Document Searching System (DSS)

By

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Dissertation submitted in partial fulfillment of
the requirements for the
Bachelor of Technology (Hons)
(Information Technology)

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CERTIFICATION OF APPROVAL

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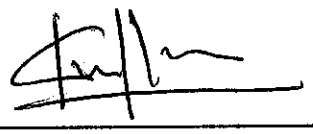
Approved by,



(Mr. Faizal b. Ahmad Fadzil)

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK
June 2004

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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Norul Adlin Bt Sahat

ABSTRACT

For final year project, I have decided to work on database system called Document Searching System (DSS) for document physical location. The study will emphasize on document searching just like other search engine for the user to know the physical location of the needed document by searching from this system. My aim through this study is to alleviate some of problems encountered by the user to find the document from the physical location which currently the user has difficulties to index and manage the bundle of documents. The investigation involves few ways of retrieving data for the study includes interview, preparing questionnaires and data analysis from the interviews and questionnaires result. Lastly, I hope that this system will help the user to manage the documents which are staff personal document, student personal document and minutes of meeting document.

ACKNOWLEDGEMENT

I would like to take this opportunity to convey my greatest appreciation for the precious time in Universiti Teknologi Petronas (UTP) especially for my former supervisor, Mr Faizal bin Ahmad Fadzil, Encik Zulkarnan bin Abdul, HRM executive, Human Resource Management (HRM) department staffs for cooperation, assistants, guidance, encouragement and trustworthy towards me in accomplishing my Final Year Project (FYP) successfully.

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ABBREVIATIONS AND NOMENCLATURES

1) DSS - Document Searching System
2) HRMA - Human Resource Management and Administration
3) MOM - Minutes of Meeting
4) UTP - Universiti Teknologi PETRONAS

CHAPTER 1
INTRODUCTION

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INTRODUCTION

1.1 BACKGROUND OF STUDY

Document Searching System (DSS) is developed for Human Resource Management and Administration (HRMA) department of Universiti Teknologi Petronas (UTP). The system will provide information to the HRM staff about where their documents are physically located.

The user will be able to view the location of the document by key in few parameters about the document needed and the system will display the result of user's search. The users can to add information about any new document kept in the drawer.

In HRMA department, there are three major documents that they keep for future reference which are staff personal document, student personal document and Minutes of Meeting (MOM) document. There are a lot of hard copy documents in the department and it is tedious to manage the documents.

HRMA staffs facing problems to manage the documents such as to retrieve the document information (for example the drawer and file order) and to update these information about the documents. Finding the right document is difficult and time consuming.

1.2 PROBLEM STATEMENT

Currently, Human Resource Management and Administration (HRMA) department do not have a proper system to manage documents location. It has a staff which controls the document and use list of document to find document manually. It is not easy to update the information about the document especially when there are many new documents need to be updated and managed.

Document Searching System (DSS) will allow the users to keep and manage the document in more sophisticated and efficient way for easy retrieving of a document. The system will help the users to find the document that located in the drawer easily.

1.3 OBJECTIVES AND SCOPE OF STUDY

This project is developed to achieve the following objectives :

1. To allow the HR staff to keep and manage the document in organize way for easy retrieving and reviewing the document.
2. To design a system that capable to store information about the document in HR department and able to display the result of user's search.
3. To enable the user of the system to update particular information of document from the system.
4. To allow the HR staff to view the information provide in the system.

1.3.1 SCOPE OF STUDY

As for the specifications, Document Searching System (DSS) for document physical location will be designed to assemble the document in HRM department and will display the information which retrieved from the database according to search data keyed in by the user.

The system will be provided with '*View by*' navigators for the document searching. The study will be based on document searching methods, which have been designed according to the following type of documents : by staff personal document, by student personal document and by MOM document. Therefore, the user can type their search according to the type of document.

As the scope of study is to find the appropriate way to manage the document location and the document information (such as the document name, drawer and file order). The user can browse the document location and information by using the DSS. Therefore, the study will be based on the document searching methods, which can be implemented in the system.

CHAPTER 2
LITERATURE REVIEW/THEORY

CHAPTER 2
LITERATURE REVIEW

2.1 LITERATURE REVIEW/THEORY

(1) Cognitive Processes Involved In Internet Searching (refer to http://imet.csus.edu) [1]

The phases of cognition used in Internet searching (described by Hill, 1999) are divided in to six steps and are incorporated into 2 main stages: (a) Navigation and (b) Process. In the first stage, navigation, searchers explore the system to find information using purposeful thinking (working on the goal), acting (browsing or searching) and system responding (feedback from the computer). On the second stage, process, searchers are attempting to make meaning out of the information found by evaluation, transformation, integration and resolution. That is, searchers must assess information for use, extract information from the source document, process information into useful material and evaluate information as to whether more information is needed (Hill, 1999, p. #11).

Based on the above framework Hill discovered that success in searching was very dependent on user knowledge, specifically metacognitive abilities, familiarity with the computer system being used, and prior subject knowledge (Hill, 1997). The research indicates that individuals with little system knowledge, and understanding of how to conduct a search, have greater difficulty finding success in Internet searches (Hill, 1999). '

From the review stated above, the users (HRMA staff) use the system in order to achieve their goal which is to know the physical location of the document. He/she take an action when uses the navigators which are 'view by' elements to search for the document needed. Therefore, this system will help the users to find the particular document which is being categorized into few elements such as by staff personal document, by student personal document and by MOM document.

(2) Software for entering search information (refer to http://www.medcomp.com) [2]

Software for entering search information should enable accurate and rapid data entry. There isn't any single method that will be superior for all occasions, but rather a suite of methods is favored to handle varying contexts. Here is a sample of working data entry methods.

- **Word search**. In this method, a user enters search words and all terms that are associated with those words are located and then listed for the user to select.

From the second review that I found in the internet, it stated that the system assemble with 'search engine', should be able to display any related search results as relevant to the data entered by the users. For example, in DSS, if the user wants to know the location for staff personal document, they can enter the staff number or view it by staff name as entered by user and displays the result of user's search.

(3) Searching for names as subject (refer to PsycINFO User Guide – Search Techniques (2002)) [3]

Personal names : These are entered first initial, last name format. Some names may be entered as just the surname (such as Hitler). Consider truncating the names as well (Nixon*, Freud*) to retrieve adjectival forms and possessive (Freudian, Nixon's).

Referring to the third finding about searching techniques, I also used names as subject to search the documents location. From 'view by' function, the user may type any names that they want and the system will give the result of the search. In order to get the details about the documents, the users can double clicked the selected row for their search results.

