Faculty of Computer Science and Information Technology

*MACSys – Mobile Application Complaint System for Yayasan Sabah*

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**Bachelor of Computer Science with Honours**
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**MACSYS – MOBILE APPLICATION COMPLAINT SYSTEM FOR YAYASAN SABAH**

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This project is submitted in partial fulfillment of the
requirements for the degree of Bachelor of Computer
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Faculty of Computer Science and information Technology
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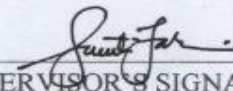
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# ABSTRACT

Mobile Application Complaint System (MACSys) is aimed at developing an online complaint system which is important to the Information and Communication Technology Department (ICT) as it is a complaint platform for the hardware and software. This application able to maximize the productivity of the ICT process in the organization since it can be used to automate the workflow of the complaint made by staff. 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 MACSys by entering their user ID and password. With the help of this application, staffs can make complaint at anytime and anywhere using their smartphones. The advantage of this application is there is no necessity for the staffs manually filling the complaint form and waiting for the status of the complaint made.

**ABSTRAK**

Tujuan Aplikasi Mudah Alih Sistem Aduan (MACSys) adalah untuk memudahkan pengurusan aduan secara dalam talian yang penting untuk Jabatan Teknologi Maklumat dan Komunikasi (ICT). Aplikasi ini dapat memaksimumkan produktiviti proses ICT dalam organisasi kerana ia boleh digunakan untuk mengautomasi proses aduan yang dibuat oleh kakitangan Yayasan Sabah. 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 MACSys 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. Kelebihan aplikasi ini adalah ianya tidak memerlukan kakitangan mengisi borang aduan dan menunggu status aduan yang dibuat secara manual.

# CHAPTER 1: INTRODUCTION

## 1.1 Introduction/Background

Yayasan Sabah (YS) is one of the largest groups in Sabah as it has many divisions and branches. YS is involved in various development programs such as educations, socio-economic, health and social culture as well as charitable programs. With that, it is imaginable how many employees in their building. Every employee is given hardware and software to ease them to work. Hardware and software tend to wear out and sometimes cause a problem if not been set right, when it happens, the staffs fill in a paper form stating the problem along with the location and send it to the admin in the Information and Communication Technology (ICT) department.

The problem with the current system is the complaints are done and maintained manually. Thus, the complaints need to be automated and centralized. Currently, the staff must hand over the filled paper form to the ICT department and the staffs only have limited time to send the filled form due to their own work needed to be done. The only free time they have is during the lunch break which the staff in ICT department may not be in as well. Hence, the process of handing over the filled form is time consuming. Since the complaint is in the form of a paper, it tends to be misplaced and eventually be neglected. Therefore, the reason of this project is to eliminate the problem as stated. The staffs will be able to use mobile-based application of the complaint system at any time and place given which will be convenient and faster in term of the process.

It is because every staff have their own mobile in which they can use the mobile application whenever there is a problem occur. Moreover, the staff will be able to see the status of the complaint that have been filed.

**1.2 Problem Statement**

The ICT department in YS receives complain both in software and hardware problem from all the staff in YS almost every day. The current method of issue a complaint is by filling in a physical form and sending the form to the ICT department. This method will cause a problem when the staff does not have time to go back and forth for the process. Furthermore, this method is only available during office hour which is inconvenient to the staff that does not keep track on things thus, technical problem may be neglected. Therefore, this idea is to overcome the stated situation.

**1.3 Scope**

The application will be designed for Android mobile platform and to be use by all the staff at Yayasan Sabah. It acts as a platform for the staffs to file a complaint regarding their hardware and software problems, check the status of the complaint made and generate complain report. There will be two main users in the application which is admins and the YS staff. The admin will be able to use the system to store, add and retrieve staff information and manage their data, including updating or deleting status of complaint. This mobile-based application will only be built for Android users.

