

raf

HF5736 .W42 2006



0000038845

Smart document management system / Wan Fauziah Wan  
Mohd Zain.

## **SMART DOCUMENT MANAGEMENT SYSTEM**

**WAN FAUZIAH BINTI WAN MOHD ZAIN**

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

**FACULTY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY**

**KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA**

**2006**

## BORANG PENGESAHAN STATUS TESIS

JUDUL: SMART DOCUMENT MANAGEMENT SYSTEM

SESI PENGAJIAN: 2005/06

Saya WAN FAUZIAH BINTI WAN MOHD ZAIN

mengaku membenarkan tesis (PSM/Sarjana/Doktor Falsafah) ini disimpan di Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan seperti berikut:

1. Tesis dan projek adalah hakmilik Kolej Universiti Teknikal Kebangsaan Malaysia.
2. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan untuk tujuan pengajian sahaja.
3. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.
4. \*\* Sila tandakan (/)

\_\_\_\_\_ SULIT (Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)

\_\_\_\_\_ TERHAD (Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)

\_\_\_\_\_ TIDAK TERHAD



Alamat tetap :1607,

Kg. Bukit Merah, Tanah Merah.Kelantan

Tarikh : 30 Nov 2006



(SAFIZA SUHANA BT KAMAL BAHARIN)

Nama Penyelia

Tarikh : 30 Nov 2006

CATATAN: \*\* Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa.

^ Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM)

## **DECLARATION**

I hereby declare that this project report entitled

### **SMART DOCUMENT MANAGEMENT SYSTEM**

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

**STUDENT: WAN FAUZIAH BINTI WAN MOHD ZAIN Date: 2006-11-17**

**SUPERVISOR: PN.SAFIZA SUHANA BT KAMAL BAHARIN Date:2006-11-17**

**DEDICATION**

*Specially thanks to  
Pn Safiza Suhana Kamal Baharin  
Family  
And Friends*

## ACKNOWLEDGEMENTS

First and foremost, all thanks to Allah SWT for giving me strength to complete this task. My thanks to many people who contributed to the preparation of this "Projek Sarjana Muda 2". I would like to thank Pn Safiza Suhana Kamal Baharin for her support, and advises. Thank you also to Pn. Norazilah who helps me to collect information about managing business document storage system. She had give me permission to enter into FTMK storage room to see how the documents were organized from time to time.

Special thank to my parents who always give me support and motivations to proceed with my studies. Then I would like to thanks to my friends those facilitate me to search for informations, to complete thesis for Smart Document Management System.

Thank you all

## ABSTRACT

Smart Document Management System is a project that will create a product to facilitate in managing business documents systematically. Nowadays, managing documents are important part because these documents are company's asset. Traditional documents storage method required a width storage room but less security. Traditional style also, need user to spend more time on re-searching process. So, as a way to overcome these situation, a computerize system is applicable with todays environment. With this system, users have to work friendly and attractive user interfaces in process to keep, edit, find and secure the million documents. In order to develop this system, developer has to analyze current problem so that, we would appear with the best solution. At the end of developing phase, a web-based efficient, systematic and centralized documents storage will be deliver to the users.

## ABSTRAK

Smart Document Management System adalah sebuah system yang dibangunkan bertujuan memudahkan proses mengurus dan menyimpan dokumen-dokumen perniagaan sesebuah syarikat secara sistematik. Tugasan untuk menguruskan dokumen-dokumen sesebuah syarikat secara sistematik adalah penting kerana dokumen-dokumen tersebut adalah penting syarikat. Kaedah tradisional sistem fail memerlukan ruang simpanan yang besar dan kurang mengambil kira soal keselamatan dokumen-dokumen terbabit. Kaedah tradisional juga memerlukan pengguna mengambil masa yang lama untuk mencari sesebuah fail. Bagi mengatasi masalah sebegini, sebuah sistem berkomputer perlu diaplikasikan dalam sesebuah syarikat. Dengan penggunaan sistem ini, pengguna mampu menguruskan dokumen melalui antaramuka sistem dan lebih selamat. Bagi membangunkan sistem ini, masalah pengurusan dokumen secara tradisional telah dikaji bagi membolehkan sebuah sistem itu mampu memberikan penyelesaian terbaik terhadap masalah yang muncul. Pada fasa terakhir membangunkan system ini, sebuah sistem pengurusan dan penyimpanan dokumen yang berasaskan web telah boleh diserahkan kepada pengguna.