(4) Try to use a keyword that is highly relevant to your topic. When you search, your keyword is checked against the document title, document description, and keywords assigned to the document. (refer to http://www.webs.uidaho.edu/docsearch/rules.asp) [4]

As in Document Searching System (DSS), the documents are searched according to the type of the document. For example, to retrieve staff personal document, the user have to enter the staff number to get the information about the document. I can say here that the keyword for staff personal document is the staff number because the staff number is unique and the system can trace the information by comparing the staff number keyed in by the user with the staff number stored in the database.

(5) Two approaches for handling a list of keywords (by Ralph Kimball, (2000)) [5]

Ralph Kimball described two approaches for handling a list of keywords describing an archive of documents. But a keyword-based approach to accessing a large number of documents makes some strong assumptions. A really good set of keywords may require human reviewers, a fact that certainly restricts the scale of the document archive. There aren't enough human reviewers to index millions of documents.

In handling the keyword for the documents, I have discussed with the users on the keyword used for this system. They agreed that for staff personal document, the keyword will be staff number, for student personal document the keyword is student ID and Minutes of Meeting (MOM) document, they asked me to create the MOM index number as they do not has that in manual listing. The keywords used in this system are unique number for each document and it will be easier to manage and retrieve the document.

CHAPTER 3
METHODOLOGY/PROJECT WORK

CHAPTER 3
METHODOLOGY/RESEARCH APPROACH

For this project, I have gone through several phases which are project planning, project analysis, design, implementation and final documentation for the system. The following describes in detail of the activities done for this project.

3.1 PROJECT PLANNING

In planning phase, I have planned to design a system which can solve the problems encountered by Human Resource Management and Administration (HRMA) staff to manage and keep the document information. The system is Document Searching System (DSS) to know the physical location of the documents.

I have been given a semester to finish the research and development of application. In this phase, I have come out with the tasks that need to be done throughout this project. All the activities were illustrated in the Gantt Chart which resides in Appendix 1.

3.2 PROJECT ANALYSIS

3.2.1 Research on Document Searching System (DSS)

I have done researched for the DSS in order to get better understanding on how the DSS should works, how important it is to an organization, who relies on the DSS and how costly the DSS is to an organization.

Also, I have to find relevant reasons and facts that strengthen my decision to proceed with this area. I also have to set some criteria or guidelines in developing the DSS and further do the research.

3.2.2 Research on searching methods and techniques

For the searching area that assembles in the system, I have done several researches on its techniques and methods from the internet and book available in the library. From the internet, I found few search results such as journal and researches done by other people about this area.

I also have a view on catalogue system techniques because the DSS is sort like catalogue system where I catalogue it into few parts – staff personal document, student personal document and MOM document.

Meeting and provide questionnaires with HRM staff

In order to gather data and information to design this system, I have met the user which is HRMA staff. We had meeting for few times and I also provided the questionnaires to be answered by the users in HRMA department. The meeting was done informally. The questionnaires were set up for the staff in order to retrieve the exact percentage of user's perception and experiences while working with manual document management system. The questionnaires are prepared in simple and straightforward question as it was answered by different level of staffs.

There are one set of questionnaires given to HRM staff. The questionnaires set was divided into three major parts – part A, part B and part C. The part A was designed to obtain information about staff background such as date joint UTP, education, gender and race. Body of the questionnaires – part A and part B, they were asked about their perception and experiences while working with current document management system.

The second part (part B) was the general question which required the staff to answer between 'Yes' and 'No' answer only. The third part (part C) required staff to circle the ranking (5 ranks provided) to identify the real perception on current situation and by having a system that can manage the document effectively.

This set of questionnaires is provided in the Appendix 2 in Appendices for further reference. After the data has been gathered, the data analyzing processed was done and the findings will be discussed in Chapter 4.

3.2.3 Analysis on software/tools to be used

I have done analysis on which software is suitable to develop the system quickly since the time frame to finish this project is short. From the analysis, I have decided to use Lotus Domino Designer for designing the system and Lotus Domino Server as the platform for the system to run on it.

Other than that, I also used other application software such as Ulead PhotoImpact, and Paintbrush as a mean for graphics rendering process. By using Ulead

PhotoImpact, I have design the static banner and logo for the system. Besides, Internet Explorer was also used as a mean of Internet gateway to seek for design and information resources. Microsoft Project 2000 is used to create the project Gantt Chart.

Other than that, I also used '1 Cool Button Tool- Flash 5 to create button for the system. However these buttons are static button because animated item cannot be incorporated in Lotus Domino Designer.

Computer specifications :

- Intel Pentium 3 processor
- Memory of 128 MB
- 15" VGA Monitor

3.3 DESIGN

3.3.1 Design the database structure

The first step in the design phase is designing the database structure. In order to get the most suitable database design for the system, I have to do some normalization on the database table and standardize the naming convention for those tables. The database then built for the system in Lotus Domino Designer using name DSS.nsf. The purpose of using Lotus Domino Designer is because its enable the designer to combine the database and the design in one file (in this project the filename is dss.nsf) which is less complicated and easy data retrieval.

3.3.2 Prepare the system storyboard

I started preparing storyboard for my own reference. The storyboard is important to show the navigation or site maps of the system. In the storyboard, I have stated the places for text, button and etc. The system storyboard will be resided in Appendix 3 in Appendices section.

3.3.3 Design the interface for the system

From the storyboard prepared before, I have started designing the interface of the system using Lotus Domino Designer. Firstly, I have to familiarize with the tool which is Lotus Domino Designer/Lotus Notes. I order to design the interface, there are few steps that I should follow and should familiarize with.

I also have demonstrated part of the system to my supervisor in the middle of project schedule and got comments and recommendations from him for further improvements. Some of the comments are the functionality of the system and graphical user interface, which user should not have to use 'back' and 'next' button too frequently.

Below are the phases that I have gone through to design Document Searching System (DSS) with Lotus Notes/ Lotus Domino Designer which I used to design the system.

Introduction to Lotus Notes/Lotus Domino Designer

Lotus Notes is a flexible tool that can help any organization take control of its information. Notes can track product development, organize financial information and can be used to service customers and requests, manage personnel information and employee profiles and organizes schedule and group calendars. The possibilities are virtually limitless.

In order to create new Notes database, Domino Designer is needed. To start Lotus Domino Designer, go to the Windows Start menu and select it from the proper program group. Illustration 3.3.3a shows how Domino designer appears when is first opened.

