



Faculty of Computer Science and Information Technology

e-Discipline School System

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Bachelor of Computer Science with Honours (Software Engineering)

2019

e-DISCIPLINE SCHOOL SYSTEM

ALICE ANAK NALING

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

e-DISCIPLINE SCHOOL SYSTEM

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Projek ini merupakan salah satu keperluan untuk
Ijazah Sarjana Muda Sains Komputer dan Teknologi Maklumat

Fakulti Sains Komputer dan Teknologi Maklumat

UNIVERSITI MALAYSIA SARAWAK

2019



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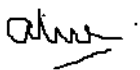
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ACKNOWLEDGEMENT

First and foremost, I would like to express my gratitude to my dearest supervisor, Madam Nurfaeza bt Jali for assists and involves herself in every process of completing my Final Year Project 1 despite of her hectic schedule. Furthermore, I would like to thank my examiner, Miss Wee Bui Lin for giving an encouraging feedbacks and remarks to my Final Year Project 1. Also, I am grateful for the guidance provided by my Final Year Project coordinator, Prof. Wang Yin Chai. This paper would not complete without their supports and encouragements.

Apart from that, I would like to wish my deepest gratitude to Anis Hanisah bt Arbi for helping me out with Final Year Project by sharing information, guides and provides transportation when I am in need. Her supports have helped me a lot throughout the completion of my Final Year Project.

Most importantly, my family has supported me in mental and physical form throughout completing Final Year Project. I am so grateful for their concerns and motivations over the last several degree years. The unconditional love and infinite supports push me harder to complete my degree.

Last but not least, my special thanks are addressed to client from Sekolah Menengah Kebangsaan Muara Turang for participating in my Final Year Project. Their cooperation and responses have provided a useful information in my Final Year Project.

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LIST OF ABBREVIATIONS

CSS	Cascading Style Sheets
HTML	Hypertext Markup Language
MySQL	My Structured Query Language
PC	Personal Computer
RAD	Rapid Application Development
SMK	Sekolah Menengah Kebangsaan
UML	Unified Modeling Language
XHTML	Extensible Hypertext Markup Language
XML	Extensible Markup Language
WWW	World Wide Web

ABTRACT

In student overall growth lifecycle, discipline has played an important factor to ensure the student can build a good character at home and school. Managing the discipline issues and actions have been a major issue in educational system. The teachers are responsible for handling the issues but fail because it can interfere the teaching process. Establishing a successful discipline management system is a great way to handle this matter. The e-Discipline School System is a web-based system that is connected to the internet to operate the discipline record services more effective and efficient manner. All discipline records are keep in the system to improve the manual process. The system is easy to use by novices as it is a user-friendly system. The data protected in the system will not be accessed by the unauthorised users.

ABSTRAK

Dalam keseluruhan kitaran pertumbuhan pelajar, disiplin memainkan peranan yang penting agar pelajar tersebut dapat membina perwatakan yang baik di rumah dan sekolah. Mengurus masalah dan tindakan disiplin telah menjadi isu utama dalam sistem pembelajaran. Para guru bertanggungjawab dalam mengendalikan masalah-masalah sebegini tetapi gagal kerana proses pengajaran boleh terganggu. Membina sistem mengendalikan disiplin yang berjaya merupakan langkah yang terbaik untuk mengendalikan masalah sebegini. Sistem 'e-Discipline School System' merupakan sistem berasaskan web yang disambungkan kepada internet untuk melaksanakan perkhidmatan rekod disiplin dengan lebih efektif dan cekap. Semua rekod disiplin akan disimpan di dalam sistem untuk memperbaiki proses manual. Sistem ini mudah untuk diguna oleh pengguna baharu sebab ia merupakan sistem mesra pengguna. Data yang dilindungi oleh sistem tidak dapat diakses oleh pengguna tanpa kebenaran.

Chapter 1: Introduction

1.1 Project Title

The project title is e-Discipline School System.

