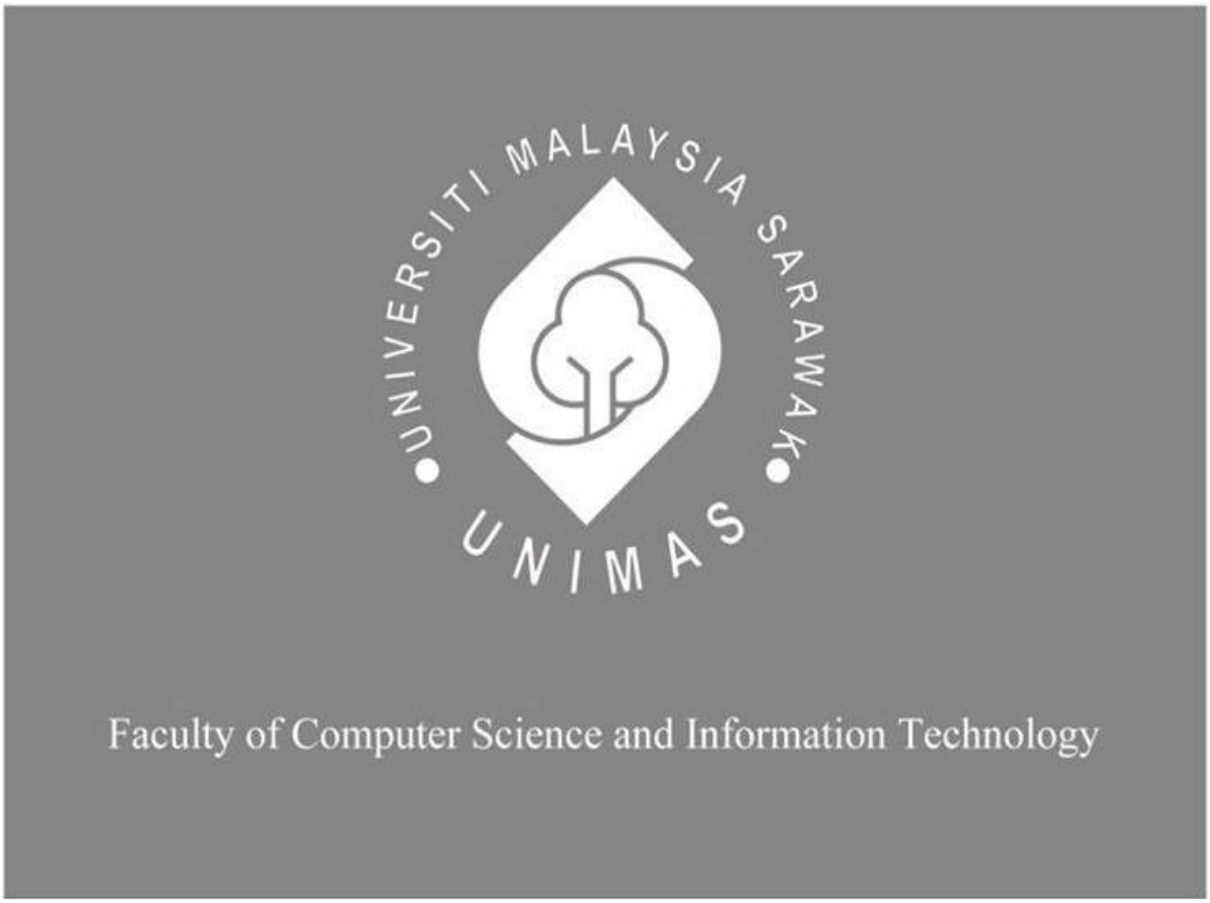

Mobile Complaint Management System for Bintulu Port (EZComplaint)

Nur Ain Binti Ramlee

Bachelor of Computer Science with Honours
(Network Computing)
2019

MOBILE COMPLAINT MANAGEMENT SYSTEM FOR BINTULU PORT (EZComplaint)

NUR AIN BINTI RAMLEE

This project is submitted in partial fulfillment of the requirements for the degree of Bachelor of Computer Science with Honours

Faculty of Computer Science and information Technology
UNIVERSITI MALAYSIA SARAWAK
2019

DECLARATION OF ORIGINALITY

I hereby declare that this research together with all of its content is none other than that of my own work, with consideration of the exception of research-based information and relative materials that were adapted and extracted from other resources, which have evidently been quoted or stated respectively.