## TABLE OF CONTENTS

| <b>CHAPTER</b>   | <b>SUBJECT</b>                  | <b>PAGE</b> |
|------------------|---------------------------------|-------------|
|                  | <b>DECLARATION</b>              | <b>i</b>    |
|                  | <b>DEDICATION</b>               | <b>ii</b>   |
|                  | <b>ACKNOWLEDGEMENT</b>          | <b>iii</b>  |
|                  | <b>ABSTRACT</b>                 | <b>iv</b>   |
|                  | <b>TABLE OF CONTENTS</b>        | <b>vi</b>   |
|                  | <b>LIST OF TABLES</b>           | <b>ix</b>   |
|                  | <b>LIST OF FIGURES</b>          | <b>x</b>    |
| <b>CHAPTER I</b> | <b>INTRODUCTION</b>             |             |
|                  | <b>1.1 Project Background</b>   | <b>1</b>    |
|                  | <b>1.2 Problem Statements</b>   | <b>2</b>    |
|                  | <b>1.3 Objectives</b>           | <b>3</b>    |
|                  | <b>1.4 Scopes</b>               | <b>3</b>    |
|                  | <b>1.5 Project Significance</b> | <b>4</b>    |
|                  | <b>1.6 Conclusion</b>           | <b>4</b>    |



|                    |  |    |
|--------------------|--|----|
| <b>CHAPTER II</b>  | <b>LITERATURE REVIEW AND PROJECT METHODOLOGY</b> |    |
| 2.1.               | Introduction                                     | 5  |
| 2.2.               | Fact and Finding                                 | 6  |
| 2.3.               | Project Methodology                              | 7  |
|                    | 2.3.1 Prototyping Methodology                    | 8  |
| 2.4.               | Project Requirements                             | 11 |
|                    | 2.4.1. Software Requirement                      | 11 |
|                    | 2.4.2. Hardware Requirement                      | 11 |
| 2.5.               | Project Schedule and Milestones                  | 11 |
| 2.6.               | Conclusion                                       | 12 |
| <b>CHAPTER III</b> | <b>ANALYSIS</b>                                  |    |
| 3.1                | Introduction                                     | 13 |
| 3.2                | Problem Analysis                                 | 14 |
|                    | 3.2.1 Current System Scenario                    | 16 |
| 3.3                | Requirement Analysis                             | 17 |
|                    | 3.3.1 Functional Requirements                    | 17 |
|                    | 3.3.2 Data Description                           | 21 |
|                    | 3.3.3 Software Requirements                      | 22 |
|                    | 3.3.4 Hardware Requirements                      | 25 |
| 3.4                | Conclusion                                       | 26 |
| <b>CHAPTER IV</b>  | <b>DESIGN</b>                                    |    |
| 4.1                | Introduction                                     | 27 |
| 4.2                | High-Level Design                                | 28 |
|                    | 4.2.1 System Architecture                        | 28 |
|                    | 4.2.2 User Interface Design                      | 29 |
|                    | 4.2.2.1 Navigation Design                        | 34 |
|                    | 4.2.2.2 Input Design                             | 35 |
|                    | 4.2.3 Database Design                            | 37 |
|                    | 4.2.3.1 Conceptual and Logical Design            | 37 |
| 4.3                | Detailed Design                                  | 42 |
| 4.4                | Conclusion                                       | 48 |
| <b>CHAPTER V</b>   | <b>IMPLEMENTATION</b>                            |    |
| 5.1                | Introduction                                     | 49 |
| 5.2                | Software Development Environment Setup           | 49 |
| 5.3                | Software Configuration Management                | 50 |
|                    | 5.3.1 Configuration Environment setup            | 51 |
|                    | 5.3.2 Version Control Procedure                  | 52 |