1.2 Introduction

The e-Discipline School System is proposed to SMK Muara Tuang. Users are classified into few levels which are administrative staff, teacher and system administrator. e-Discipline School System is developed to operate the discipline merit/demerit record services more effective and efficient manner. It improves the manual process by keeping all the records in the system for easy access and manipulation of the data. Users will be able to manage the student discipline merit/demerit records better than using the manual process. Also, every school has different needs. The system can fulfil most of the user requirements. The aim is ensuring the client is equipped with the right system. The desired system can be built by following client needs or new and better solutions will be proposed to solve their problems. Furthermore, it helps the users to handle their tasks quick and easy. e-Discipline School System is a user-friendly system that makes it easier for novices to use the system. The unauthorised users will not gain access to secure data protected by the system.

1.3 Problem Statements

During the interview with the client, a few problems have been encountered. The first problem is the inefficient manual process to keep track of student discipline merit/demerit records. SMK Muara Tuang is using a conventional paper-based system in

keeping a discipline merit/demerit record. A lot of paperwork needs to be sorted and stored. Keep track of paper documents need more effort and physical space.

Furthermore, difficulty in maintaining student discipline merit/demerit records also one of the problems. A volume of files causes the staff experienced trouble in locating records. Some data are not up-to-date due to this issue. Updating the data is essential because it reduces the intensive task of data input.

Another problem has been encountered during the interview is the redundancy of the student discipline merit/demerit records using a conventional or manual process. The redundancy of records cause the volume of files to increase. It is hard to locate and update the record as the record appeared more than once in different files.

1.4 Objectives

The first objective is to analyse the existing systems by its features. The existing similar systems are analysed by its features. The features should be understood to come up with better features for the proposed system.

Next, the objective is to build the proposed system design based on user requirements. For instance, the UML diagram is used to visualise and document the software system design. A good system design helps to reduce the maintenance time.

Last but not least, the objective is to evaluate and test the system on the system usability. The system usability is evaluate and test by comparing the user requirements and specifications of the proposed system. The proposed system should able to perform all the user requirements.

1.5 Methodology

Software methodology that will be used in this software development is known as RAD. The first phase is requirements planning phase. During this phase, an interview is

conducted to collect user requirements from the client which is a teacher from SMK Muara Tuang. Goals and expectations can be determined during this interview. The second phase is user design phase. A system design build is divided into logical and physical design during this phase. The logical designs used are activity diagram, use case diagram, sequence diagram and class diagram. Also, the chosen physical designs are system architecture and wireframes. It is used to translate user requirements into a model. User design is a continuous interactive process to give understanding, modification and approval of system working model in order to meet user requirements. Furthermore, the third phase of RAD is construction phase. It focuses on the application or program development activities. The client can continue to participate and suggest changes in the system. Last but not least, the last phase is cutover phase which is an implementation phase where the e-Discipline School System will be launched. Testing, data conversion, new system changeover and user training are included.

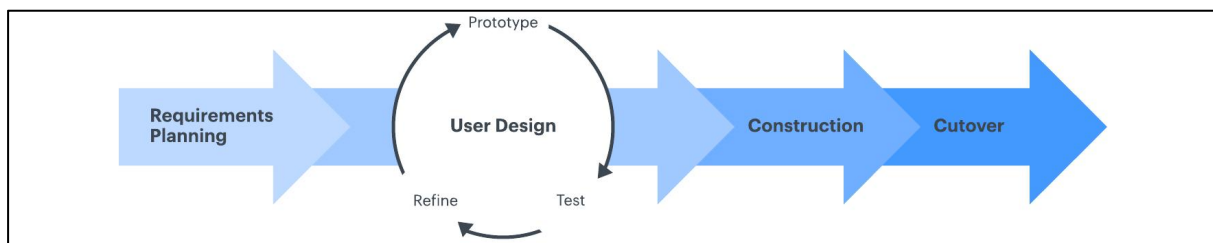


Figure 1.1 Rapid Application Development Methodology (4 Phases of Rapid Application Methodology, 2018)

1.6 Scope

Users of the system are administrative staff, teacher and system administrator from SMK Muara Tuang.