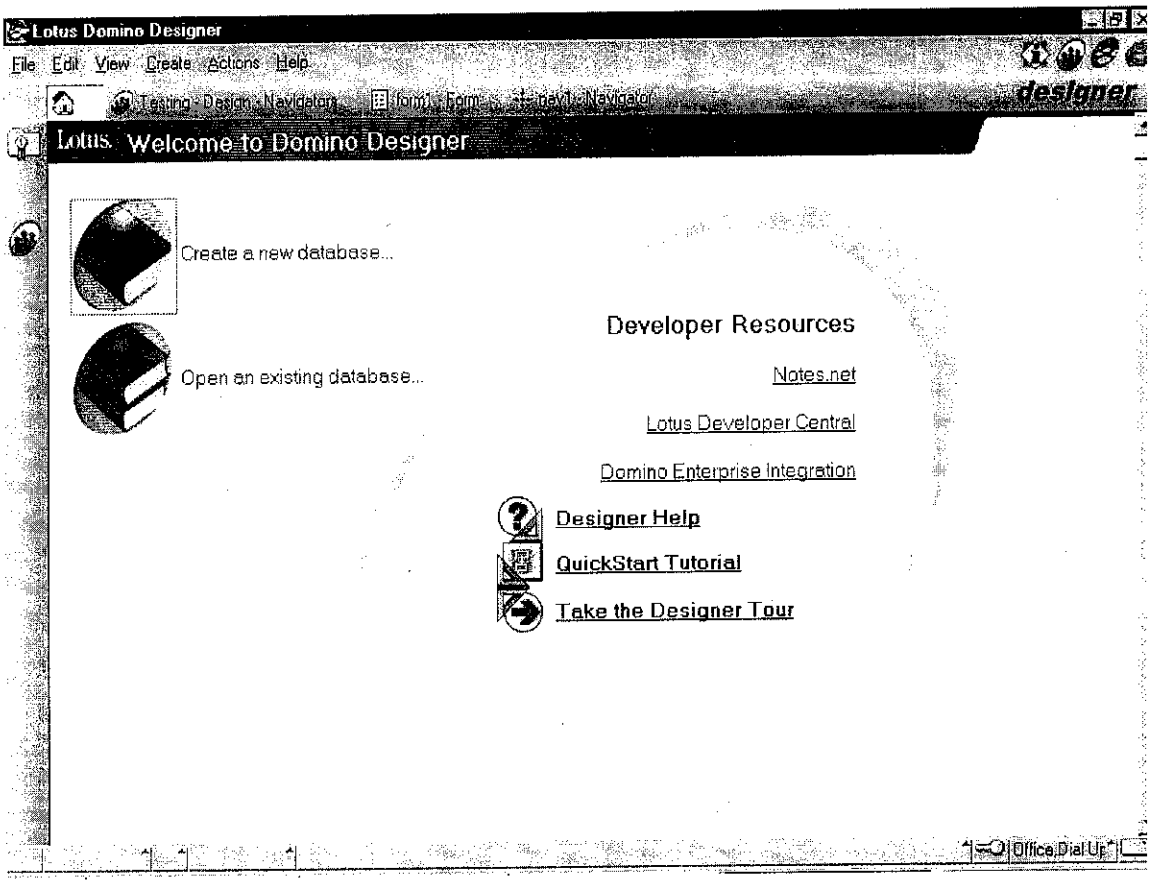


Illustration 3.3.3a : Lotus Domino Designer main page window.

Two very prominent icons appear in the Designer window. These icons are labeled "Create a new database" and "Open an existing database". These are also links to various developer resources on the web.

To create a new database, follow these steps :

1. Click the "create a new database" icon or choose File – Database – New. The new database dialog box will appear as shown in Illustration 3.3.3b.

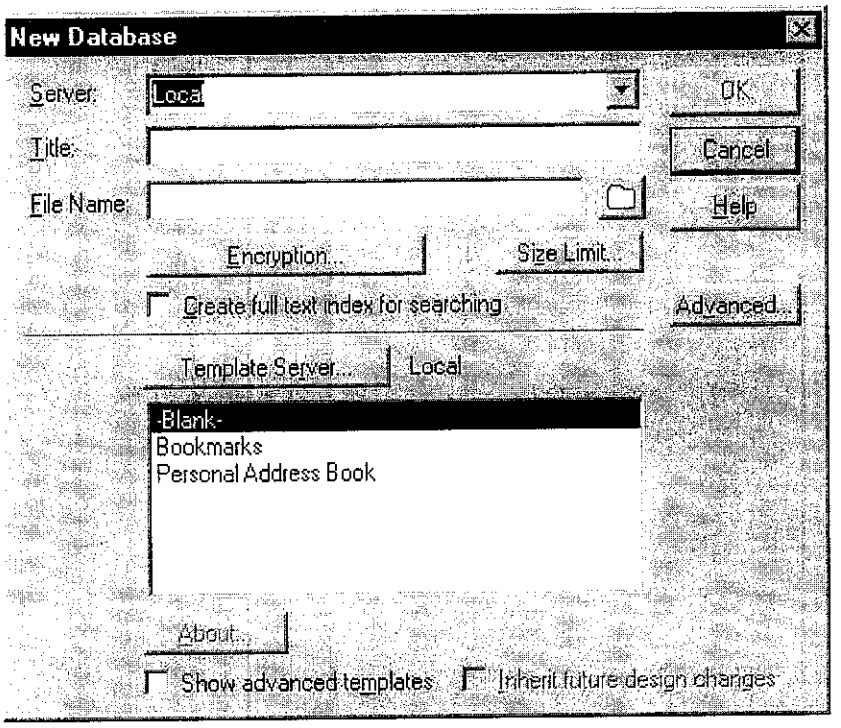


Illustration 3.3.3b : New Database dialog box.

2. Use the Server drop-down menu to select the server on which to create the new database, or select Local to create the database in personal workstation. I have designed and developed the system in local workstation which installed with Lotus Domino Server in my computer.

3. A title is assigned to the database in the Title text box. This title will appear in the list of available databases when a choose File – Database – Open.

4. A filename to the database is assigned in the File Name text box. The .nsf extension seen is a convention of all Domino database.

5. Choose any encryption, size limit or full-text indexing options that are appropriate.

6. Lastly, click OK to create a new database. Illustration 3.3.3c below shows how newly created database appears in Recent Database pane.