|                    |   |                                     |           |
|--------------------|---|-------------------------------------|-----------|
|                    | <b>5.3.2.1</b>                                |                                     |           |
|                    |   | <b>Numbering of Product Version</b> | <b>52</b> |
| <b>5.4</b>         | <b>Implementation Status</b>                  |                                     | <b>54</b> |
| <b>5.5</b>         | <b>Conclusion</b>                             |                                     | <b>55</b> |
| <b>CHAPTER VI</b>  | <b>TESTING</b>                                |                                     |           |
| <b>6.1</b>         | <b>Introduction</b>                           |                                     | <b>56</b> |
| <b>6.2</b>         | <b>Test Plan</b>                              |                                     | <b>57</b> |
| <b>6.3</b>         | <b>Test Strategy</b>                          |                                     | <b>61</b> |
| <b>6.4</b>         | <b>Test Design</b>                            |                                     | <b>62</b> |
| <b>6.5</b>         | <b>Test Result and Analysis</b>               |                                     | <b>66</b> |
| <b>6.6</b>         | <b>Conclusion</b>                             |                                     | <b>68</b> |
| <b>CHAPTER VII</b> | <b>PROJECT CONCLUSION</b>                     |                                     |           |
| <b>7.1</b>         | <b>Observation on Weaknesses and Strength</b> |                                     | <b>69</b> |
| <b>7.2</b>         | <b>Proposition for Improvement</b>            |                                     | <b>70</b> |
| <b>7.3</b>         | <b>Contribution</b>                           |                                     | <b>70</b> |
| <b>7.4</b>         | <b>Conclusion</b>                             |                                     | <b>70</b> |

## **REFERENCES**

## **APPENDICES**

## LIST OF TABLES

| TABLE    | TITLE  | PAGE |
|----------|--|------|
| 3.1      | Data from existing system                              | 22   |
| 3.2      | Data required for to-be system                         | 22   |
| 4.3      | Input Design   | 35   |
| 4.4      | Output Design  | 36   |
| 4.5(1/4) | Logical Design for table USER                          | 39   |
| 4.5(2/4) | Logical Design for table LOGIN                         | 40   |
| 4.5(3/4) | Logical Design for table DOCSAVED                      | 41   |
| 4.5(4/4) | Data Dictionary  | 42   |
| 5.1      | Working Directory                                      | 52   |
| 5.2      | Numbering of Product Version                           |      |
| 5.3      | Implementation Status                                  | 55   |
| 6.1      | List of Hardware and Software                          | 59   |
| 6.2      | Testing Milestone for Smart Document Management System | 60   |
| 6.3      | Test Design Specification                              | 63   |
| 6.4      | Login  | 64   |
| 6.5      | Registration   | 64   |
| 6.6      | Upload Document  | 64   |
| 6.7      | View & Download Document                               | 65   |
| 6.8      | Search Document  | 65   |
| 6.9      | Test Case Result for Login                             | 65   |
| 6.10     | Test Case Result for Registration                      | 66   |
| 6.11     | Test Case Result for View & Download Document          | 66   |
| 6.12     | Test Case Result for Search Documents                  | 67   |

## LIST OF FIGURES

| FIGURE   | TITLE  | PAGE |
|----------|--|------|
| 2.1      | Prototyping methodology                                      | 9    |
| 3.1      | Traditional Document Storage system                          | 14   |
| 3.2(1/7) | Context Diagram for Document Management System               | 17   |
| 3.2(2/7) | DFD Level 0 for Document Management System                   | 19   |
| 3.2(3/7) | DFD Level 1 for Admin of Document Management System          | 19   |
| 3.2(4/7) | DFD Level 1 for User of Document Management System Part(1/4) | 20   |
| 3.2(5/7) | DFD Level 1 for User of Document Management System Part(2/4) | 20   |
| 3.2(6/7) | DFD Level 1 for User of Document Management System Part(3/4) | 21   |
| 3.2(7/7) | DFD Level 1 for User of Document Management System Part(4/4) | 21   |
| 4.1      | System Architecture for Document Management System           | 28   |
| 4.2(1/5) | Login interface  | 29   |
| 4.2(2/5) | Main interface   | 30   |
| 4.2(3/5) | Display system content interface                             | 31   |
| 4.2(4/5) | Display selected document interface                          | 32   |
| 4.2(5/5) | Document upload interface                                    | 33   |

