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JUDUL: FTMK LAB AND ASSET MANAGEMENT SYSTEM ; ASSET MANAGEMENT MODULE

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FTMK LAB AND ASSET MANAGEMENT SYSTEM (FLAMS) – ASSET MANAGEMENT

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This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Software Development)

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA
2010

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DECLARATION

I hereby declare that this project report entitled

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

STUDENT : _____ Date: 26 JUN 2010
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SUPERVISOR : _____ Date: 26 JUNE 2010
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DEDICATION

It is a pleasure to thank those who made this thesis possible, especially my supervisor, Ms. Emaliana Kasmuri who guided me throughout the whole project, and my beloved family who support and motivate me from the beginning until the end. Also, this thesis would not have been possible without the help from my course mates. I owe my deepest gratitude to all of them.

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ABSTRACT

FTMK Lab and Asset Management System (FLAMS) is a web based system proposed to handle the faculty's lab equipment and managing the assets. This system divided to 5 modules and this document will only discuss on Asset Management module. This module is responsible for handling the entire aspects involve in a lifecycle of an asset during its life time in the faculty. This includes asset registration, inspection, maintenance, relocation and disposal at the end of the lifecycle. It also handles the loan process which includes application, approval and tracking of the loan. Currently, all these process are done manually using paper forms and require face to face interaction to get the process done. Asset Management module provides a computerized and efficient platform to manage the assets. This will reduce the workload of IT manager and asset operator which are responsible for assets. It will also speeds up the process of loan application as the applications are handled systematically. FLAMS are developed using GlassFish as it's server and JavaDB as it's database.

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ABSTRAK

FTMK Lab and Asset Management System (FLAMS) adalah sistem berasaskan web yang dicadangkan untuk mengurus peralatan makmal dan aset fakulti. Sistem ini terbahagi kepada 5 modul dan dokumen ini hanya akan membincangkan tentang modul *Asset Management*. Modul ini adalah untuk mengurus semua aspek yang terlibat dalam kitaran hidup aset selama kegunaannya di fakulti. Ini termasuk pendaftaran aset, pemeriksaan, penyelenggaraan, perpindahan dan pelupusan pada akhir kitarannya. Selain itu, ia juga mengendalikan proses pinjaman yang meliputi aplikasi, kelulusan dan pengurusan pinjaman. Pada ketika ini, semua proses ini dilakukan secara manual menggunakan borang dan memerlukan persemukaan untuk melaksanakannya. *Asset Management* menawarkan penyelesaian secara berkomputer dan kecekapan untuk menguruskan aset-aset. Hal ini akan mengurangkan beban kerja pengurus IT dan operator aset yang bertanggung jawab ke atas aset. Sistem ini juga akan mempercepatkan proses permohonan pinjaman kerana aplikasi diurus secara sistematik. FLAMS dibangunkan menggunakan GlassFish sebagai pelayan dan JavaDB sebagai pangkalan data.

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LIST OF ABBREVIATIONS

ASP	-	Active Server Pages
DSS	-	Decision Supporting System
EIS	-	Executive Information System
FLAMS	-	FTMK Asset and Lab Management System
FTMK	-	Fakulti Teknologi Maklumat dan Komunikasi
GUI	-	Graphic User Interface
IS	-	Information System
IT	-	Internet Technology
JAD	-	Joint Application Development
JDBC	-	Java Database Connectivity
MIS	-	Management Information System
MVC	-	Model-View-Controller
OOA	-	Object-Oriented Analysis
OOAD	-	Object-Oriented Analysis and Design
OOD	-	Object-Oriented Design
OOP	-	Object-Oriented Programming
PC	-	Personal computer
RAD	-	Rapid Application Development
SDLC	-	Software Development Life Cycle
SQL	-	Structured Query Language
TPS	-	Transaction Processing System