Record of students, users, teachers and discipline merit/demerit can be managed easily by the user according to their role using the system. For instance, record can be

created, updated and deleted. In addition, the user is able to monitor the record to keep track and maintain the record. Searching function is made available based on various factors. Also, discipline merit/demerit report and warning letter can be generated from the system.

Few web scripting languages are used in developing the system such as HTML, CSS and JavaScript. Also, the database tool used is Firebase Realtime Database. This is because the system is a web-based system that can be accessed from any devices that are connected to the internet.

Hardware such as a laptop, smartphone, PC and any devices connected to the internet are used. Meanwhile, server and software are localhost, web host and notepad++.

1.7 Significance of Project

The e-Discipline School System is a web-based system where it gives benefits to SMK Muara Tuang considering the system is more effective and efficient manner in managing student discipline merit/demerit records. Manual process will become less beneficial as data will keep growing and it is hard to maintain the record. The school that using the system will able to keep track the records easily and fast. In addition, records can be added, updated and deleted without having so many files on the shelf. Redundancy also can be minimised as the system able to reject a newly added record that already exists in the system. Thus, the features proposed are able to solve the users' problems in managing student discipline merit/demerit records.

1.8 Project Schedule

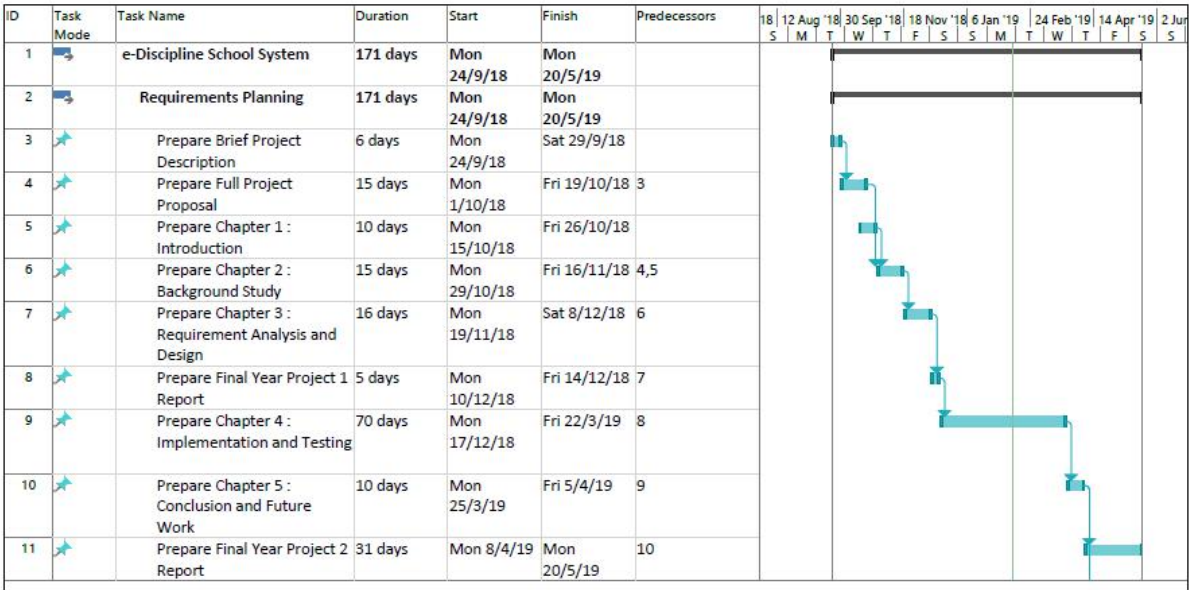


Figure 1.2 Gantt Chart for e-Discipline School System Part 1



Figure 1.3 Gantt Chart for e-Discipline School System Part 2

1.9 Expected Outcome

Few results are expected from the system. Firstly, the system can provide the necessary functionality. The user requirements are fully utilised to develop the system to meet the client’s satisfaction. Next, effective navigation design of the system is expected from the system. For instance, a user can easily understand the system without having