UNIVERSITI TEKNIKAL MALAYSIA MELAKA

DEVELOPMENT OF REPORT SUBMISSION BOX WITH TRACKING AND MONITORING SYSTEM FOR LECTURER

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

By

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BORANG PENGESAHAN STATUS LAPORAN PROJEK SARJANA MUDA

Tajuk: Development of report submission box with tracking and monitoring for lecturer

Sesi Pengajian: 2019

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DECLARATION

I hereby, declared this report entitled Development of report submission box with tracking and monitoring for lecturer is the results of my own research except as cited in references.

Signature: ……

Author : Ain

Date:

APPROVAL

This report is submitted to the Faculty of Electrical and Electronic Engineering Technology of Universiti Teknikal Malaysia Melaka (UTeM) as a partial fulfilment of the requirements for the degree of Bachelor of Computer Engineering Technology (computer system) with Honours. The member of the supervisory is as follow:

Signature: …….

Supervisor :

Signature: …….

Co-supervisor:

ABSTRAK

Tujuan utama projek ini adalah untuk membina kotak penghantaran laporan dengan sistem pengesanan dan pemantauan untuk pensyarah. Sistem penghantaran laporan sistem semasa di FTKEE memerlukan pensyarah untuk kerap memeriksa *pigeon hole* mereka sendiri. Kebanyakan pensyarah mempunyai *pigeon hole* sendiri untuk pelajar menghantar laporan mereka. Terdapat beberapa masalah yang dihadapi dalam menguruskan *pigeon hole* sebagai contohnya pensyarah perlu sentiasa memeriksa *pigeon hole* mereke dan terdapat beberapa bilik pensyarah terletak di tempat yang berbeza. Jadi ia membuat mereka sukar untuk selalu memeriksa *pigeon hole* dan membazirkan tenaga. Objektif projek ini adalah untuk membina kotak penyerahan laporan dengan pemantauan dan pengesanan untuk pensyarah berdasarkan web sistem, Untuk mengesan kehadiran dokumen menggunakan *sensor* inframerah dan mikrokontroler arduino UNO dan akhir sekali untuk mengesan dan memantau kehadiran buku atau dokumen menggunakan web sistem. Projek ini menggunakan Arduino UNO sebagai komunikasi antara input dan output dan modul WIFI untuk menghantar data dan menyediakan WIFI ke arduino. Pemerhatian telah dilakukan untuk menguji fungsi sistem ini dan ia menunjukkan bahawa sistem memberi maklumat menggunakan *number tracking* untuk pensyarah supaya memeriksa *pigeon hole*. *Number tracking* dipaparkan pada LCD. Projek ini mudah digunakan dan mesra pengguna kerana ia memberikan peningkatan untuk kotak penghantaran laporan.

ABSTRACT

The main purpose of this project is to develop report submission box with tracking and monitoring system for the lecturer. The current system systems of report submission box require lecturer to frequently check their own pigeon hole. Mostly each lecturer has its own pigeon hole for student to submit their report. There is some problem encountered in managing the pigeon hole as the need to constantly check and some of the lecturer room is located at different place. So, it makes it difficult for them and waste energy. The objectives of this project is to develop the report submission box with monitoring and tracking for lecturers based on web system, To detect a presence of a documents using infrared sensor and microcontroller arduino UNO and to track and monitor the presence of a book or document using web system. This system used an Arduino UNO as an interface for communication between input and output and Wifi module to transmit data and provide WIFI to arduino. Observation has been done to test the functionality of this system and it shows that the system provides tracking number for immediate action to lecturers. The tracking number is display in LCD for a student. This project is easy to use and user-friendly as it provides improvement for report submission box.

DEDICATION

Special dedicated to my beloved father and mother,

Azahar Bin Ahmad
Nurulhidayah Binti Salleh

My supportive siblings,

Anis Faezah Binti Azahar
Khairul Anwar Bin Rosli

For my supervisor,

For giving me moral support and encouragement.

Thank You So Much.

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Alhamdulillah, In performing this final year project, the most gracious and most merciful to the Allah S.W.T that I can completely finish my final year project without any problems occurs.

First of all,I would like thankful to my respectively supervisor, En. Ahmad Nizamuddin Bin Muhammad Mustafa for helping grateful me throughout the design and develop projects. Thankful for him because always sharing an opinion and knowledge. All the useful critiques throughout this project is really helps me to learn from the beginning until the end of this project.

Finally, I would like to appreciations to my beloved friends and everybody that helpful from the beginning of this project start until end. Thanks to all the people that helping me to complete this final year project.

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LIST OF ABBREVIATIONS

GSM	–	Global System for mobile
PC	-	Personal Computer
PHP	-	Personal home page
RFID	-	Radio-frequency Identification
SMS	-	Short Message Service
UART	-	Universal Asynchronous Receiver-Transmitter
PIC	-	Programmable Interface Controller
USB	-	Universal Serial Bus
XML	-	Extensible Markup Language
EEPROM	-	Electrically Erasable Programmable Read-only Memory
SQL	-	Standard Query Language
LCD	-	Liquid Crystal Display

CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter will cover about the whole concept about this project that going to develop as mentioned. This chapter is important to know about the overall of this project. These includes the background study of project such as problem statement, objective, scope, significance of study and summary of the whole project.

1.1 Background of the study

Report submission is a small compartment used to fill in document, file, letter and etc. Mostly pigeon hole are being use at the organization, workplace, school and universities. The file or document that being place in pigeon hole are ready for them to collect.