|     |  |    |
|-----|--|----|
| 4.3 | Navigation design for Document Management System | 34 |
| 4.4 | Conceptual Design for Document Management System | 38 |
| 5.1 | Software Development Environment Setup           | 51 |
| 5.2 | Version Control Procedure                        | 53 |

## **CHAPTER I**

### **INTRODUCTION**

#### **1.1 Project Background**

Smart Document Management System is a web-based computer system that provides storage and management of the documents of a company. This system focuses on computerized document(s) storage and also serves the fastest document(s) searching process. The document management system can be accessed through web browsers.

As a new generation of document management system, Smart Document Management System helps many enterprises, government agencies, and non-profit organizations manage millions of documents and enables them to streamline their business document creation, control, review, tracking, sharing and distribution processes.

Smart Document Management System is a versatile and enhances the ease and efficiency with which documents of all formats and sizes may be securely



shared, stored, searched, and retrieved over the Internet by remote end-users employed within each organization.

## **1.2 Problem Statement(s)**

The main important asset of each industry is paper (documents/ business records) and people (expertise employee). Before the technology of Electronic document management system implement into filing system, there are only traditional way to manage the million documents. Filing was done manually which is the document(s) are collected and inserted in an appropriate file then should be put on the racks. When there comes new document once again that responsible person need to find that related file to insert that new documents. That person will take time to find that wanted file. This situation is not suitable for today's environment as people now noticed that business documents considered the great asset to the organization.

Normally, a big company business with a few departments has separated document(s) storage room according to its department. This situation should be a problem when a staff in one department wants to refer document(s) from another department. He/ she need to spend some time to look for the document(s). Let say if one of the managers of the company should attend a meeting outside and he/ she needs to bring some document(s), so he/she needs to bring along the document(s) with him/ her. If the company implements this to be system, a staff does not require bringing along the document(s) instead he/ she just go online and print that specific document(s).

### 1.3 Objectives

- To develop an efficient, systematic and centralized documents storage.

Each documents/ records will be stored in server. So that, there are no more a few rack storage in a different places in a company.

- To facilitate document searching process.

Staffs just need to go through the system to find any documents that they need.

Compare traditional way, they have to find the files one by one to get the documents.

Searching documents through this system, will take a short time.

- To protect confidential documents from outsiders.

Different level of staffs they have different level to achieve business documents. The documents can be securely managed from alteration and accessibility.

### 1.4 Scopes

- An online documents/ records storage management system for a company.

At the end of this project, an online documents storage system should be delivered to the clients. This system will replace the current filing system in a company that done manually.

- A system for companies that have a huge business documents to be stored.

This system is applicable for company with million documents storage needs.

- System should support variety type of file

In a company, their business documents would come in variety of file type. This system should be able to support different file type. Sample of file type are Adobe Reader (PDF), Microsoft Word and Microsoft Excel.



## **1.5 Project Significance**

This system is an online documents / records storage that will accommodate specific person that responsible against business documents storage. Company staffs will take this system as an advantages system for the company because it will provide a systematic company file storage in a server. When we talk about traditional filing system, responsible staff required to categorize then locate that files to its place manually. Traditional system style sometimes there are a few storage location depends to each departments in a company. If the company is a new company with a small amount of business documents, it is not a problem about file storage. But for a last long time company with a large amount of business documents this system must be a need for them. Sometime there should be some mistakes and this will heading to problems when others researching that documents.

## **1.6 Conclusion**

In this chapter, readers should be able capture what Smart Document Management System is going to be. The traditional style for documents storage, guided the idea to develop this system. This system is available for company with a huge business documents to be stored due to it will implements a systematic and centralized storage.

