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Problem Log and Tracking System (PLoTS)

MOHD RIDZUAN BIN MARZUKI

This report is submitted in partial fulfillment of the requirement for Bachelor of Information Technology (Software Development)

FACULTY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA

DECLARATION

I hereby declare that this project report entitled

Problem Log and Tracking System (PLoTS)

is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT : _____ Date : 23/11/2005
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SUPERVISOR : _____ Date : 23/11/2005
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DEDICATION

To my beloved parents, my siblings Mohd Naim, Nurul Zawani, Nurul Wahida and
Mohd Aimran.

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ABSTRACT

PLoTS system stands for Problem Log and Tracking System that will be implementing in Pejabat Pembangunan & Pengurusan Aset KUTKM. This system will require one stop center for problem logging.

Until this moment on, all the problem being reported using the manual form. Current system applies manually. The manual system is unpractical system to be implemented. It takes more time to manage the data by using the manual system. Possibility of losing data problem is higher when using the form.

The improvement of the current system from the manual system that been used before will be computerized. Computerized system is more efficient and it takes less time to accessing the data and gives the feedback. This new system will provide higher security level for data security.

The objectives of the PLoTS system is to create a system that can assist staff to log the problem, manage the problem systematically and organized the problem arise efficiently.

The project scope will allow the user to log the problem. The system has a feature to distribute the problem reported to related department. The monitoring process for the problem status and action taken can be done.

For the project methodology, Object Oriented Analysis and Design (OOAD) are recommended method that can be used in development of the system. By using OOAD methodology, user can see how the system work, who is the user, what service the system serves for user, and others. There are 5 phase for OOAD; *System Investigation, System Analysis, System Design, System Implementation* and for the last phase is *System Maintain and Review*; it also known as *Testing phase*.

This project is important because once it be implemented it take less time and save cost. The monitoring process of the problem is easier to be manage and faster. The proposed system is the best way to be use because it will ease the daily work. It is hope that this system can be useful and compatible to use.

ABSTRAK

Plots ialah singkatan kepada Problem Log and Tracking System yang akan digunakan di Pejabat Pembangunan & Pengurusan Aset KUTKM. Sistem ini mengkehendaki satu pusat pengumpulan masalah.

Hingga ke masa ini, masalah yang dilaporkan mestilah dengan mengisi borang aduan Sistem yang digunapakai adalah system manual. Sistem manual adalah kurang praktikal jika diamalkan. Ini kerana lebih masa diperlukan untuk menguruskan data yang menggunakan system manual. Kebarangkalian data hilang adalah lebih tinggi jika menggunakan borang aduan.

Peningkatan daripada sistem semasa yang manual kepada sistem berkomputeran. Sistem perkomputeran adalah lebih berkesan kerana dapat mengurangkan masa untuk mengakses data dan memberi tindakbalas. Sistem yang baru akan mewujudkan peringkat keselamatan data yang lebih baik berbanding system sekarang.

Objektif system PLoTS ialah untuk menghasilkan satu system yang dapat membantu staff untuk merekodkan masalah, menguruskan masalah dengan lebih sistematik dan mengatur masalah yang wujud dengan lebih berkesan.

Skop projek ini ialah menbenarkan pengguna untuk merekodkan masalah. Sistem ini juga mempunyai fungsi untuk mencambahkan *(distribute)* masalah yang di laporkan kepada jabatan yang bertanggungjawab. Proses memantau status masalah dan tindakan yang diambil dapat dijalankan.

Metodologi yang digunakan ialah Object Oriented Analysis and Design (OOAD) yang akan digunakan untuk membangunkan system ini. Dengan menggunakan OOAD, pengguna dapat melihat bagaimana system beroperasi, siapakah pengguna system, apakah servis yang akan system sediakan untuk pengguna dan lain-lain. Terdapat lima fasa dalam OOAD iaitu penyiasatan system *(system investigation)*, Analisa system *(system analysis)*, lakaran sistem *(system design)*, implementasi sistem *(system implementation)* dan fasa terakhir ialah pengekalan sistem dan semakan *(system maintain and review)* atau juga dipanggil pengujian sistem *(system testing)*.