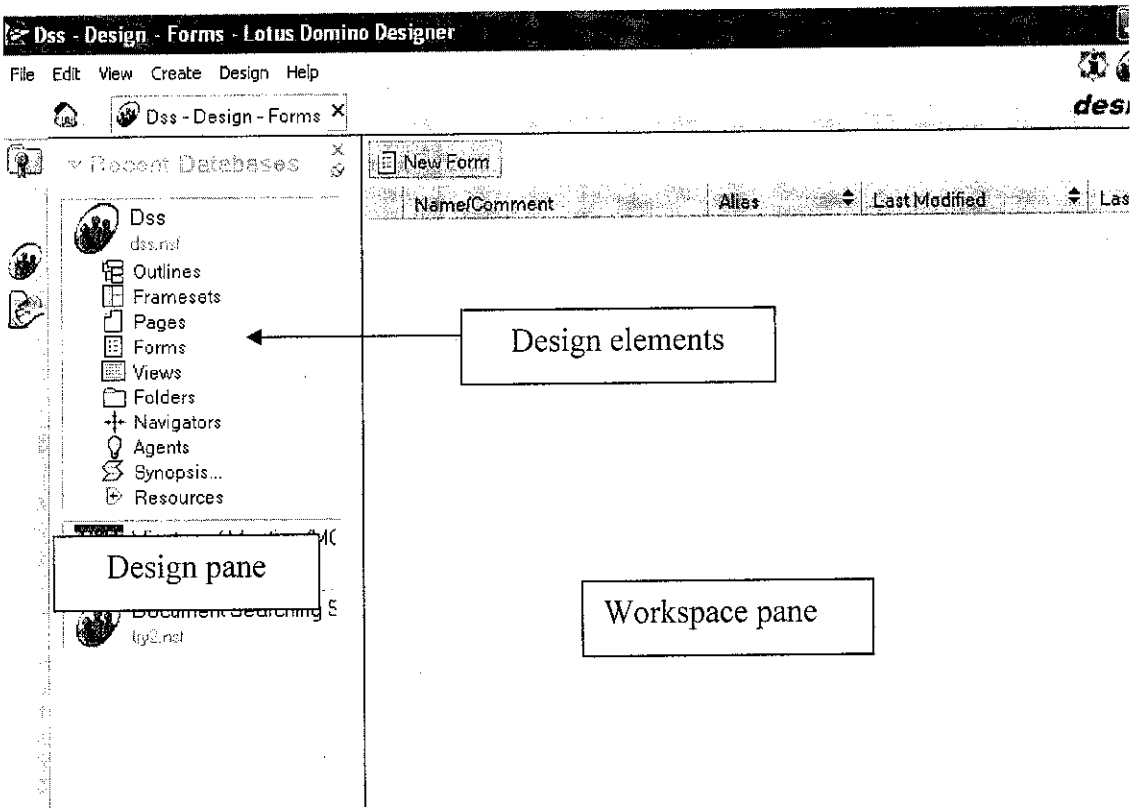


Illustration 3.3.3c : shows the new created database

As its core, Notes Database is a *document database*. Unlike a traditional database, which requires developer to freak information into discrete data fragments, Lotus Notes uses *document* as a fundamental unit of information. A document, on the other hand, can stand on its own. A Notes document can be as long, as complex and as unstructured as any paper or word processing document.

In general, the process of designing a database document involves the following steps :

1.Creating new form

2.Adding and formatting static objects (text, images, etc)

3.Defining fields

4.Writing fields formulas

5.Defining certain properties of the form.

Introduction to Form

Notes database document design process begins with the concept of forms. Practically, all Notes document e derived from forms. Forms allow the users to enter and view information and they define the format and layout of documents.

Each form can contain fields, static text, graphics, buttons and other design elements (including subforms). These elements determine how users enter information as well as how that information is processed and displayed. That is why; forms are probably the single most important design element in any Notes application.

When user composes a document, its content is a direct result of the form through which it is created. Information (data) is stored in the fields that are placed in the design of the form; the information is then saved as a document and becomes part of a Notes database. When this document is opened, user can see data through the form. The form dictates the structure of the document and how the data appears on the screen. Illustration 3.3.3d illustrates the example of form which design in Document Searching System (DSS).

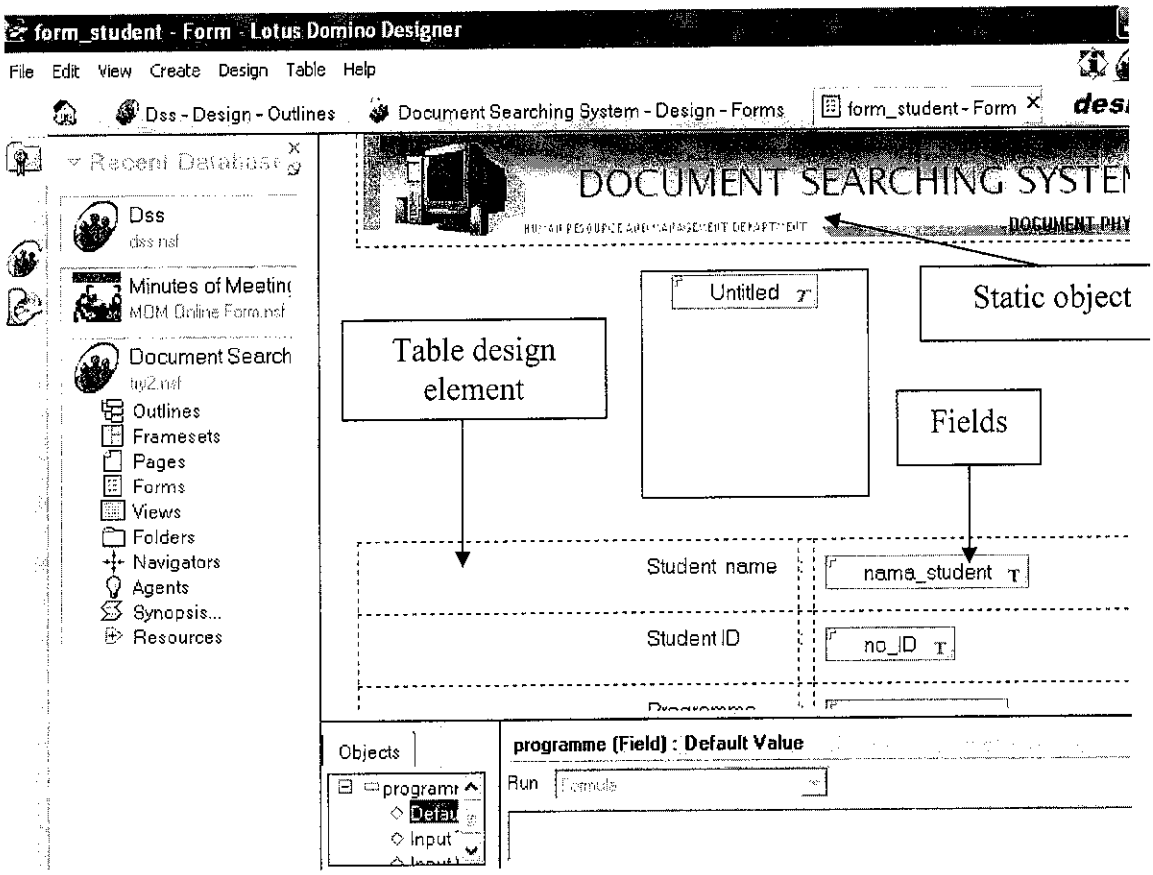


Illustration 3.3.3d: form design for new entry of student document

Static object

Static object is any text or image elements that are displayed on document created. It is refer to as "static" because users of the application cannot change it. Static text can be used as labels for fields or as title for document. A nice feature of static text is that developer can set its appearance in Domino Designer.