Signed,

Nur Ain Binti Ramlee

……

Nur Ain Binti Ramlee (58932)
Faculty of Computer Science and Information Technology
Universiti Malaysia Sarawak. 8 Januari 2020

FORM A

FORM A

FACULTY OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY
UNIVERSITI MALAYSIA SARAWAK

FINAL YEAR PROJECT REPORT SUBMISSION

Section A: (To be completed by the Student)
(Please tick (√) where applicable)

FYP Coordinator
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FYP Report Submission

Name ...NUR AIN BINTI RAMLEE.....

Student number ...58932.....

Program ...NETWORK COMPUTING.....

The project title is:- .....MOBILE COMPLAINT MANAGEMENT SYSTEM FOR .....

.....BINTULU PORT (EZCOMPLAINT).....

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.....NUR AIN.....
(Signature)

.....10/8/2020.....
(Date)

ENDORSEMENT BY MAIN SUPERVISOR

Section B: (To be completed by the Main Supervisor)

I, ...MOHAMAD IMRAN BIN BANDAN....., Main Supervisor for .....NUR AIN BINTI RAMLEE....., a Bachelor Degree student under Faculty of Computer Science and Information Technology. In this regard, I hereby endorse/~~do not endorse~~ the progress achieved by the candidate and have no objections/~~object~~ to the candidate's to submit the draft copies of FYP report for evaluation.

.....
(Stamp & Signature)

Dr. Mohamad Imran bin Bandan
Postgraduate Coordinator
Faculty of Computer Science and Information Technology
Universiti Malaysia Sarawak

...10/8/2020.....
(Date)

FORM B

UNIVERSITI MALAYSIA SARAWAK

THESIS STATUS ENDORSEMENT FORM

TITLE MOBILE COMPLAINT MANAGEMENT SYSTEM FOR BINTULU PORT (EZCOMPLAINT)

ACADEMIC SESSION: 2019/2020

NUR AIN BINTI RAMLEE
(CAPITAL LETTERS)

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Postgraduate Coordinator
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Universiti Malaysia Sarawak

Date: 10/8/2020

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FORM C

FORM C

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Faculty of Computer Science and Information Technology

Remark

This form must be endorsed by MAIN SUPERVISOR and EXAMINER(s) submitted along with two (2) copies of corrected report (Hard Binding) to the Office of FYP Coordinator. Final Year Project Report submitted WITHOUT this form will not be processed for the purpose of grading.

A. *Endorsed by Main Supervisor & Examiner*

I have reviewed and confirmed

Student's Name	NUR AIN BINTI RAMLEE
Project Title	MOBILE COMPLAINT MANAGEMENT SYSTEM FOR BINTULU PORT (EZCOMPLAINT)
Student ID	58932
Program	NETWORK COMPUTING

Has done thesis correction according to the recommendation from Examiners and ready for final submission.

Main Supervisor

Date 10/8/2020

Signature & Official Stamp

Dr. Mohamad Imran bin Bandan
Postgraduate Coordinator
Faculty of Computer Science and Information Technology
Universiti Malaysia Sarawak

Examiner

Date 10/8/2020

Signature & Official Stamp

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Finally, I also wish to thank my family and friends who had helped and supported me in finishing my Final Year Project.

