, pelajar boleh mengganggu warden pada hujung minggu tetapi tidak mempunyai pilihan lain. Sekiranya tidak, pelajar akan keluar untuk pergi tanpa kebenaran warden. Di samping itu, pelajar sering kehilangan kad 'outing', atau kad mempunyai had untuk memohon 'outing' sehingga pelajar harus membeli kembali kad 'outing'. Sebilangan pelajar mungkin menghadapi masalah kewangan sehingga mereka tidak mempunyai wang untuk membelinya. Sistem keluar berasaskan web akan membantu menyelesaikan masalah ini. Sistem akan menggunakan pengimbas kod bar untuk mengimbas kod bar di bahagian belakang kad pengenalan mereka. Seterusnya, semua butiran pelajar akan dipaparkan secara automatik di komputer dan dimasukkan ke dalam pangkalan data untuk rakaman. Sistem ini akan menggunakan Microsoft Visual Studio 2019 untuk melaksanakan sistem, sistem pangkalan data, dan banyak lagi. Ciri sistem akan ditambah seperti aplikasi keluar dan status keluar. Warden dan pentadbiran boleh memeriksa pangkalan data. Sistem ini akan membantu warden untuk merekod dan mencetak kad sementara untuk pelajar, memudahkan mereka menggunakan pintu keluar.

ABSTRACT

Most boarding schools still using the manual methods of approval students' outing. Before they are allowing to go outing, they need to fill in the outing card. After that, they need to submit the outing card and the warden will stamp on the outing card as an approval to go outing. If you have an emergency thing, you have to go to the wardens' house to get permission from them by signature the outing card. By doing that, the student might be disturbing the warden on the weekend but there is no other choice. Otherwise, the students might be going out for outing without a warden's permission. Besides, the students always missing their outing card, or the outing card has limits to apply for an outing so the students need to repurchase a new outing card to go outing. Several of the students might be having a financial problem so they do not have financial to buy it. An outing system using web-based will help to overcome these problems. This system will be using a barcode scanner to scan the barcode at the back of their ID card. Next, all the details of the student will automatically display on the computer and insert in the database to record. This system will be using Microsoft Visual Studio 2019 to implement the system, database system, and so on. The features on the system will be added such as outing application and outing status. The warden and administration can check the database. This system will help the warden to record and stamp the outing card while for the students, it will be easier for them to apply the outing.

DEDICATION

I dedicate this project to My Creator Allah S.W.T, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this project and on His wings only have I soared. I also dedicate this work to families; Abdul Rahman, my dad and Salamah, my mom, who has encouraged me all the way and whose encouragement has made sure that I give it all it takes to finish that which I have started. To my sisters, Norfarahdiana (Ayong), Fatin Nuraqilah (Akak), and my brother, Muhamad Luqman Hakim (Abang) who have been affected in every way possible by this quest. This project I also dedicate to my supervisor, Pn. Aziean Binti Mohd Azize for her help to manage me to the accomplishment of undertaking for my degree. Thank you. My love for you all can never be quantified. Allah bless you.

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ACKNOWLEDGEMENTS

Alhamdulillah, Praise to Allah S.W.T for his blessing and guidance have helped me carry out my project and thesis completely. First and foremost, I would like to show my gratitude to Pn. Aziean Binti Azize as my project supervisor. She gave me guidance and advices on my progress for this Bachelor Degree Project. I am very grateful to have my supervisor who always assisted and guide me to complete this project, Bachelor Degree Project precisely. Thanks to her I have experienced research and my knowledge on the subject has been broadened.

I sincere appreciation also goes to all my lecturer in FTKEE for their invaluable assistance toward this project. It will never be regret to enrol myself into FTKEE. This will improve my skills and capabilities to related fields.

My utmost regard also goes to my parents, Abdul Rahman and Salamah and also my family members and friends. They always give me support and encourage me to finish this project and give my best for this project. They also supporting me either mental or finance while completing this project. The gift of Allah, unforgettable, to bless me with infinite knowledge, experience and confidence to meet these amazing people in my lives. By going through this journey, I strongly believe this may be the breakthrough of my next journey of life. It was impossible for me to complete this project without their support.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter will show an overview of this project regarding web based outing system using barcode in detail. It discusses about background, problem statement, objective and project scope.

1.2 Project Background

The project to be developed is a web-based application system which called Boarding School Outing System and it will apply in any boarding school. Nowadays, most of parents who are working full-time will send their children to boarding school. It will be easier to them to monitor their children about studies. Students in boarding school will have new friends, and be independent to take care of themselves.

Barcode is a method of representing data in machine-readable form. Next, barcode represented data by spacing of parallel line and width. (Singh and Sharma, 2015) mentioned that barcode is clearly defined dark bar and blank areas format. It enables continuous information to be gathered precisely and quickly. Connecting the barcode innovation with personal computer and application programming improves the execution, efficiency and beneficial. Barcodes are widely used such as supermarket because they were used to automate supermarket checkout system. It will speed up the process of checking out and can track the price of items. Barcodes can also be used to keep track of objects and people.