Fields

Fields are the basic containers that store the data entered by user in a Notes document. The value that a field can store is a matter of how the application is designed and constructed by the developer. When creating the forms that will be

available within application, fields that will appear in each form will be assigned them with a data type. A field's data type specifies the type of information that can be entered in it. Textual data and numeric data are the typical types of data encountered in most Notes applications, however, other types of data can be stored in a field and these are listed below :

- Text
- Date/time
- Number
- Dialog list
- Check box
- Radio button
- Listbox
- Combobox
- Rich text
- Authors
- Names
- Readers
- Password
- Formula

When defining the fields in a form, a field's name appears inside the field. A "field-type symbol" is also placed inside the field to clue developer to its type. For example "T" for Text type and "#" for Number type.

Another aspect of fields, besides the type of data they stored, is whether users of the application supply their values or if the application itself generates a value for the field. In Notes terminology, fields are said to be either editable or computed. An editable field is one in which a user enters a value. While the application may subsequently take the value and modify it to some degree (a process known as input translation), the initial value is user-supplied and may be changed by the user in the future. In the case of computed field, the user has no ability to enter a value. Instead, the value of this field is calculated by the application and is frequently the result depends on other values that appear in editable fields.

Introduction to Views

A view is a summary of all the documents in the database. It provides an easy way for user to locate a particular document or collection of documents. Differ from form as matter of inputting information; view is the way to retrieve back all data entered in database.

View is created after form is designed. It lists all documents in a database that are usually sorted or categorized to make finding documents easier. A database can have any number of views for example, in DSS, I have developed five (5) views for each type of document. Shows in the Illustration 3.3.3e and 3.3.3f is navigator and view for student document respectively.