The next chapter, there are about literature review, methodology approach, requirements of the project and project schedule.

## CHAPTER II

### LITERATURE REVIEW AND PROJECT METHODOLOGY

#### 2.1 Introduction

In terms of a literature review, "the literature" means the works you consulted in order to understand and investigate your research problem. The literature review is a critical look at the existing research that is significant to the work that you are carrying out. Although you need to summarize relevant research, it is also vital that you *evaluate* this work, show the *relationships* between different works, and show how it relates to *your* work. In other words, you cannot simply give a concise description of, for example, an article: you need to select what parts of the research to discuss (e.g. the methodology), show how it relates to the other work (e.g. what other methodologies have been used? How are they similar? How are they different?) And show how it relates to *your* work (what is its relationship to your methodology?).

## 2.2 Facts and Finding

Facts and finding done here are focus on passed research, references, case study and other material that related to documents management/ storage.

### 2.2.1 Definition of Document Management

Document management is:

- *“is the process of organizing, storing, cataloging and retrieving document based information.”*  
( [www.marketing-advertising-services.com](http://www.marketing-advertising-services.com) [accessed time: 2/6/2006])
- A systematic method for storing, locating, and keeping track of information that is valuable to a business. The key characteristics of a document management system are the ability to manage information, to collaborate when creating information, to distribute the information, and to allow secure access to the greatest number of people.  
([www.data-core.com/glossary-of-terms.htm](http://www.data-core.com/glossary-of-terms.htm)[accessed time:2/6/2006])
- Document management is "the process of retrieving, sharing, tracking, revising, and distributing documents and the information they contain".  
([www.scanportal.com/glossary.htm](http://www.scanportal.com/glossary.htm) [accessed time:2/6/2006])

From these document management definition above, document management can be summarize as a process of organizing business documents in order to make it easier to retrieve and securing the information.

Currently, business document are manage in traditional method which is documents are store in filing system and keep on a racks. Searching the documents

will be harder because that person need to through each files. Instead, searching process will take a long time.

Document management task will be easier if there come a software the facilitate users to manage their documents in efficient way. Document management software is the main component in open electronic document management system. Hereby, below are the definitions of document management software and open electronic document management system that help users to get clear with to be system:

- *“Document management software allows businesses to work in geographically separated groups, while accessing the same database of corporate or archival data.”*  
(www.marketing-advertising-services.com[accessed time:2/6/2006])
- *“Is an internet solution that can be deployed on any server platform that supports Java technology. The document management system can be accessed from web browsers, wireless devices, and desktops computers. As a new generation of document management system, OpenEDMS helps many enterprises, government agencies, and non-profit organizations manage millions of documents and enables them to streamline their business document creation, control, review, tracking, sharing and distribution processes.”*  
(www.altimate.ca[accessed time:2/6/2006])

### **2.3 Project Methodology**

Methodology is a formalized approach to implement software development life cycle (SDLC). There are many different systems development methodologies,



and each one is unique because of its emphasis on processes versus data and the order and focus it places on each SDLC phase.

There are a few categories of methodology in SDLC like process centered, data centered and object-oriented methodologies. Process centered will focus on process models as the core of the system concept. Data centered methodology emphasize data model as the core of system concept. Object-oriented methodology will focus to process and data by incorporating both into one model.

Another important factor in categorizing methodologies is the sequencing of the SDLC phases and the amount of time and effort devoted to each. In the early days of computing, the need for formal and well-planned life cycle methodologies was not well understood.