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CHAPTER I

INTRODUCTION

1.1 Project Background

FTMK Lab Asset Management System (FLAMS): Asset Management Module is used to manage assets of FTMK by taking into account of any aspects regarding to an asset such as loan, movement, maintenance, inspection and disposal of the asset. It is to improve the current asset management of FTMK which is still using the manual paper filing system. All the information of particular equipment which includes registration, location and relocation, inspection, and disposal are all recorded in a same form. These forms need to be updated from time to time if there is relocation, inspection or disposal. This is difficult for the asset operator to keep track and manage the information for all the equipments in FTMK. Moreover, there are also information on the maintenance and the loan of the equipment as well. The procedure for loaning assets are quite difficult for both the loan applicant, IT Manager and the Asset Operator as the applicant needs to get an application form to fill in the information and submit to the asset IT Manager. IT Manager will have to approve and assign an Asset Operator to handle the asset loan. Asset's form has to be located manually to check the availability of the item. Moreover, the asset operator has to constantly check for overdue loan and keeping track of the asset. Asset Management module will provide systematic solution in maintaining the assets of FTMK by using computerized mechanism to register and keep track of the status of each asset.

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1.2 Problem Statement

At the moment, the asset management of FTMK has to register asset manually by filling forms which consists of information of the asset. In case of relocation, inspection or disposal of the asset, the form needs to be located and updated. It is very difficult for the asset operator handle and keeping track on the information of all the equipments in FTMK.

Besides that, there is also application for loan where the loan applicant has to get a loan application form to fill in the item to be loan, purposes and the duration. It has to be submitted to the IT Manager to be approved and IT Manager will assign a person in charge to handle the loan who is the Asset operator. The asset operator has to check for overdue loan from time to time to keep track on them.

Tracing these assets will become difficult once the application forms are missing. In times when there are a lot of loan applications, the approval of the loan will be delayed and the approved applicants will have to be informed. Furthermore, some assets need to be maintained from time to time. Information of the maintenance has to be recorded for each asset.

1.3 Objectives

The objectives of developing this system are:

- To provide systematic solution in maintaining and locating FTMK's assets
- To provide a platform to keep track the status of the assets
- To provide a efficient solution to handle the loan application and to keep track on them.

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1.4 Scope

There are 3 target users of this system, which are the Asset Operator, IT Manager, FTMK staff and FTMK student. Asset operator is using this system for managing the registration, relocation, maintenance, inspection, disposal and loan application of the asset. Besides that, asset operator also manages the information on location, vendor, category and subcategory. IT Manager uses the system to approve loan application. FTMK staff and student are using this system for asset loan application.

1.5 Project Significant

By using the Asset Management module, the asset operator can manage the assets in a more systematically manner. The status of the assets can be monitored easily to keep them in track. In addition, asset operator can easily determine which loan has been overdue and can be able to send email notification to the loan applicant. It also provides an effective approach for the staffs and students to apply for loan, hence shorten the process duration compare with the current manual system.

1.6 Expected Output

From this project there is one module to be delivered, that is the Asset Management module. This module is integrated in the FLAMS which is a web based application. A full documentation explaining this project in details is produced attached with email sample produced by the system.

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1.7 Conclusion

In conclusion, this chapter describes the project background, objectives, scopes, significances and the expected output to provide the brief ideas about this project. Further explanations such as project methodology, specific requirements and milestone will be discussed in next chapter.

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CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

As outlined in chapter 1, the aim of the literature review was to describe and appraise studies reporting on the effectiveness of FLAMS in managing asset. This will be done by conducting literature search on the internet, books and personal communication from other experts. Literature review is used to review the significant point of existing management system. The literature review provides references and supported facts to develop the proposed system. From the literature review, the appropriate methodology is acquired to develop the proposed system. A system development methodology or project methodology is a framework that is used to structure, plan, and control the process of developing a program or system so that the developer can take a systematic approach when developing the system.