Projek ini adalah penting kerana apabila ia telah digunakan, penggunaan masa dapat dikurangkan dan kos dapat dijimatkan. Proses pemantauan masalah akan lebih mudah diuruskan dan menjadi lebih cepat. Sistem yang dicadangkan adalah yang terbaik kerana ia akan memudahkan kerja-kerja harian. Adalah diharapkan yang sistem ini berguna dan bersesuaian digunakan.

TABLE OF CONTENT

LIST OF DIAGRAM

LIST OF INTERFACE

LIST OF TABLE

LIST OF ATTACHMENT

CHAPTER 1

INTRODUCTION

The project is introduced in this chapter. This chapter binds together every aspect of introduction comprehensively under firm subjects.

1.1 Project background

PLoTS system stands for Problem Log and Tracking System that will be implementing in Development & Asset Management Office KUTKM. This system will require one stop center for problem logging. The problem will be track later by an engineer. After the task been assigned then the action taken will perform and the problem will be solved. Like a helpdesk system, this system will be centralized the problem log to this department.

Until this moment there is no existing system in this department. Through observation and interviews it shown that the department required a specific system for it's convenient. Nowadays all the problem being reported using the manual form.

Basically, computerization is the technology that will be use in developing this project. The aim for this project is to implement the computerize technology to replace the current system. The current system is totally applying the manual system where the filing systems are use as a storage mechanism and a single form for each report.

The process starts with a report from any KUTKM resident. The student, academic and non-academic staff also would fill the form with the required information for the problem report. Then, the staff will check up the form and take further actions.

After the reporter submitted the form, the office staff will notice the problem to the person in charge. In this case, the engineer will take this responsibility. Manually here mean that the staff writes a note or make a call to mention about the problem occurred.

1.2 Problem statement

Current system applies manually
- Today in paperless world and ICT transformation era, the manual system is unpractical system to be implemented. Working with technology is the fastest, easiest way to be practice. It is proven more practical and gives lots of benefit to the user in managing the reports. The user could access the data quicker and more manageable.
- The manual system would give some problems to the user. While using the computerized system the process will be more easily and faster. It takes more time to manage the data by using the manual system. Form will increase when time goes on. This will required more spaces to store all the papers. Sometimes

for form searching record, it is hard to find. All this things would not happen to computerized system.

- Possibility of losing data problem is higher when using the form. If the computerized system is fully implemented, this possibility can be decrease. Only authorize person will be allow to manipulate the data in database. The data inserted by the user will be transfer directly to the database and saved.

Improvement of the Current System

- There are several things that have been improved based on the current system. Firstly is the manual system that been used before will be computerized.
- By computerizing the system, the management will run smoother and more efficient. It takes less time to accessing the data and gives the feedback. The data can be easily managed while some changes were made. The system flow that will be controlled takes less human energy. It also can reduce the mistakes that usually made by people.
- All the user data input will be saved automatically. It also provides a higher security level for data security. It is because each user has own access right and limitation to the system, this will protect the data from been invade.

1.3 Objective

- To create a system that can assist staff to log the whole problem reported by using a computer.
- To create a systematic and efficient system for problem log and problem tracking to be properly control.
- To develop a system that can organize problem log and the problem solution and the action taken.
- Staff also can view some information/progress (status) regarding the problem log.

1.4 Scope

- *User log the problem*

  The first user for the system is staff and the engineer as an administrator. User can perform the task to log the problem. There are three categorize of reporter which are student, academic & non academic staff and other. The reporter make a call to report about the problem the user will enter the problem detail into the system database.

- *Set an appointment immediately*

  When the problem detail is required, user needs to deal an appointment with the reporter instantly. Here, user can assign the person who will attend for the appointment based on when reporter and the staff free. This feature will ensure that not too long pending time before the problem action can be taken. When the task been assigning to some specific staff it help reduces the waiting time for the reporter before the problem being solved.

- *Monitoring the problem status and action taken*

  Problem monitoring also can be done. The user may follow up for the problem that been reported, the problem status for example.

- *Problem verification*

  Once the action for the problem is finish, the validation task must be done. The validation is not cover for this system, it is done manually. Only the validation result will be entered through this system as data information storage for Development & Asset Management Office KUTKM.