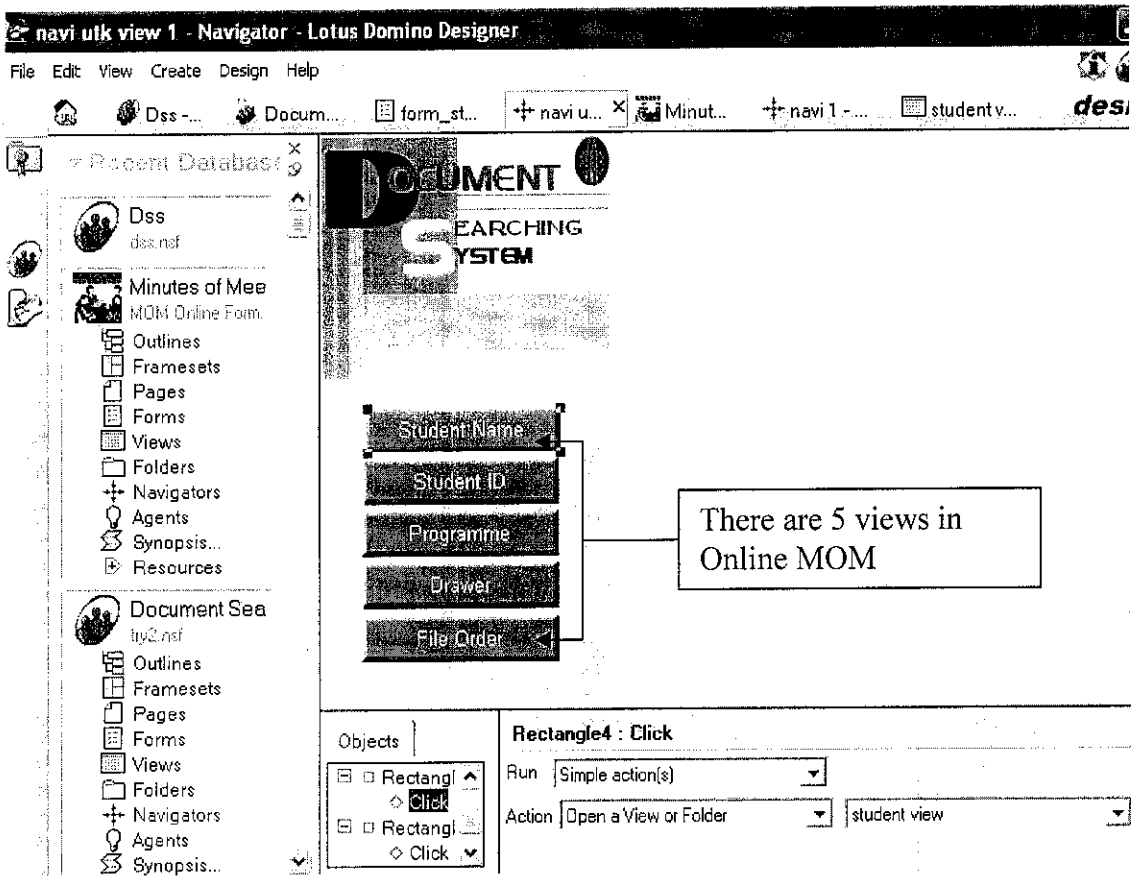


Illustration 3.3.3e : Navigator design for student document in DSS

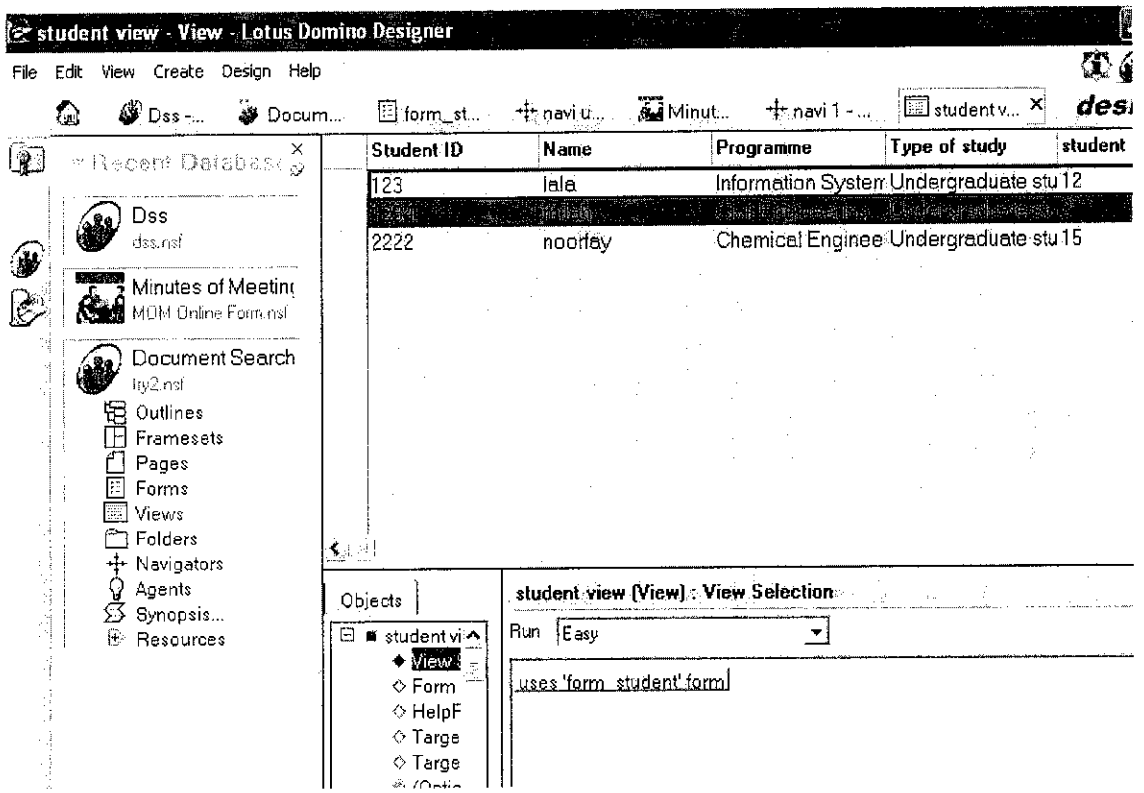


Illustration 3.3.3f : view design for student document in DSS

A view serves as a table of contents for a Notes database, displaying a list of stored documents in rows and columns, and providing users with the mean to read, edit and delete those documents. Each row in view represents a single document. A row may be divided into one or more columns. Each column displays the information contained in a field (or a combination of them) from the document. Column is important in giving structure and meaning to views.

Like each field in a form, each column in a view has a unique set of properties associated with it. To access and modify the properties of column, click the column heading and choose Design – Column Properties or simply double-clicked at specified column heading. The Column Properties Infobox is

displayed, with individual tabs that let developer control different aspects of the column. Some of the basic tab options are :

- Setting the Column – simply to label column title, column sizing, show twisties and etc, where it plays a role in how the columns appear to user.
- Setting the Sorting Order – to define the order in which documents in the view will be displayed.
- Setting the Column Format – the fonts option for the column besides justification to set column alignment
- Setting the Number Format – only for the numeric field.
- Setting the Date and Time Format – only for Date/Time data type of field displayed in column.
- Setting the Title Format – to control the font, pitch and size of the title of a column.

Furthermore, besides displaying textual values, a column can include various symbols that indicate further information about the document. This option available under *Setting the Column* with *Display as Icons* selected. This is done by applying column formulas to automate column to display the symbols.

Other Design Elements

- **Navigators** – design elements that provide a graphical way for users to find documents to take actions without having to maneuver through views or find menu commands. I used navigator to design the main page and also the navigation's pane where it contains hotspots to specific objects. Example is shown in Illustration 3.3.3e.

- **Pages** – design elements that can house text, images, images maps, tables, sections and outlines.
- **Outlines** – useful as a means of mapping out application to customize the user's navigation of the application.

3.4 Prepare and submit progress report

After all, I have to prepare and submit project progress report to my supervisor. The purpose of producing the report is to describe the progress of the project; which tells at what phase the project at, till the date of the report. The system's flow chart is also put together with this report which resides in Appendix 4.

3.5 Theory Development

There are few variables were defined while doing the research on searching methods in order to design Document Searching System (DSS) for document physical location. Table 3.5.1 below shows these variables and types of variable.

Variables	Types of variable
Document management	Dependent variable
Hardcopy document	Independent variable
Manual listing	Independent variable
Retrieve document information	Independent variable
Update document information	Independent variable
Paper work	Moderating variable
Difficulty and confusion	Intervening variable

Table 3.5.1 : Variables in the research area

3.5.1 Problem statement and theoretical framework

How can the document management system in HRMA department perform efficiently ?

Theoretical Framework

Diagram 3.5.1 shows the relationship between all the variables indicated in this research.