**1.4 Aim and Objectives**

The aim for this project is to develop a mobile application complaint system for YS. The objectives of this project are highlighted based on the problem statements, which are:

- To design a mobile-based application of complaint system for YS that is friendly user and able to manage complaints

- To develop a functional mobile-based application of complaint system that can be used at any time and from any where

- To convert the paper-based system to an online system for a better environment and management

## 1.5 Procedure/Methodology

In order to achieve the objectives of the project and build a successful mobile-application, the Mobile Application Development Life Cycle (MADLC) is chosen as the methodology for this project.
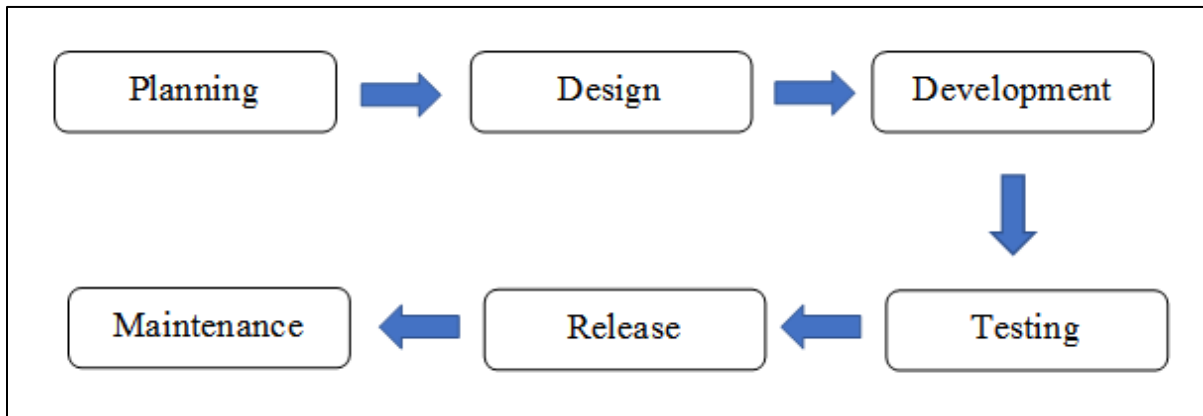


*Figure 1.1*: MADLC Phases (Kaur & Kaur, 2015)

Figure 1.1 shows the phases of MADLC. MADLC is the representation of the conventional System Development Life Cycle (SDLC) from the perspective of mobile (Kaur & Kaur, 2015). First, planning phase is where developers are required to define the goal of the project. List of requirements is needed to confirm whether the requirement can be transformed into features of an application. Gathering requirements can be done by distributing questionnaire.

Next is designing phase. At this phase, prototyping and refinements of the project are needed. This phase plays an important role where developers decide on how to portray the

features to the user. After designing, it is the development phase where activities of building the application are included. Besides that, the user interface of the application will be built based on the design at the prototyping phase and database will be created.

Testing phase needs to be done where the mobile-based application is tested before releasing it. This phase is to find out problems or errors that were made during and after the development phase. After making sure the mobile-based application is error-free and have obtained feedbacks from clients/users, the mobile-based application is ready to be release. Lastly, maintenance phase where the mobile-based application is maintained by receiving feedbacks from clients such as suggestion, comments and ratings.

**1.6 Significance of Project**

The Mobile-based Application of Complaint System for YS has the potential to solve the current problem that occurs by improving the current filing complaint process and provide a better complaints management. In the presence of this proposed mobile-based application, the staff in the ICT department of YS that acts as the administrator does not need to ask other staff to manually fill a paper form to file a complaint and send it to the ICT department anymore. All the YS staff can file a complaint and check the status of the complaint made at any time given. In general, this project aims to enhance efficiency and at the same time maintain information accurateness

**1.7 Project Outline**

**1.7.1 Chapter 1: Introduction**

Describe about the proposed mobile-based application to able to give the readers a clearer picture. This chapter consists of an introduction, problem statements, objectives of the project, the methodology used, significance of project and the project outcome.

**1.7.2 Chapter 2: Literature Review**

Chapter 2 consists of the research on the current system and comparing the mobile-based application which can be referred on journals, articles or any other resources. This chapter also discussed the limitations and scope including the suggestions to improve the current system to the mobile-based application.

**1.7.3 Chapter 3: Requirement Analysis and Design**

Chapter 3 will explain the details of the methodology used to develop the mobile-based application. The requirement analysis and database design also will be discussed in this chapter.

**1.7.4 Chapter 4: Implementation**

Chapter 4 focuses on the implementation of the mobile-based application and testing.

**1.7.5 Chapter 5: Testing**

Chapter 5 focuses on the functional and usability for the proposed mobile application.

**1.7.6 Chapter 6: Conclusion and Future Works**

Chapter 6 concludes the development of the proposed mobile-based application and discusses the future work.

