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INFORMATION TECHNOLOGY ASSET MANAGEMENT SYSTEM WEB BASED APPLICATION

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By

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ABSTRACT

Information Technology (IT) has been widespread recently. Internet is a world network communication that links computers at homes, offices, institutions, universities, organizations and countries. It involves distance computing, electronic mail, file transfer and online forum.

This research project is designed to create an online system for Bahagian Pengurusan Teknologi Maklumat, Jabatan Akauntan Negara Malaysia. The proposed online web application system will not only save time for resources in terms of tracking Information Technology Asset Management but also enhance the quality of services provided. This application will provide an unlimited online service for IT personnel and Jabatan Akauntan Negara employees.

To implement the Information Technology Asset Management System web application. Image development tools, Hyper Text Markup Language (HTML), Java Script, and PHP Preprocessor Hypertext (PHP), and MySQL as database have to be used.

ACKNOWLEDGEMENT

For general information, this Information Technology Asset Management System that used Web Based is a research-based project that completed in two semesters. During the development of this web system, I have received lots of guidance from lecturer and colleagues.

Therefore, I wish to take this opportunity to express my acknowledgement to; My project supervisor, Pn Norhayati Mohd Ali for her full support and details guidance throughout this project paper. My course colleagues, Masnita Abd Ghani and Hafiza Alias for their contributions. My office colleagues, Pn Fatmah Mahmood , Pn. Engku Anisah Engku Muda, Cik Rasidah Ghazali and Cik Maizatul Hanis, for their full supports.

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JANM	Jabatan Akauntan Negara Malaysia
BPTM	Bahagian Pengurusan Teknologi Maklumat
IT	Information Technology

CHAPTER 1

INTRODUCTION

1.1 Introduction

Information Technology department is an important part of any organizations, which manages the entire infrastructure, system, provides services and consultations to other division in same department or agency, about the information technology and communication which related. When increasing their functionality on Information Technology departments to operate with and toward the bottom line and to enable strategic business objectives, a new business process has evolved; Information Technology asset management. This process looks at how an organization spends money on Information Technology infrastructure and whether it is getting optimal value out its investment.

Information Technology asset management is a process of tracking and analyzing technique for organizations hardware and software, from the requisition through retirement. A process approach is needed because of various divisions in the organization. Upper management is interested from a budgeting perspective. Procurement and accounting will be affected because of procurement method, record keeping and bill paying procedures may fluctuate. Individual department or business units that use Information Technology resources will have a new set of requirements to work with. IT department itself

has an administrators, analysts and help desk that will be heavily involved in any asset management program.

The process involves tracking hardware and software assets from the moment they are requisitioned throughout their life cycle. The stages of life cycle after requisition are procurement, deployment, maintenance and retirement. In addition to records the physical location and purchase or price leasing of hardware and software licenses, an asset management process tracks warranties, maintenance and support contracts.

1.2 Background

Jabatan Akauntan Negara Malaysia ("JANM") is an organization under the Ministry of Finance Malaysia ("MOF") with accountable to the Treasury of Malaysia.

1.2.1 Role and Responsibilities of JANM

JANM is assigned with following main roles and responsibilities:

- Preparation of Public Accounts In Accordance With Legal And Professional Requirements

The Federal Government Accounting System covers applicable regulations, treasury instruction, accounting policies and procedures. In this context, JANM assigned preparing Public Accounts of the Federal Government of Malaysia and prepared annually by the General Accountant in compliance with section 16 (1) of the Financial Procedures Act, 1957 (Revised – 1972). The Public Accounts is audited by the General Auditor and is then tabled before Parliament in compliance with Section 16 (1) of the Financial Procedures Act, 1957 (Revised – 1972).

- Provision of Accounting Services, Consultancy and Advisory Services

  JANM is assigned with the role of processing payments and revenue collection of the Government, prepare weekly and monthly accounting and financial information, managing pension trust fund and provide accounting and financial services to all public sector agencies.

JANM has 25 branches accounting offices (also referred to as Accountant General Offices or "AGO") throughout the country and 10 Self-Accounting Departments (or"SADs"). For AGOs, 12 are located in Peninsular Malaysia, 5 in Sabah and 8 in Sarawak. The SADs are located in Putrajaya dan Kuala Lumpur. 3 of the SADs were set up recently and are currently not using any computerised accounting system.