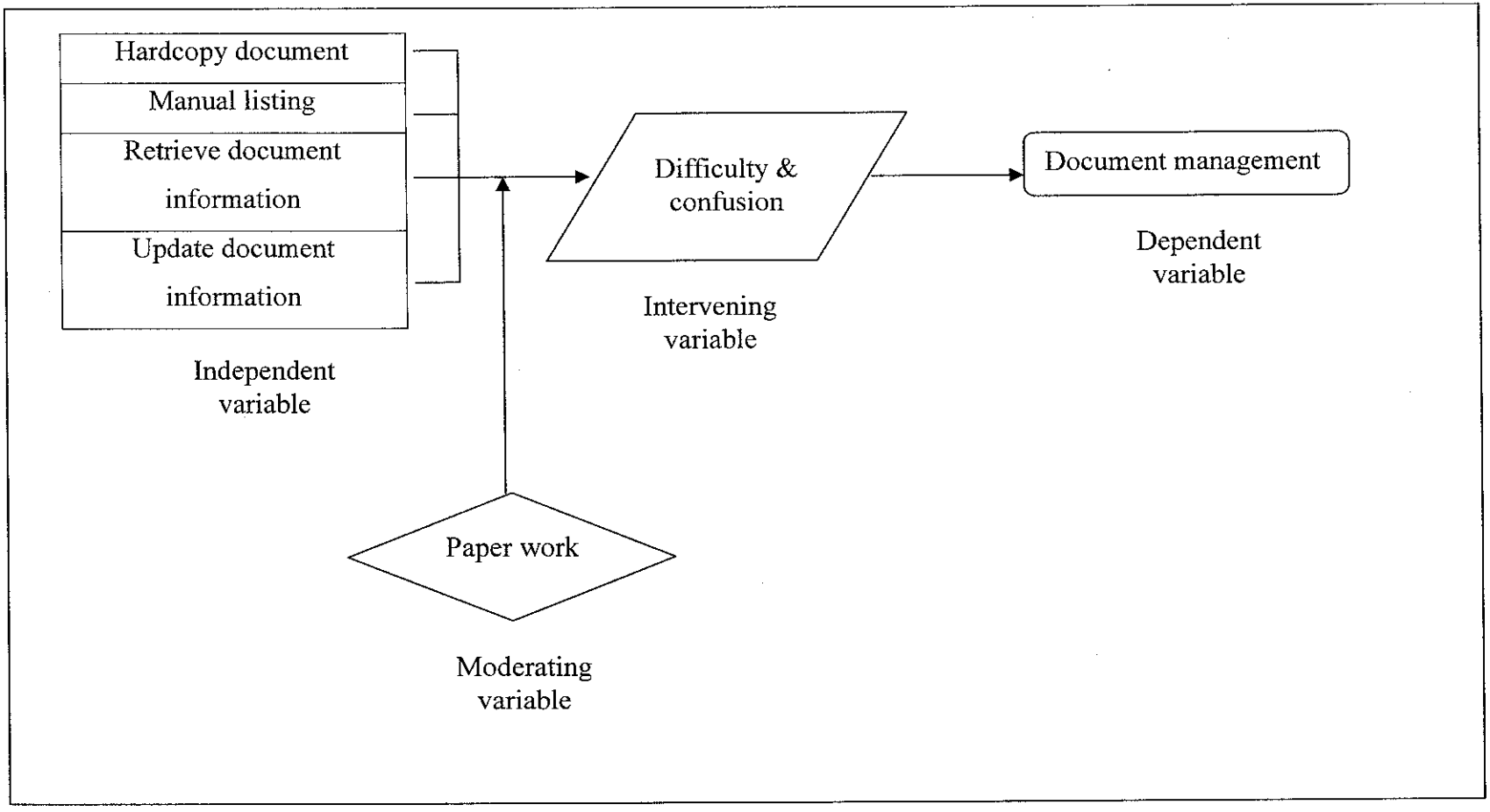


Diagram 3.5.1 : The relationship of all variables in the research area

Explanation :

The research was done is to find ways to increase document management system performance. Therefore, Document Searching System (DSS) for document physical location is designed to help HRMA department manage their document information. The document management is the dependent variable, where it is the main course of this research. There are four independent variables that influencing the document management in HRMA department. There are hardcopy document, manual listing, retrieve document information and update document information. The relationship between the dependent and independent variables, however, moderated by paper work as a moderating variable in this situation. As mentioned earlier, too much paper work can lead to messy and confusion. Meanwhile, the staff faced difficulties whenever they want to retrieve or update the document information. It also seems logical that using the manual way of updating the information is time consuming. For example, if there is only one new document needs to be kept in the drawer, the controller needs to revise and update the whole document manually.

3.6 Hypotheses Formulation

After defining the variables, I have come out with several hypotheses. There are :

1. H_O : There is no relationship between hardcopy document and document management

   H_A : If there are so many hardcopy documents in the department, then document management activities might be increased.

2. H_O : There is no relationship between retrieve document information and document management.

H_A : Better way to retrieve document information will increase performance of document management in the department.

3. H_O : There is no relationship between update document information and document management.

   H_A : Better way to update document information will increase performance of document management in the department.

4. H_O : There is no relationship between difficulty and confusion with document management.

   H_A : The manual document management system will lead to confusion and difficulties to find the document.

5. H_O : There is no relationship between paper work and document management

   H_A : Manual listing which used paper work will decrease performance of document management in HRM department.

CHAPTER 4
RESULTS AND DISCUSSION

CHAPTER 4
RESULT AND DISCUSSION

4.1 RESULTS AND FINDINGS

4.1.1 Results of findings – from Questionnaires

A research was done to find out whether the Human Resource Management and Administration (HRMA) department in Universiti Teknologi Petronas(UTP) should have a database system to manage their bundle of documents which are hardcopy documents. The research also done to know the staff perception on current manual listing system. In the survey, 14 sets of questionnaires were distributed to HRMA staff. From the questionnaires distributed, the following results have been obtained. The results also illustrated in the table, graphs and pie chart with appropriate description for it.

Compilation of data

General Perception. This category includes questions, which tests the HRM staff their general perception and experience in using the current system.

Question No.	Percentage of responses		
	Yes (Y)	No (N)	N/A
Q5	28.57	71.43	0.0
Q6	85.71	14.29	0.0
Q7	71.43	28.57	0.0
Q8	85.71	14.29	0.0
Q9	85.71	14.29	0.0

Table 4.1.1a : Detailed response for general perception for question 5 to question 9