ABSTRACT

Mobile Complaint Management System for Helpdesk Unit (EZComplaint) is a mobile application that responsible to improve the complaint process in Bintulu Port. The complaint platform is focus on the ICT problem, between staff and the technician. This mobile application can reduce the time spend for the normal complaint process. It is also can maximize the productivity of complaint system. The complaint system application has features such as filling in complaint form, check status of the complaint made, view history and summary of the complaint made. Users can log in to the mobile application by entering their user ID and password. With the help of this application, staffs can make complaint at anytime and anywhere using their smartphones.

ABSTRAK

Sistem Pengurusan Aduan Mudah Alih untuk Unit Bantuan (EZComplaint) ialah aplikasi mudah alih yang berperanan untuk memudahkan process pemohonan aduan dalam Bintulu Port. Permohonan aduan ini adalah khusus untuk masalah ICT, dalam kalangan kakitangan dan juruteknik. Aplikasi mudah alih ini dapat mengurangkan masa yang selalunya diambil untuk menyelesaikan maslah. Aplikasi ini juga dapat memaksimumkan lagi produktiviti untuk sistem aduan. Sistem aduan ini mempunyai ciri-ciri seperti mengisi borang aduan, semakan status permohonan bagi aduan yang dibuat, lihat sejarah dan ringkasan aduan yang dibuat. Pengguna boleh log masuk ke dalam applikasi mudah alih dengan memasukkan ID pengguna dan kata laluan mereka. Dengan bantuan aplikasi ini, Kakitangan boleh membuat aduan pada bila-bila masa dan di mana sahaja menggunakan telefon pintar mereka.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

Mobile applications are software programs developed for mobile devices such as smartphones and tablets. (Priya, 2019). The mobile application can be installed in all types of phones and tablet. The purpose of this project is to develop a mobile application that are used by the staff and computer technician. According to reports from Statisca.com and Mashable.com, Android leads the global smartphone market with 80% of overall smartphone sales and employers have been hiring professional with certified expertise in Android Application Development much faster than other mobile technology (Sharma, 2019).

This system is developed to help staff to make a complaint through the mobile application. It is designed to ease the technician to handle the complaint process especially if they are not in the office. In Bintulu Port, staff can make complaint using three methods, including telephone call, email and apply form from the DIMO MAINT (Work Progress) system. Bintulu Port want to develop a mobile application as one of the method to make complaint. The reason to use mobile application is to facilitate staff so that they can be view all information easily. It is also easy for technician to manage the complaint in case that he is not in the office. Hence, through this proposed system, it can improve the flow of complaint process between staff and technician.

1.2 Problem statement

Most organization has a computer technician to diagnose, repair, and perform maintenance. They gather a lot of complaints from staff daily. The complaint usually receives in the form of a telephone call. Therefore, some complaints cannot be delivered (Robert, 2014) since the technician would not regularly stay in the office. This method will lead to inconsistency interaction between staff and computer technician (Oden, 2019).

Bintulu Port uses DIMO MAINT (Work Progress) system to manage the complaint. The primary method to make a complaint is by fill in the form in the system. However, the staff starts to call and send an email to the technician to make a complaint. Assuming that, the staff cannot open the PC due to the password error. They cannot make a complaint due to this problem. On the other hand, technician work has increased because of the email and telephone call. They have to key-in the detail back in the system for the report.

1.3 Scope

The proposed project focus on the user, which is the staff that works in the Bintulu Port. The staff and technician can access the proposed system. The technician can view the complaint list and update any progress for each complaint, while staff can make complaints anytime, anywhere, with the mobile application. The mobile application develops using Android Studio. The function of this mobile application is to monitor, manage, and record the data for the monthly reports. This project is a prototype for the Final Year Project (FYP).