1.5 Project significance

For this project, the benefit is for the staff and the management of Development & Asset Management Office. The staff can keep up monitors the problem related to this office consistently. By using this system, the process and procedure become more ease to the user. There is no more record form to be filled, no more paper to be stored.

This project is important because once it be implemented it take less time, save the cost for printed form and the space required to keep the form. The monitoring process of the problem is easier to be manage and faster than ever.

The proposed system is the best way to be use because it will ease the daily work, faster compared to old manual system and standardize.

1.6 Expected output

Features and function to be offered for this PLoTS system are as followed:-

- *Registered user/admin for each department*

  For staff (user) and engineer (admin) must be registered before login to the system. As usual, this is for authentication purpose and if they are not registered they will deny entering this system.

- *Log problem*

  All staff has the ability to logging the problem into the system. The problem been save in database will display the latest problem as top list of the problem.

- *Set an appointment*

  A staff who handles the problem log report can make an appointment deal with the reporter. The date, time, who will attend and the place will be deal with the reporter immediately.

- *View Problem*

  To check the progress/status of the problem that being report. Usually staff whose are unauthorized to manipulate the data, just looking for the information.

- *Problem solution*

  Person in charge will report or remark the action taken here. All the additional information after the first report/remark can be update later.

- *Update problem*

  To make the problem update in case the problem have to KIV (keep in view) or pending status.

Kind of data will be collect are as followed:-

- The reporter information, contact number and other details will be collect when he/she reported the problem.

- Problem detail information about the place, date and time the problem occurred, and the remark for that problem. This data will be stored into the system database.

- The action taken for each problem will be entered by the responsible staff and engineer including the time, date of action, status of the problem and the remark.

1.7 Conclusion

PLoTS system is build to Development & Asset Management Office to help in manage properly the problem being reported.

At this moment, there is no system such this that being develop. Current system applies manually, old manual system that still using form for the daily task. Nowadays the paperless world are applies all around the world. In order to keep with this new era for Information Communication and Technology (ICT) so PLoTS system is efficient and practical to implement. This web based system will be replacing the existing system today.

Until today, there is no existing system for this office likes the system (web based) that been proposed. This system can help in order to monitor and manage the problem arise efficiently and faster. It is hope that this system can be useful and compatible to use.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

Chapter Two contain several documentations such as Literature Review, Project Methodology, and Project Requirement. In this chapter, it will describe the literature review that been research, project methodology that been used in the developing the system, and project requirement that is important, needed, and necessary.

2.1 Introduction

A research has been done on intranet and web based system or known as online system. The reason of this research is to prove that the development of this system is highly recommended in this decade century. This research is also help to gain more information, and input on the subject or topic that been researched. That mean, knowledge is gain through research and study.

Generally, using an intranet, you will be able to quantify some benefits such as savings in operating cost, reduction in paperwork. The other benefits of an

intranet solution like improved customer service faster and better access to up-to-date information.

Try to use web and network management tools to reduce the amount of manual work involved. To add new users provide online forms that will automatically setup the required accounts.

If done right, an intranet can enhance productivity to a great extent. A lot depends on the type of system the intranet is replacing. If an intranet solution is replacing a traditional paper based information access methodology (ex. printed manuals) the improvement in productivity will be tremendous.

People are rushing towards this technology by developing web based system as many as they can build. Web based system is a concept were system is been develop using the web language such as java script, perl, php, asp, and others. The language that been used are depends on the system that will be built and developed.

2.2 Fact and Finding

PHP and What Is It for?

PHP is quickly becoming one of the most popular server-side scripting languages for creating dynamic Web pages. PHP was created in 1994 by Rasmus Lerdorf. In 1995, Lerdorf released a package called "Personal Home Page Tools". PHP 2 featured build-in database support and form handling. In 1997, PHP 3 was released, featuring the rewritten parser, which substantially increased performance and led to an explosion in PHP use. it is estimate that over 13 million domains now use PHP. The released of PHP 4, which features the new *Zend Engine* and is considerably faster and more powerful then its predecessor, has further increased PHP's popularity. PHP 5 is currently in beta and features the *Zend Engine 2*, which provides further increases in speed and functionality.

PHP is *open-sources* technology that is supported by a large community of users and developers. Open-sources software provides developers with access to the software's source code and free redistribution rights. PHP is platform independent; implementations exist for all major UNIX, Linux and Windows operating system. PHP also support a large number of databases, including MySQL.