Commonly it referred to as linear or one-dimensional (1D) and can be scanned by barcode scanner. (Phaniteja and Tom, 2010) explained that there are several type of barcode reader such as laser scanner and Charge Coupled Device (CCD). Laser scanner use laser shaft as light source and commonly utilize either responding reflect or pivoting crystal to filter the laser bar to and fro over the barcode. For the charge coupled device, it uses an exhibit of several minuscule light sensors arranged in succession in the head of reader.

Nowadays, technology plays an important role to industries, healthcare and more. Example of technology that widely used is database system. Database is a collection of related data with certain task. Most of the companies or organization have their own system to manage data of people who are entering their premises. This invention has made it easy to manage data in database system and direct access to data. A database system is more secure to restrict users from accessing information. Only certain users can access this database system. By having this system in boarding school, it will be easier for the warden to approve and the students to apply for outing. This system will come with a database to keep and collect all the data time by time. This system will replace the manual application to manage the student outing. According to (Saeed, 2017), an organization that executes a database application to limit mistakes, and upgrade consistency is a significant idea for effective database-related applications.

1.3 Problem Statement

The outing system in boarding school is using manual system. There are some problems with the current manual outing system. The students' registration is being used to record all the details and movement in their outing cards. All students must have outing card to go for outing activity. It is very inefficient to control all the students in boarding school.

In addition, the students need to get permission by warden. If you have an emergency thing, you have to go to wardens' house to get permission from them by signature the outing card. The wardens do not have any privacy on weekend. They might be spending time with their family. By using this system, the warden can login the website and check the application. On weekend, the warden wants to get a good rest with their family, nevertheless they still need to work and check on the students who went out for outing activity. By having the system in boarding school, the wardens can check all the student's information, in and out time of outing application.

Furthermore, the outing card has limitation to apply to go for outing activity. They need to repurchase the outing card for the upcoming outing activity. The price for an outing card might be reasonable for them to purchase but they need to cut cost and save for other important things. Other than that, some of the students return to school on time but some of them are not.

The warden need to stay at the guard house from 6pm until 7pm to check the students who are not return yet on time. The students' outing card need to be hold by the warden for detention class as punishment. It might be difficult for the warden to stay at the guard house and check one by one outing cards. So, it is much easier for warden to check students' status through the outing system.

1.4 Objectives

The objectives have been identified after reviewing all the problems. There are specific objectives need to be achieved in the development of boarding school outing system using web based.

- I. . To design outing system through web based by using barcode scanner.
- II. To eliminate the impersonation of the warden's signature by the students to get permission for the outing
- III. To analyze the functionality of the system.

1.5 Project Scope

The scope of this project is to create a web based boarding school outing system using barcode scanner. This system will replace the manual outing system with web based outing system to check the movement of students. This project uses a barcode scanner that will construct with the personal computer. The functions of this system are to keep track the movement of the students on weekend and it will display database of each students' outing activity with exact time.

This system has three categories of users which are administration, warden and students. Web-based system will auto key-in the data of the students going out for outing. Web-based can be accessed by the administration, warden and students. The administration need to fill in the student detail. Other than that, the administration and warden can view the information of student and approval permission.

The students need to apply the outing permission before going out. In addition, the student need to show the student ID card at the guard house and scan the barcode at the back of the ID card. Once the scanning barcode done, all the details of student will display on the web.

1.6 Thesis Outline

This report is made up five chapters, which contents are summarized as follows:

- Chapter 1 contains project background, problem statement, objectives and project scopes.
- Chapter 2 contains literature review that summarized all the related project.
- Chapter 3 describes the methodology that has been developed the outing system.
- Chapter 4 contains result and discussion that obtained from the system implementation.
- Chapter 5 contains the conclusion and recommendation for future related project for improvement.

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CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter will discuss about literature review where the information about related project. It will summarize the idea based on the previous project as well as the theory to accomplish this project. This study is focus on web based system that used for this related project. Web-based application is useful to any user to develop, easier to install and manage it. Each web-based application has particular function according to the requirement. This web-based can accessed anytime through internet. In addition, barcode scanner can quickly analyze any printed barcode by sensor and send information to output. It can be connected to a personal computer by connecting the USB cable on the barcode scanner

2.2 Related Researches

2.2.1 Mobile Barcode Based Examination Attendance System

This project suggested an effective way to participate in the evaluation using mobile barcode. (Khan *et al.*, 2018) stated that innovation should be familiar with handling the framework for participating in exams. This framework can help the understudies keep the emphasis on the exam. The administrator who will keep up the online server guided this framework. The administrator will embed new objects, halls, timetables and venue for examination. Each lecturer has their own. So the lecturer can pick up their subjects and check the hall. Undergraduates need to check their student card prior to entering the examination

hall. They proposed the mobile barcode-based examination system outweighs the paper-based attendance framework by reducing the time and vitality utilization.