In project methodology section, description of the selected methodology used in this project will be presented. A wide variety of such project methodologies have evolved over the years, each with its own recognized strengths and weaknesses. One project methodology is not necessarily suitable for use by all projects. Each of the available methodologies is best suited to specific kinds of projects, based on various technical, organizational, project and team considerations.

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2.2 Fact and findings

2.2.1 Domain

The domain related to FLAMS: Asset Management Module is Information System (IS) on construction. FLAMS: Asset Management Module is intended to manage asset which includes all aspect related to it such as asset inspection, asset maintenance, asset relocation, asset loan and asset disposal. Since FLAMS is a system which manages assets, it concerns about storing data, manipulating and accessing the data when needed.

In a very broad sense, the term information system is frequently used to refer to the interaction between people, processes, data and technology. IS refers to a system of persons, data records, and activities that process the data and information in an organization, and it includes the organization's manual and automated process. There are different types of Information System such as Transaction Processing System (TPS), Management Information System (MIS), Decision Supporting System (DSS) and Executive Information System (EIS) (Collins, 2010).

Management Information System (MIS) is a planned system of the collecting, processing, storing and spreading data in the form of information needed to carry out the functions of management. In a way it is a documented report of the activities those were planned and executed. It provides managers with the tools for organizing, evaluating and efficiently running their departments. In order to provide past, present and prediction information, an MIS can include software that helps in decision making, data resources such as database, the hardware resources of a system, decision support system, people management and project management applications, and any computerized processes that enable the department to run efficiently (O'Brien, 1999).

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2.2.2 Existing System

Currently, Asset Operator is using manual system to support their daily activities of asset management; hence the following existing systems that will be used as a basis to develop FLAMS are acquired from commercialized management information system.

Inventory Setup Application

This system is developed by 3H Technologies. There are three main sections which are inventory, setup room or configuration management and system maintenance. Inventory section, enable users to enter and manage assets, assign assets to people or organizations, track asset assignment history, audit assets and search for assets using multiple criteria. Setup room or configuration management enable one to create, manage jobs and offsite repairs, track job status over time, track assets, accessories, suppliers, people involved in each job and search for jobs using multiple criteria. The last section, system maintenance enable one to set job type, status, priorities, asset status, type, models, accessories and manufacturers. This system works with ASP and SQL Server 2000 (Qinetiq, 2008). Interface of the system are shown in Figure 2.1 and Figure 2.2.

