INVENTORY LABORATORY SYSTEM

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DEDICATION

Special dedicated to my beloved parents, family and fellow friends, who had strongly encouraged and supported me in my entire journey of learning. Last but not least, my thanks go to Faculty of Electronic Engineering and Computer Engineering, UTeM and my supervisor Mr. Nik Mohd Zarifie Bin Hashim. I also would like to thanks to Mrs. Norashikin Bte Ahmad Sabran, Technician ECADD Laboratory.
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I would like to extend my sincere thanks to all of the people who were involved direct or indirect in this project, encouraged and supported me all the time. I also would like to take this opportunity to thanks to my supervisor, Mr. Nik Mohd Zarifie Bin Hashim for his guidance and advisory in execution of my project and I also would like to thanks to Mrs. Norashikin Bte Ahmad Sabran, Technician ECADD Laboratory. Finally, thanks a lot to fellow friends and all those who have in one way or another help to make this project possible.
ABSTRACT

The project that be develop is about Inventory Laboratory System (ILS) that be use at Faculty of Electronics Engineering and Computer Engineering (FKEKK). The project will be known as the Inventory Laboratory System (ILS). This system focused on recording and updating the data. It is also have report in the system which easier to check the status of the equipment and component in the laboratory. Besides, this system development based on forms oriented which used by the technicians and staffs before. This new system used database concept to store all the information which related with land application processes. This report contains the introduction, methodology, analysis and design of the project that is going to be developed. The methodology which has been used to guide this project development is RAD (Rapid Application Design) methodology. Problem of the current system of the Inventory Laboratory System (ILS) had been analyzed and from that, requirement analysis had been made. This system is hope to help UTeM in handling the equipment and component in laboratory.
ABSTARK

Projek yang ingin dilaksanakan adalah berdasarkan Inventory Laboratory System (ILS). Sistem ini boleh digunakan di Fakulti Kejuruteraan Elektronik dan Kejuruteraan Komputer (FKEKK) dalam membantu petugas makmal untuk mengesan, membuat penyenaraian dan kemudahan bagi semua peralatan makmal. Projek ini dikenali sebagai Inventory Laboratory System (ILS). Sistem ini menumpukan kepada aspek merekod dan mengemaskini data. Ia juga dilengkapi satu laporan yang khusus yang dihasilkan di dalam sistem supaya sistem ini dapat melakukan kerja seperti pemeriksaan status peralatan dan komponen di dalam makmal dengan cara yang lebih mudah dan cekap. Semua data yang sebelumnya tercatat secara manual, sistem ini boleh menggantikan dengan secara digital dan sistem pangkalan datanya lebih mesra pengguna. Sistem ini baru direka cipta dengan menggunakan konsep menyimpan semua maklumat secara terperinci yang berkaitan dengan aplikasi yang digunakan. Untuk laporan ini, secara umumnya mengandungi pendahuluan, metodologi, analisis dan rekabentuk bagi sistem yang akan dibangunkan. RAD (Rapid Application Design) merupakan satu konsep yang dipilih untuk pembangunan yang akan dilaksanakan di dalam projek ini. Semua masalah yang mungkin berkaitan dengan pembangunan Inventory Laboratory System (ILS) telah dianalisis. Apa yang lebih pasti, lebih banyak penyelidikan dan pengubahsuaiannya boleh dibuat untuk sistem ini. Secara keseluruhan, apa yang diharapkan untuk masa depan supaya dapat membantu Universiti Teknikal Malaysia Melaka (UTeM) dalam pengendalian peralatan dan komponen di dalam makmal.
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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Faculty of Electronics and Computer Engineering (FKEKK) was officially launched on 22nd June 2001. FKEKK started its operation at a temporary campus in Taman Tasik Utama, Melaka.

FKEKK created its own history by being the first faculty to move completely to the permanent main campus in Durian Tunggal, Melaka on 22nd December 2004. With that move, FKEKK is confident in providing students with best and conducive learning environment. This new campus is also equipped with various facilities such as lecture rooms, tutorial rooms and laboratories.
learning concept in FKEKK. Hence, enable to the graduates to contribute effectively to the industries in Malaysia.

This system is developed based on Adobe Dreamweaver CS3 software linking with database that using SQLyog as the language or instruction of the system. This project will be created as a stand-alone system.

This system focused on recording and updating the data. Reports produced in the system make easier to check the status of the equipment and component. Besides, this system is a further development of conventional method using forms which used by the staffs before. It used database concept to store all the information, which related with application processes.

Information Technologies evolution boost up most of major field no exception in database program. To make sure we didn’t left behind, IT implementation will be used. Some organization used sophisticated information management need to monitor and manage their works.