**CHAPTER 2: LITERATURE REVIEW**

**2.1 Introduction**

The purpose of this chapter to review and make a comparison of the selected existing systems that are similar to the proposed system.

Today, most of the complaint systems are often found in the form of web-based application. However, as the uses of technology is increasing, where everything can be done at any time given by using mobiles. It encourages to develop a mobile-based application of complaint system to reach out to more necessary users. It is essential for them to be able to access, store and retrieve the data in the complaint system. Currently, YS is using a manual approach to manage their complaint data by storing their data using papers.

The disadvantage of following the manual approach compared to the mobile-based application is the cost of it is higher due to the excessive use of paper. Moreover, since all data manually written and kept-on in paper, organising the collection of data would be something difficult. Another problem of self-organising the papers is to find the needed data, the staffs need to slowly check the content to get what they need. On the other hand, the mobile-based application is more efficient and systematic as it uses database to store the data and the use of papers will be reduced.

**2.2 Review on existing systems**

In this section, four existing system had been chosen to be reviewed and compared. In order to identify the similarities, advantages, and disadvantages of the chosen system. The features of the existing and proposed systems will also be discussed.

## 2.2.1 Sistem Aduan ICT - RTM

Sistem Aduan ICT is an online website that is made specifically for RTM staffs. It is fully owned by RTM. This website allows RTM staffs to:

- Fill a complaint form regarding hardware and software (refer Fig 2.1)

- Check the status of the complaint made whether it is fixed or still pending (refer Fig 2.2)

- View summary of the complaint made (refer Fig 2.3)



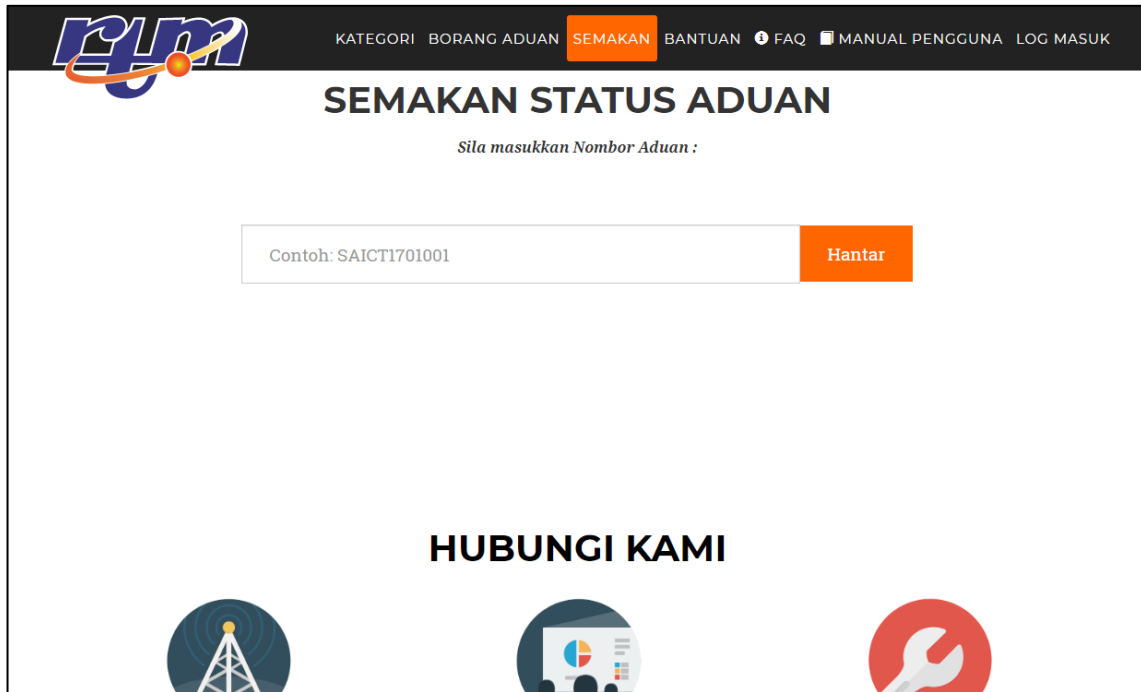*Figure 2.1*: Sistem Aduan ICT – RTM Complaint form