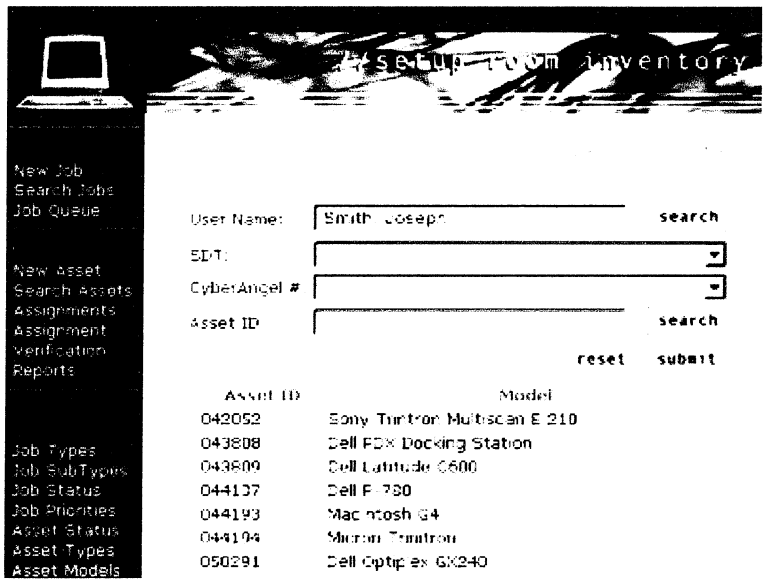

Figure 2.1: Search assets interface

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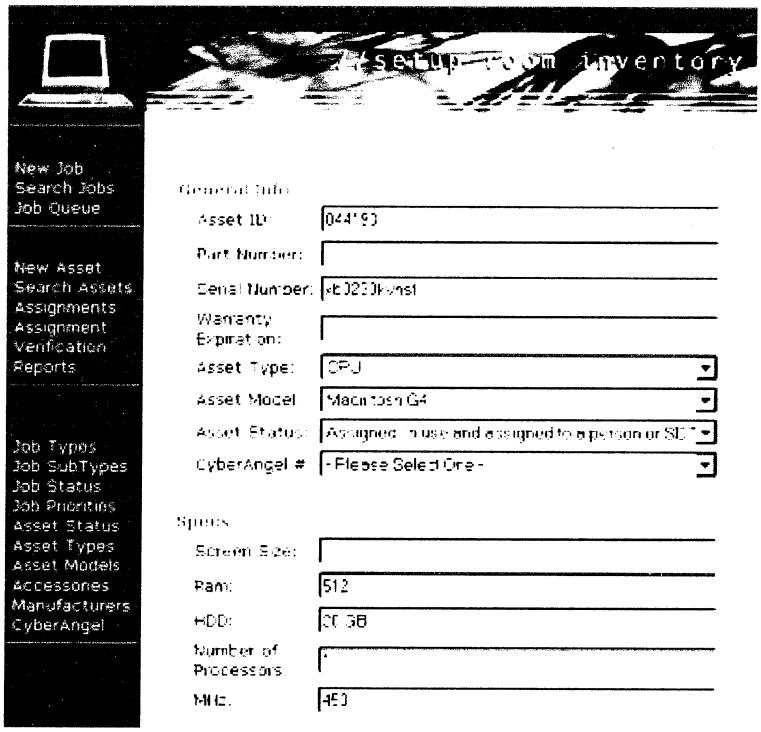

Figure 2.2: Edit asset interface

Asset Management Software

This system is developed by Kaizen Software Solutions. Asset Management Software manages assets by categorize them into type and location. It keeps track on the asset status and condition, purchase information, service log and also the history of the asset movement. Picture of an asset can be added alongside with other information such as brand, model, manufacturer and more. Furthermore, it also keeps track of who has an asset and when it is due for return. Other information such as vendors and their contacts are also managed by this system. This system works with Windows 98, ME, NT, 2000, XP, 2003, Vista, and 7 (Kaizen, 2010). Interface of the system are shown in Figure 2.3 and Figure 2.4.

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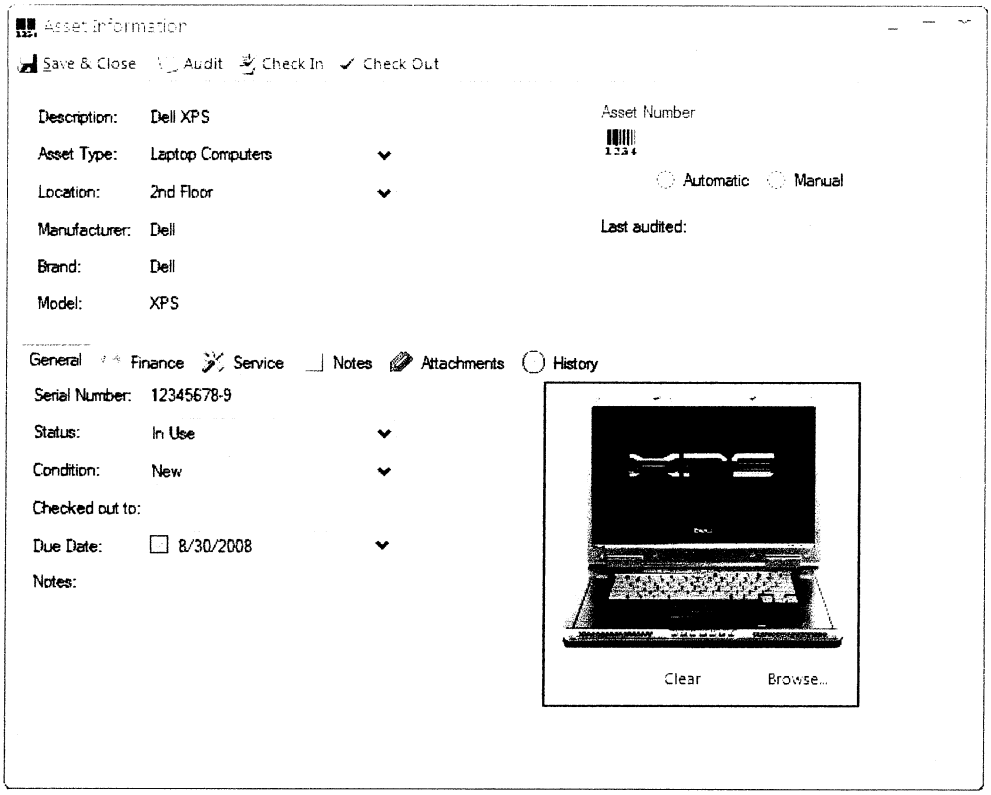