The power of the Web resides not only in serving content to users, but also in responding to requests from users and generating Web pages with dynamic content. Interactivity between user and the server has become a crucial part of Web functionality. While other languages can perform this function as well, PHP was written specifically for interacting with the Web.

PHP code is embedded directly into XHTML documents. PHP script file names usually end with **.php**. PHP processes text data easily and efficiently, enabling straightforward searching, substitution, extraction and concatenation of string. Text manipulation in PHP is usually done with **regular expression** – a series of characters that serve as pattern-matching template (or search criteria) in strings, text files and databases. The feature allows complex searching and string processing to be performed using relativity simple expression.

What is MySQL?

In 1994, TcX, a Swedish consulting firm, needed a fast and flexible way to access its tables. Unable to find a database server that could accomplish the required task adequately, Michael Widenius, the principle developer at TcX, decided to create his own database server. The resulting product was called *MySQL*, a robust and scalable relational database management system (RDBMS).

MySQL is a multi-user and multithreaded (i.e., allows multiple simultaneous connections) RDBMS server that uses SQL to interact with and manipulate data. A few important features include:-

    a. Multithreading capabilities that enable the database to perform multiple tasks concurrently, allowing the server to process client requests efficiently.

b. Support for various programming languages (C, C++, Java, Perl, PHP, ColdFusion, Python, etc.).

c. Implementations of MySQL are available for Windows, Mac OS X, Linux and UNIX.

d. Full support for functions and operators within the SELECT and WHERE clauses of an SQL query that allow users to manipulate data.

e. The ability to access tables from different databases by using a single query, increasing the efficiency of retrieving accurate and necessary information.

f. The ability to handle large database.

For this reason, MySQL is becoming the database of choice for many businesses, universities and individuals. MySQL is an open-source software product. The term **open source** refers to software that can be freely obtained and customized to fulfill corporate, educational or personal requirements.

Advantages of MySQL

MySQL has some advantages and disadvantages when compared to other databases. Let's take a look at some of them:

- MySQL is fast, very reliable, and easy to use. Other SQL servers are often fast and very reliable, but not very easy to use or configure. Some others are very easy to use, but neither fast nor reliable. MySQL has all these three qualities. It is also lightweight. The binary package of MySQL for Windows is only 12 MB. For comparison, Microsoft SQL Server weighs in at around 300 MB.

- MySQL is the server of choice when used with the PHP language. PHP provides a very strong support for MySQL, and due to its huge user base has been widely and thoroughly tested. Many web-hosting companies provide MySQL and PHP as a standard package.

- MySQL is open source. This means that users can have the sourcecode of MySQL and free to change it according to user needs. The power of having MySQL open source is; it is very helpful to have the sourcecode to fit the server to the specific needs.

- There is a very large user base for MySQL and there are a lot of online communities focused on development and help. This community has also created a number of third-party tools to help get the job done.
- The biggest advantage of MySQL is that it is free. For a free program, MySQL has a lot of advanced features like replication and a transactional system. It also runs on many platforms; MySQL can run on Windows, Linux, FreeBSD, Solaris, and many others.

Disadvantages of MySQL

MySQL is not perfect. Its main disadvantage is that it lacks some of the more advanced features found on commercial database systems, which are also found on some of the other free database systems, like PostgreSQL.

Macromedia Dreamweaver MX 2004 for User Interface layout.

Dreamweaver MX 2004 can insert text and font changers, as well as create more complex XHTML elements, such as tables, forms, frames and much more. Dreamweaver is a WYSIWYG (What You See Is What You Get) editor – it renders XHTML elements exactly as a browser would.

Dreamweaver supports several scripting languages, such as ASP, ColdFusion, JSP and PHP.

Dreamweaver is a powerful tool for creating and maintaining a Web site.

Adobe Photoshop Elements: Creating Web Graphics

The most successful Web pages use both text and graphics to enhance the user's experience. The graphics design of a Web page can greatly influence the amount of time a user spends at a site.

Adobe Photoshop Elements – an easy-to-use graphics package that offers the functionality of more expensive packagers at an economical price. Graphics such as title images, banners, button and advanced photographic effects all can create using this program.