1.4 Objectives

1) To develop a mobile application for complaint management that is user-friendly and able to manage complaints
2) To build a functional mobile-based application of complaint system that can be used at any time and from any where
3) To conduct a system testing for the application to work correctly according to the requirement

1.5 Brief Methodology

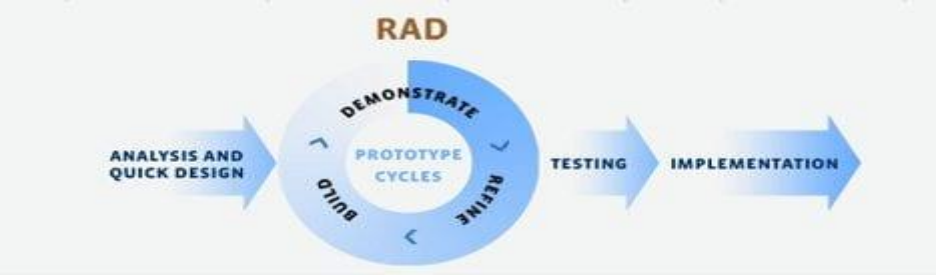

Figure 1.5.1: Rapid Application Development (LucidChart, 2018)

Figure 1.5.1 shows the methodology of Rapid Application Development (RAD). RAD emphasizes working software and user feedback over strict planning and requirements recording (Anderson, 2019). RAD methodology provides easy external integration of data and services. Most business data stores in disparate, proprietary systems. Therefore, businesses should be on the lookout for 'out-of-the-box' functionality since it allows direct integration of different applications and services on various tools (Johnson, 2017). There are six phases or stages in this methodology, which requirement analysis, planning, design, implementation, testing, and deployment phase. This project also focuses more on the qualitative method compare to the quantitative approach (Susan, 2011).

User requirement:

I. Face to Face Interview

   Face to face interview is needed because we need to interview the staff that works for the organization as they are the one who will update all the data in the application. This interview is done to gain their responses to the project. This interview also essential to know what the staff opinion about the application and their idea for the design.

II. Rapid Application Development (RAD) methodology

The first step is planning. Fundamental principles of rapid application development are permission to change requirements at any point in the cycle (Idesis, 2019). Firstly, the research about this project has been carried out. After having complete information about this project, then it will continue with the identification of project objectives, the scope of users, features of this project, and what makes it more convenient than the way the system is currently deployed. Also, a Gantt chart was created to help with development activities scheduling when the activity starts and completed. This project will continue to a design phase. In this phase, the first draft will be developed based on all the requirement specification. The functionality of the mobile application is measured based on the requirement. The user can still suggest improvements as the system developed. The task includes in this phase are all programming and application development, coding, unit integration, and system testing (Joshi,2019).In this project, the design must convince the users and satisfy the people that will handle the mobile application. In the testing phase, the functionality of the system is observed. If the mobile application is error-free, then it will be implemented. The implementation phase is the last stage of the RAD methodology.

1.6 Significance of project

The significance of this project is to develop a mobile application that can help staff and computer technicians to manage complaints and resolve the problem efficiently. Staff can make complaint easily and mannerly through the mobile application. The technician can monitor and store the data to generate report. By the end of this project, all staff will have a better medium to complain any difficulty to a computer technician. This mobile application is develop using Android platform.

1.7 Project Schedule

The project schedule is used as a guideline and reminder to develop the Mobile Complaint System for Helpdesk unit (EZComplaint).

Task Name	Duration	Start	Finish
1 Proposal Stage	**15 days**	**Mon 9/9/19**	**Sun 29/9/19**
1.1 Find supervisor	11 days	Mon 9/9/19	Sun 22/9/19
1.2 Project Research	11 days	Mon 9/9/19	Mon 23/9/19
1.3 Discussion with Supervisor about Project	2 days	Thu 19/9/19	Fri 20/9/19
1.4 Brief Proposal preparation	5 days	Mon 23/9/19	Fri 27/9/19
1.5 Brief Proposal Submission	2 days	Fri 27/9/19	Sun 29/9/19
Phase 1 complete	0 days	Sun 29/9/19	Sun 29/9/19