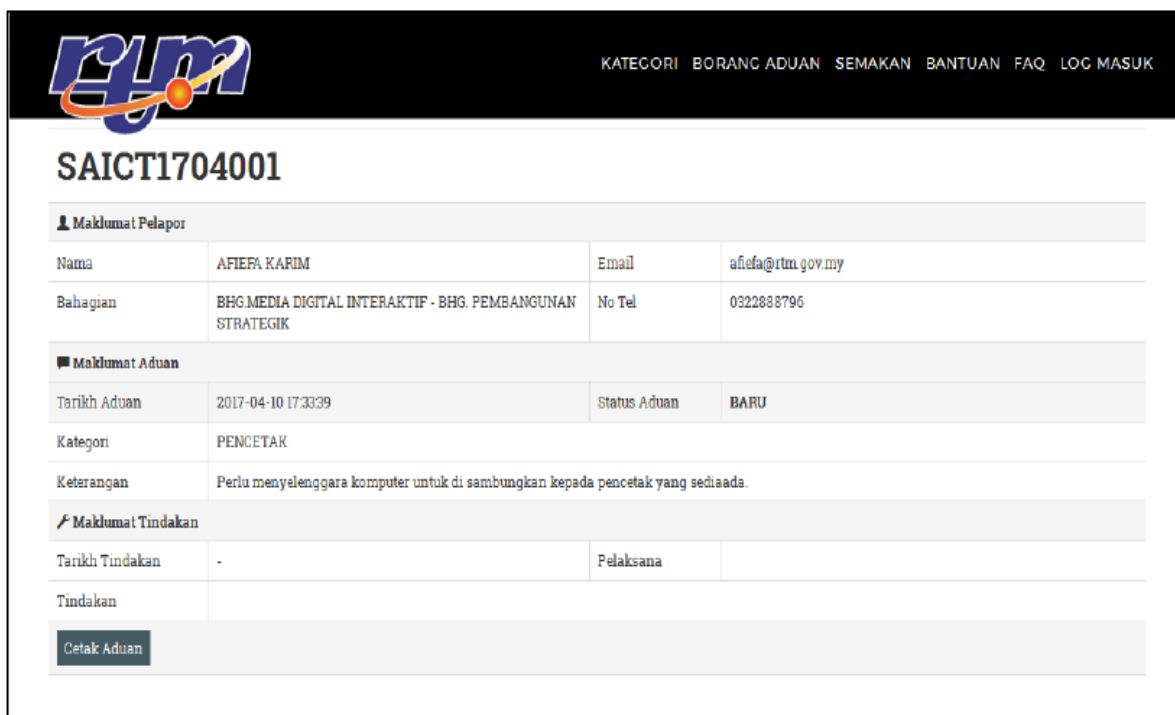*Figure 2.2*: Sistem Aduan ICT – RTM View Status of Complaint made



*Figure 2.3*: Sistem Aduan ICT – RTM Printable Summary of Complaint made

Sistem Aduan ICT has all the basic feature required to work as a complaint management system. However, it does not provide the history of the complaint made by the users.

**2.2.2 Sistem iJKMN**

The iJKNM system has been developed with the aim to centralizing the work management process of Melaka State Health Department (Sistem iJKMN, 2010). By using only one system, users can access various work modules without having to access to another system. One of the system's complaint system. The complaint system provides;

- A complaint form to fill regarding hardware and software

- Check the status of the complaint made whether it is fixed or still pending

- A list of history complaint made

- View summary of the complaint made

Sistem iJKNM almost has all the required feature as a complaint system. However, there is no notification provided regarding their complaint. Thus, the user would not been alert if there is a response to their complaint.



*Figure 2.4*: Sistem iJKNM - Modul Aduan Kerosakan ICT (eHelpdesk) Complaint form

*Figure 2.5*: Sistem iJKNM - Modul Aduan Kerosakan ICT (eHelpdesk) View Status of

Complaint made



*Figure 2.6*: Sistem iJKNM - Modul Aduan Kerosakan ICT (eHelpdesk) Summary and List of

History Complaint made

**2.2.3 Sistem Meja Bantuan ICT**

Sistem Meja Bantuan ICT is developed to help BTM and other departments to manage information and actions regarding complaints of ICT. This is a web-based system and is accessible to all departments throughout Pahang state (Sistem Meja Bantuan ICT, n.d.). All complaint information will be maintained by ICT Help Desk Groups at BTM and then forwarded to the staff of Meja Bantuan ICT.

The complaint system provides;

- A complaint form to fill regarding hardware and software

- Check the status of the complaint made whether it is fixed or still pending

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