Figure 2.3: Asset information interface

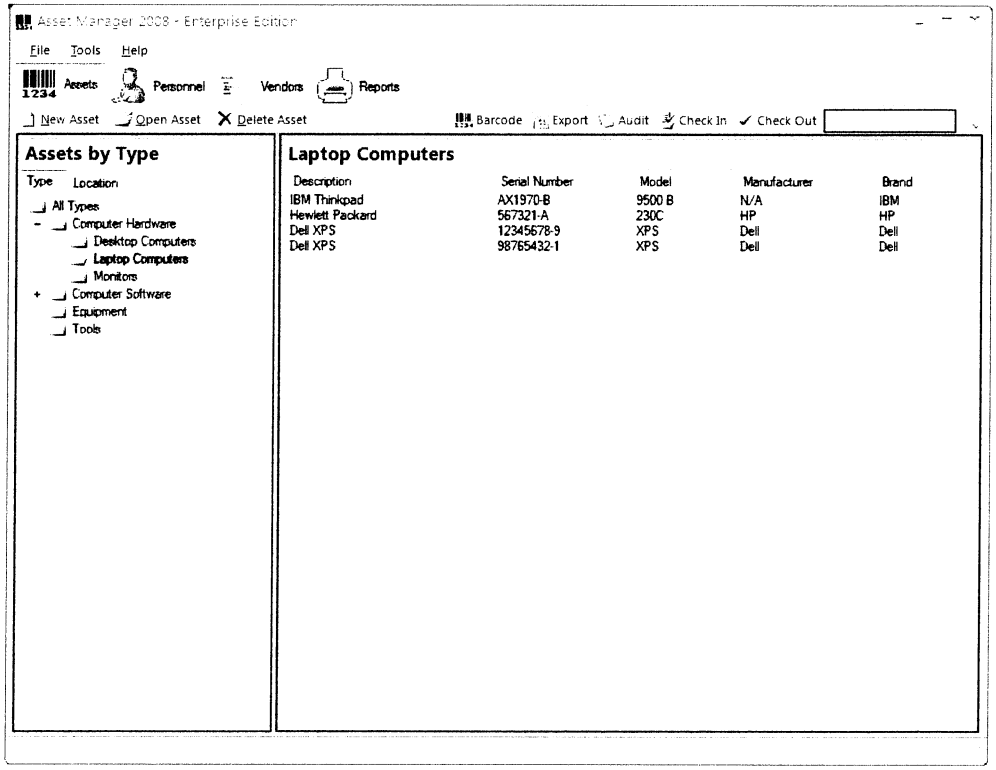

Figure 2.4: List of asset interface

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