In university, a pigeon hole is place at one location and every lecturer is provided with a pigeon hole. A lecturer also used a pigeon hole for student to submit their assignment, laboratory and etc. However, there are some problems with current pigeonhole system such as some of the document are missing and misplaced. Thus, Development of report submission box with tracking and monitoring system offers better protection in term of track and monitor.

With development of report submission box with tracking and monitoring system for lecturer, all documents can be monitored and all the document can be track whether there is

a document inside box. This project is going to provide a student by providing tracking number every time the box is fills with a document. When a student submits their report, Lcd will display a tracking number. This tracking number can be view in web system for lecturer action. The lecturers also can check and get the information online at any time and everywhere. It offers lot of advantages for lecturers as they can monitor using web system. The system that design can help lecturers on handling box in a faster way.

1.2 Problem Statement

The current report submission box that had in university is mainly handled manually by lecturers. This cause lecturer to frequently check their pigeon hole to check whether there is document or not inside pigeon hole. These also waste time and energy for lecturers to check the pigeon hole frequently. The problem is getting more complicated when some of document is missing. Moreover, the current pigeon hole is only for placing the document and items. It does not provide an information that reminds the user about the documents that being placed. If the documents are misplaced or missing, it is hard to track as there is no system to check the existence of the document inside the pigeon hole.

1.3 Objective

Objective is defined as the goals that needed to be achieved at the end of the project. The objectives of this project are as below:

1. To study about the current system for report submission box at Faculty of Electrical and Electronic Engineering Technology.
2. To develop a report submission box with tracking and monitoring system based on web system.
3. To analyze the functionality and effectiveness of the report submission box with tracking and monitoring system based on web system.

1.4 Scope

The scope of this project consists of software and hardware. Among the scope of the project, this project is using arduino UNO microcontroller and its act as a brain to control all the component and software used in this project. The system then will be connected for communication between microcontroller, LCD and web system. Infrared sensor is used to detect the presence of an object. 5V power supplies are used to connect microcontroller and sensor.

1.5 Project Significance

Nowadays, to handle a pigeon hole is difficult for lecturers as they need to frequently check. The concept of store a document inside pigeon uses basic method such as store a document without being monitor. Thus, the current system should be replaced by a track and monitor system that use tracking number and web system. This is due to the documents that handle manually may sometimes is lost and being stolen. With the use of this system, the student will be given a tracking number after sensor detect object and it can be monitor in web system for lecturer action.

1.6 Summary

In Chapter 1 consist of the problem statement, objective, scope, significance of study and summary of the whole project. Next, chapter 2 consists of literature review of various sources from previous study. Then, chapter 3 is about the process to start the project from initial process to finish. The process starts by identifying the objective and problem statement then proceeds with others step. The steps start from the survey form and interview than move to the circuit design, component selection and finally construct the device. The result and discussion of the project will be discussed in chapter 4. Finally, chapter 5 will summarize the entire project that has been done and discuss about the limitation of this project.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter will cover about related information that are obtain from various resources related to this project. In this chapter, the research from other project that related to this project also included to get an idea to improve current project by determine a strengths and weaknesses. From the weakness, some Improvement can be identified to make a project more effective.

2.1 Faculty Background

In university Teknikal Malaysia Melaka, There are eight faculties available including Faculty of Electrical Engineering (FKE), Faculty of Electronic and computer Engineering (FKEKK), Faculty of Mechanical Engineering (FKM), Faculty of Electrical and Electronic Engineering Technology (FTKEE), Faculty of Mechanical and Manufacturing Engineering Technology (*FTKMP*), Faculty of Manufacturing Engineering (FKP), Faculty of Information and Communication Technology (FTMK) and Faculty of Technology Management and Technopreneurship. For FTKEE, It was established on April 2011 which aims to educate and train highly skilled manpower to contribute to the advanced industrial countries. Under FTKEE, there is two departments which is Department of Electrical Engineering Technology (JTKE) and Department of Electronic and Computer Engineering Technology (JTKEK) and There are over 159 lecturers for FTKEE.

2.2 The Current System of FTKEE Report Submission Box

Based on the observation at FTKEE, pigeon-hole is being used for facilitating the transmission of information in hardcopy form like laboratory report, assignment and etc. In general, each lecturer will have one unit of FTKEE pigeon-hole for a report submission. All inbox like assignment, document will be placed into pigeon-hole.

The FTKEE pigeon-holes are located at first floor at FTKEE lecturer room and all FTKEE lecturer pigeon-hole are placed there. Due to the increasing number of lecturers at the FTKEE, there are number of lecturers are placed outside the FTKEE lecturer room like in FKM, Lab office and etc. This will give a limitation to the lecture from access to their pigeon-hole. Some lecturers also placed their submission box outside of their room.

The current system does not provide any information to the lectures. Lecturers are required to check their pigeonhole frequently. This has caused the lecturer forgot and delay in obtaining the information from their pigeon hole. Sometimes, the report send by a student also missing.

Figure 2. 1:Current Report Submission Box at FTKEE

Figure 2. 2: Current Report Submission Box at FTKEE

Figure 2. 3: Current Report Submission Box at FTKEE

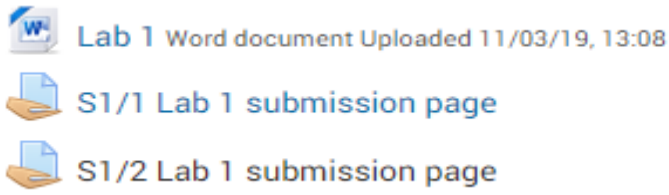

Figure 2. 4: Current Report Submission using ulearn at FTKEE