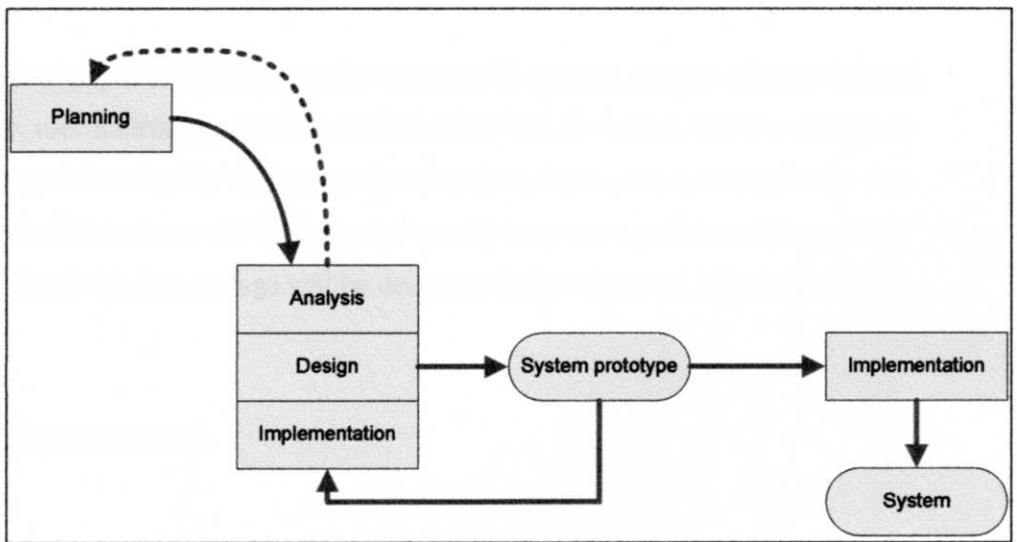
Developing this project, I prefer to use Rapid Application Development (RAD) approach. This methodology helps users to understand the system and suggest revisions that bring the system closer to what is needed. In RAD approach, there are three categories of methodology which are phased development, prototyping methodology and throwaway prototyping. For this project, it is applicable to use prototyping methodology.

### **2.3.1 Prototyping Methodology**

The reason to use this methodology is due to prototyping methodology performs the analysis, design and implementation phases concurrently, and all three phases are performed repeatedly in a cycle until the system is completed. With this

approach, the basics of analysis and design are performed, and worked immediately on a system prototype. The first prototype is usually the first part of the system that the user will use. This is shown to the user which is used to reanalyze, redesign and reimplement that provides a few more features. This process continues until the project success.

The advantage of prototyping is that it very quickly provides a system for the users to interact with the system and helps to refine real requirements from users. At the end, developer has delivered the right system to users. RAD contain of planning, analysis, design and implementation phases. Figure 2.1 shows the cycles in Prototyping Methodology.



**Figure 2.1: Prototyping methodology**

### 2.3.1.1 Planning

In planning phase, developer needs to define why the new system needs to be developed. The first step is to identify opportunity, during which the system's business value to the organization. Project workplan will be created to make sure the project can be developed as scheduled.

### **2.3.1.2 Analysis**

During analysis planning, I will investigate current system which is the traditional document management style. From this investigation there came the opportunities to improve that system and develop a new concept for to be system. The next step is gathering business requirements. Interview is one of the ways used to gather the information. Then information collected need to be analyzed. The data need to define the functional requirement of to be system.

### **2.3.1.3 Design**

Design phase decides how the system will operate, in term of hardware and software, user interfaces, database and files that will be needed. Basic architecture design has to develop for the system that describes the hardware and software that will be used. Interfaces will be design to specify how users will move through the system. Next, the data storage will be design to define what and how data will be stored.

### **2.3.1.4 Implementation**

First step in implementation is system construction, during which the system is built and tested to ensure it performs as designed. Testing is one of the most critical step in implementation because the cost of bugs can be immense. Once the system has passed a series of tests, it is installed. Installation is, the new system will replace the old system.

## **2.4 Project Requirements**

### **2.4.1 Software Requirement**

The software requirements for this project are as follow:

- Web scripting language: PHP version 5
- Web server: apache
- Database: MySql
- Operating system: Windows XP Profesional
- Internet connection
- Web browser: Internet explorer 5.0

### **2.4.2 Hardware Requirement**

The hardware requirements to support the system are as follow:

- Scanner to scan document from paper based to digital based.
- Lap top or desktop

## **2.5 Project Schedule and Milestones**

See appendixes(Gantt Chart)