After doing some survey, system named Inventory Laboratory System is developed to use in FKEKK. The main focus is to help the lab technician to manage the information for each of equipment. Therefore, it will help technician to search, edit, update and delete information about equipment and component automatically with highly efficient.

Inventory Laboratory System is one group database including complain form, equipment, login, laboratory and exertion. Lab technician in FKEKK can choose any information that they want to observe, edit, update and delete information about equipment and component in Inventory Laboratory System.
1.2 OVERVIEW

For a conventional system in product inventory, lots of forms and books were used to list out inventory and the data are written manually. The data can suddenly misplace or even lost. For future use, this conventional system should be replaced with a user friendly and more systematically system. Nowadays, there a few of organization are still using some of manual system in recording the data processes. The system has been improves since the introducing of Inventory Laboratory System. Basically, the previous ILS is using file maker software. It is easier to use file maker but still this method produce unreliable, less user friendly and not full systematically system.

This project will be developed using PHP (PHP: Hypertext Preprocessor), Adobe Dreamweaver S3 linking with database that using SQL (Structured Query Language) as the language or instruction of the system to make it as a standalone system.

The new developed ILS focused on recording and updating the data. It is also generate a report in the system which help the user to check the status of the equipment and component in laboratory. Besides that, this system developed a based forms oriented which used by the technicians and staffs before. It used databases concept to store all the information which related with land application processes.

1.3 PROBLEM STATEMENT

From the previous conventional system, all data are recorded in the system but the system looks not reliable since there are no protections against data losses. An individual file will be opened for each application. Below are some problem occurs for conventional system and solutions supplied by the development of new ILS:
1.3.1 **Data loss and damage**

By using file maker system, the probability for data loss and damage are very high. Some of the important data are vulnerable causing data violation. If this situation happens, it will bring some problems to obtain data. In some cases, the data stored in longer period time might even lose.

1.3.2 **Difficult to view list of files**

When the administration wanted to see listing of files, the technician and staffs need to check the files first and then prepared the list. In conventional system, the use of manually listing is in written form. Certainly, it will take time and causing more time management interference.

1.3.3 **Difficult to check equipment and component status**

For manual inventory system when it takes time for tracking the status of equipment, the data listing sometimes not accurately inserted. Usually when the administration wants to check the equipment and component, the technicians and staffs needed to check their files first. Every movement and condition of equipment will be listed out. It is difficult to track down the improperly equipment status.
1.4 OBJECTIVES

There are several objectives need to be achieved for Inventory Information System (ILS). The objectives are as below:

1.4.1 Improvement Data Security

The most important for data inventory is its safety. Using this invented ILS database, all data about equipment and component record will be kept in a database. By using this database concept, the problems such as data loss and damage can be avoided.

1.4.2 Easier in checking equipment and component status

By using this system, technician and staffs can check the equipment and component status faster. So, the technicians and staffs do not need to wait for a long time to check it in files like before.

1.4.3 Searching and updating

Technicians and staffs can search and update the data systematically. This system already provided some functions such as searching, update, to help the technicians and staffs in controlling the data applications.
1.5 SCOPES

This Inventory Laboratory System developing for the technicians and staffs at administration belong to Inventory Laboratory System. This system focused on recording and updating the data about equipment and component data. Generally, the scope of this project for the user to used it.

The scopes of works in this project are:

1.5.1 Study literature and the entire information about the project.
1.5.2 Recognize needs for this project.
1.5.3 Design the database system.
1.5.4 Design the GUI that fulfills the needs of this project.
1.5.5 Create the suitable prototype, which has database limitation.
1.5.6 Create the full system that covers the entire needs of this project.

1.5.1 Hardware

The hardware required was:

1.5.1.1 Computer with minimum of 1GHz processor.
1.5.1.2 Gigabytes of RAM.
1.5.1.3 80 Gigabytes of hard disk.
1.5.1.4 Windows compatible mouse.
The hardware required was important in the smooth development of the program. Without the proper hardware, the software will take longer to develop.

1.5.2 Software Development

The software required was:

1.5.2.1 Microsoft Windows Vista

The newest operating system from Microsoft that will deliver up to date technology and plus more stability for developing software.

1.5.2.2 SQLyog

SQL is a standard language for accessing and manipulating databases.

1.5.2.3 Adobe Dreamweaver SC3

Dreamweaver is Haveford’s supported web editor. It has features for both the beginning and advanced web page creator. Dreamweaver integrates many aspects of Web development including page creation, site management and web server tools, giving the user a good perspective of an entire web site.

1.5.2.4 Adobe Photoshop SC2

Photo editor software that using to edit picture that use in this project.