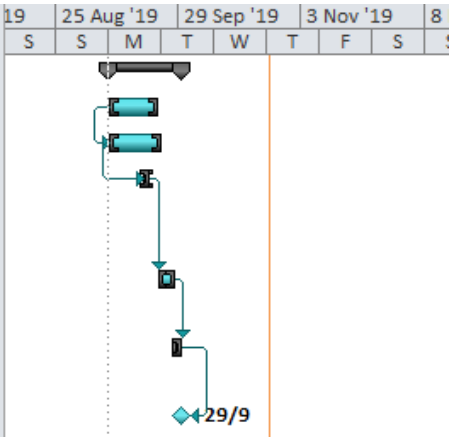

Figure 1.7.1: Gantt chart for EZComplaint

The figure 1.7.1 is shows the project schedule for developing the proposed project using the Gantt chart. Gantt chart is used to show the project duration and estimate each task duration.

1.8 Expected Outcome

The expected outcome from this project is the mobile application performs successfully in the functionality test. The mobile application must be user-friendly, simple, and meet all the requirements. There must be no issue with making a complaint and monitor the complaint list. The staff can track the progress of the complaint in a better way from their smartphone. Users can download this application in Play Store for free.

1.9 Project Outline

This project report consists of five chapters and we are given a submission date for each of the chapters. The outline is used to summarize all activities starting from the beginning to the end date of the project.

Chapter 1: Introduction

This chapter is the introduction of the proposed system. We briefly discussed about the background and requirement needed to develop this project. This project title is Mobile Complaint Management System for Helpdesk Unit. We have to identify the problem statement, objectives, brief methodology, scope, project schedule, significance of project, expected outcome and project outline.

Chapter 2: Literature review

Chapter 2 is briefly discussed about the literature review which include the secondary research on system that already existing. We need to reviews and do comparison of the proposed system with the existing system. We need to provide at least three existing system when comparing to the proposed system.

Chapter 3: Requirement Analysis & design

This chapter explain on the method used in this project. All the processes and activities of the selected method are also clearly explained in this chapter. We need to identify the user requirement, functional requirement, and non-functional requirement. Besides, we have to choose the software and hardware requirement that can be used for this project. Lastly, we need to create the design interface as a prototype before moving on into the development process.

Chapter 4: Implementation and testing

In this chapter, we discussed about the system implementation and testing which include conversion implementation and its method, implementation method which mean the selected method to be implemented. The objective are achievable based on the testing performance.

Chapter 5: Conclusion and future work

In this chapter we discuss about overall conclusion which include the degree of success based on the functionality test. The system can function efficiently and accurately. The project implementation and design meet requirement need and give benefit to the target user. We also have to provide any improvement to the proposed system for future work.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter discussed on the literature review about the existing system, the strength and weakness for each system.

Nowadays, most of the complaint system is often in the form of a web-based application system. However, as the uses of technology are increasing, everything can be done at any time given by using a mobile device. It encourages to consider mobile strategies of complaint systems such as mobile websites and mobile applications. A mobile website is a browser-based HTML page that linked all together (Deshdeep, 2019). The mobile application is an application that is downloaded and installed on the user's mobile device. If the goal is to offer mobile-friendly content to a wide range of people, then a mobile website is preferable. But, if the system needs better engagement, interaction, and communication between users, the mobile application is a better choice. Thus, mobile application is choosen for the development of the Final Year Project (FYP).

The mobile application is an application that is downloaded and installed on the user's mobile device. The mobile application can track and observe user engagement as well as offer custom recommendations and updates to users. Besides, it also provides a real-time update and current user location. The mobile application has its notification, such as push and in-app notification. The mobile application has the advantage of utilizing features of the mobile device such as a camera. The device features can significantly shorten the time for users to perform the task in the application (Deshdeep, 2019).

Although the application requires internet connectivity to perform the task, they still offer basics content and functionality in offline mode. The mobile application can use gestures to provide innovative functionality to help the user perform a task better. The mobile application offers a new branding experience for the user. Therefore, a well-designed mobile application performs a task quicker than a mobile website (Deshdeep, 2019).