Information Tecnology Management Divison (Bahagian Pengurusan Teknologi Maklumat or "BPTM) is division under JANM. Its roles and responsibilities are:

- Ensure smooth operations of application systems

- Ensure proper maintenance of computer hardware and software at accounting offices
- Maintains existing computerized accounting application systems
- Develop and implement computerized systems for clients
- Maintain the JANM communication network.

The vision to design web-based for BPTM, Jabatan Akauntan Negara Malaysia (JANM) emerged from the need of the computerised system, that's seeks to improve the accessibility and quality interactions between division and unit within JANM.

The purpose of this projects are to study and improve the current system and design a web-based which will give a better quality service from BPTM to other division within department, that combines system using web-based and services to the most effective way to do Information Technology asset management. The current process presently manually made after procurement, deployment, maintenance and disposal, which involving a more workforces and time to track information of information Technology asset management.

1.3 Problem Statement

BPTM provides services about information technology including payroll system, accounting system, network infrastructure and assured that all operation daily is

running together with quality services for users within JANM. When the function of BPTM is upgrade to handle an Information Technology asset process, BPTM will be facing a problem to track a record because of work load increased.

The problems encountered by research are:

i. To identify the quantity of Information Technology asset that JANM have.

ii. Difficulty to track, what kind of hardware and software are installed to the user within JANM.

iii. To identify Information Technology assets and what kind of hardware's are needed to be upgraded.

iv. For Information Technology asset disposal, difficulties in term to relocate and to confirm if any of its components can be replace or not.

v. Difficulties to determine cost of maintenance for each of hardware if a new component installed.

vi. Difficulties to identify and records complaint about a failure of hardware, from the user.

1.4 Project Objective

The main goal of this project is to provide online services to Information Technology personnel and employees at JANM. By assemblage everything online, the user can accomplishes their work by smoothly.

i. The objective of this project is to create an Information Technology asset management system web-based for Information Technology personnel and employees at JANM.

ii. To pursue hardware asset such as: personal computers, printers and network equipment, all via the web-based and automatically retrieve all detailed record.

iii. To speed up and more efficient troubleshooting to the user.

iv. Ease to the user for hardware complaints.

v. To identify hardware and software for upgrades and disposal.

1.5 Scope of the Project

This project will concentrate on the Jabatan Akauntan Negara Malaysia (JANM), majorly at Bahagian Pengurusan Teknologi Maklumat (BPTM). This project only manages for Information Technology asset. Currently it does not provide on-line system for Information Technology asset management but do have website at URL: www.anm.gov.my. This website shows all information about Jabatan and services provided.

The modules that involve in this research are:

i. Registration of selected vendor

ii. Registration of computer equipment identification (Daftar Harta Modal) consists of user, user department, hardware specifications, operating system, software and etc.

iii. Log the entire hardware problem including computer, printer, network and server, which JANM using one standard template.

iv. Status report including troubleshooting feedback of the maintenances representative and administrator.

v. Tracking of disposal equipment.

vi. Produces report of all computer equipment activities for the maintenances and management level.

1.6 Research Assumptions

The project assumptions are listed below:

i. This system is designed strictly for Bahagian Pengurusan Teknologi Maklumat, which is end user for within Jabatan Akauntan Negara Malaysia.

ii. Although this system is presented in Bahasa Malaysia, it will be enhanced to English language for the future development.

iii. This project assumes that Information Technology personnel and employee at Jabatan Akauntan Negara Malaysia understands how to use Internet and perform on-line system.

1.7 Hardware and Software Requirement

1.7.1 Hardware

The minimum hardware requirements to develop and use this Information Technology asset management system web-based are:

i. Intel Pentium IV and above.

ii. 10GB Hard Disk secondary storage space or higher.

iii. 128MB RAM or higher

iv. VGA Display System

v. 56K Modem

vi. Printer

1.7.2 Software

The following are software that require designing this system:

i. Microsoft Windows 98 and above;

ii. Database; MySQL;

iii. Application; PHP version 5;

- Scripting for create an IT asset management system web-based using object-oriented programming.

iv. Web Server; Internet Information Services

- Use as a desktop web server that can be used to host a website on the corporate intranet, or to develop and test a website before hosting the site on an Internet Service Provider (ISP).
- Use in publishing and testing IT asset management system web-based at Local Intranet.

v. Microsoft Internet Explorer or Netscape Navigator

vi. Macromedia Dreamweaver MX 2004

- Design web pages for IT asset management system.
- Edit HTML and PHP code.
- Analyze web, publishing web, managing web and ensuring compatibility web.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews several existing systems that similar to the "IT Asset Management System using Web-Based". These systems being choosed to study the way they conduct their online system throughout the World Wide Web (WWW) and client-server.

The purpose of this literature study is to review the advantages and weaknesses of this system that are already exist in the organisation. The result of the review is useful to improve and determine the design of the new system development. There are three similar Information Technology asset management system web based application and client-server being reviewed in this session.

2.2 System Review

In this system review, several online systems and client server concept such as smart school management system concentrate on Facilities Management Module, Asset Management System (@set.my) and Support21 System have been chooses to review.

2.2.1 Smart School Management System

The Smart Schools enterprise is one of the seven flagship applications which part of Malaysia's Multimedia Super Corridor (MSC) project. The Malaysia Government aims to capitalise on the presence of leading-edge technologies. The rapid development in MSC's infrastructure bound deployment of encouraging technologies to schools. This have been done by creating a group of 90 pilot Smart Schools in 1999 that serve as the nucleus for the eventual nation-wide rollout of Smart School teaching concepts and materials, skills, and technologies. By 2010, all 10,000 of Malaysia's primary and secondary schools will be Smart Schools. [20]

2.2.1.1 Background information of pilots

90 pioneer schools, among which the pilots to be implemented will comprise six different categories of schools:

- 9 new schools – 5 primary and 4 secondary – four in the Sri Bintang Complex, two in the Batu Permai Complex and three in Putra Jaya;
- 36 residential secondary schools;
- 14 Munshi Network schools, currently piloting electronic resource centers;
- 14 state secondary schools;
- 14 state primary schools;

- 3 remote schools without direct electricity supply, comprising 2 primary schools and 1 secondary school.

The implementation shall involve allocating schools according to predetermined levels of technology, ranging from a preliminary level to the highest level. At the highest level, schools are equipped with a high ratio of computers to teachers and schoolchildren, and full multimedia laboratories such as labs, audio-visual equipment and Local Area Network (LAN) and Wide Area Network (WAN) networks.

2.2.1.2 Facilities Management

The Facilities Management component is involved in maintaining and managing the utilisation of school facilities. The Facilities Management portion of the SSMS shall:

- Enable the tracking of usage and maintenance of all forms of school facilities such as sports facilities, halls and classrooms, hostels, science equipment and computers. This includes the scheduling of required maintenance and servicing of equipment.
- Enable the management of all inventory, fixed assets and facilities with a built-in reporting system.
- Enable the scheduling of the usage of facilities by staff, students and other authorised parties.

needing effective decision-making tools in integrated accounting environments and helps them comply with KEW 312/313/314/315 requirements. [21]

Asset Management System is include all the process in government asset management from the beginning receiving of asset until disposal. This application previously used by Jabatan Pengairan Dan Saliran (JPS), MAMPU and Jabatan Kemajuan Islam Malaysia (JAKIM).

2.2.2.1 Advantages of Asset Management System (@set. my)

i. Asset Code Generator – Automatic Code Generation for registering new asset.

ii. Barcode Label – Asset labeling and setting label information which consist of name, section and etc.

iii. Physical Asset Tracking – Integration with handheld for Asset Audit purpose. Generating of asset movement and missing item automatically.

iv. Security – Access level control by group or user.

v. Asset Movement – Transferring an asset location by individual or multiple selections.

vi. Contract Tracking – Getting asset contract information (i.e.: warranty status).

vii. Vendor/Manufacturer Tracking – Viewing detail information for vendor/Manufacturer (i.e.: contact person and phone number).