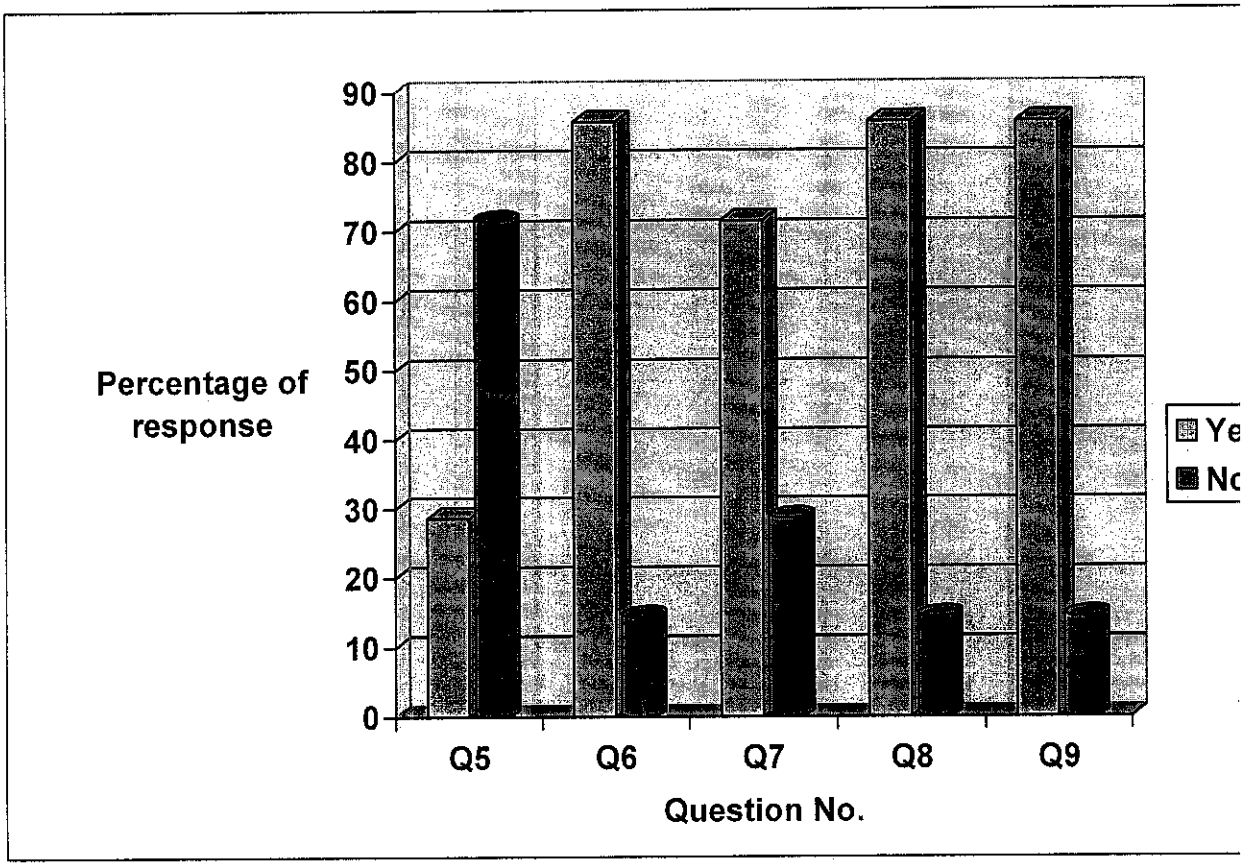


Figure 4.1.1a : Positive (yes) and negative (No) responses for general perception by HRM sta
(question 5 to question 9).

The figure above, Figure 4.1.1a, demonstrates the overall percentage of responses from the distributed questionnaires. Most of the responses are the positive responses except for question 1 which asked the staff satisfaction towards current document management system. It can be concluded that the staff expect more efficient document management system. This can be supported by alarming high positive response to have an efficient document management system in the department.

Detail Perception. Questions that group under this category assessed the staff's perception towards current document management system. These include update document information and manual listing.

Question No.	Percentage of responses			
	Negative perception	Moderate	Positive perception	N/A
Q10	57.14	28.57	7.14	0.0
Q11	85.71	14.29	0.0	0.0
Q12	78.57	21.43	0.0	0.0
Q13	85.71	14.29	0.0	0.0
Q14	64.29	35.71	0.0	0.0
Q15	57.14	42.86	0.0	0.0
Q16	0.0	14.29	85.71	0.0
Q17	42.86	35.71	21.43	0.0

Table 4.1.1b : Detailed response for detail perception for question 11 to question 17

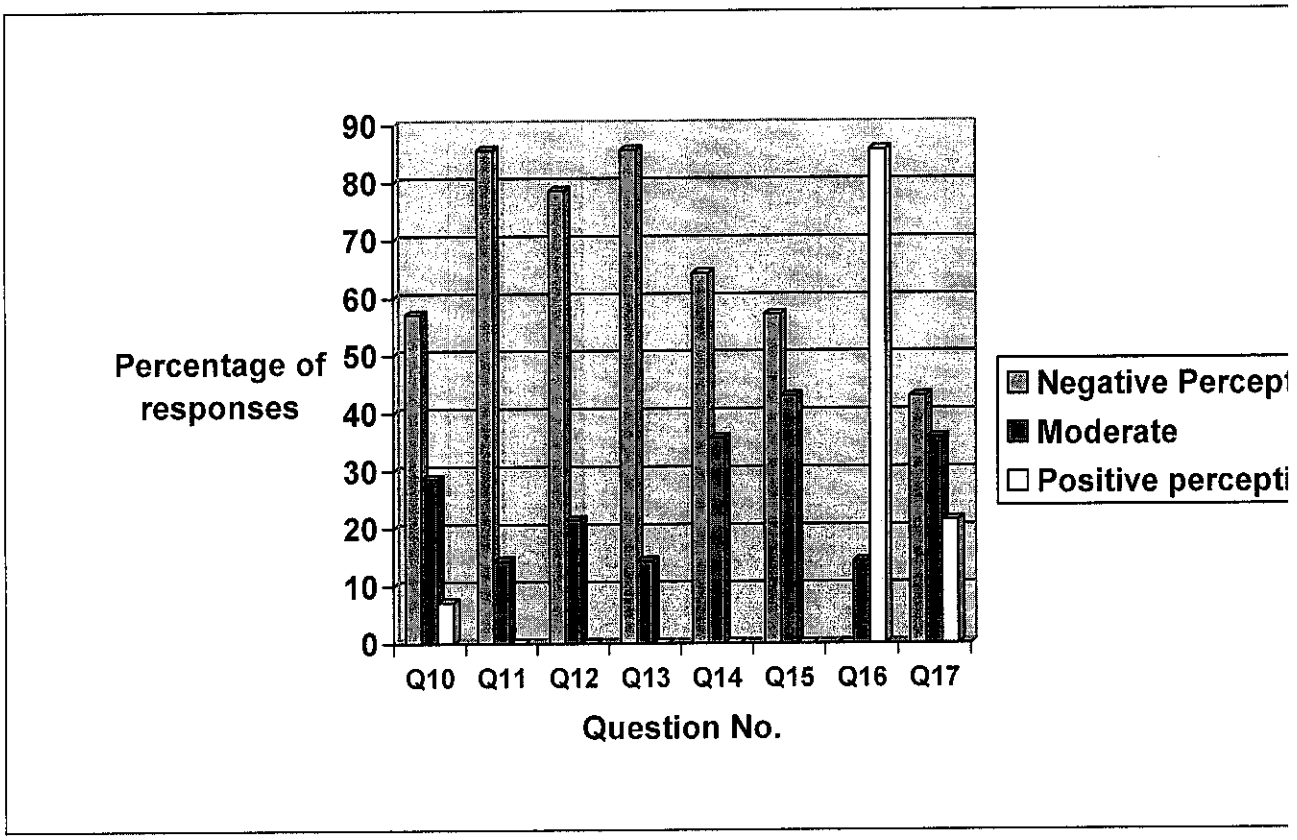


Figure 4.1.1b : Positive, moderate and negative responses for detail perception by HRM staff (question 10 to question 17).

Assumption : rank 1 (unsatisfactory) and 2 (needs improvement) is categorized as negative perception, rank 3 (moderate) for moderate category and, rank 4 (meets expectation) and rank 5 (as expected) are classified as positive perception.

The figure above, Figure 2, demonstrates the overall percentage of responses for question 10 to 17 which used scaling 1 to 5. Most of the responses are the negative responses except for question 16 which asked the staff whether the documents are categorized into its type (such as student personal document, staff personal document and other). It can be concluded that the current document management system is not helping the staff in retrieving and updating the documents. This can

be supported by alarming high negative response about the current document management system, which is manual listing system.

The relevance of developing the Document Searching System (DSS) for document physical location.

Data gathered :

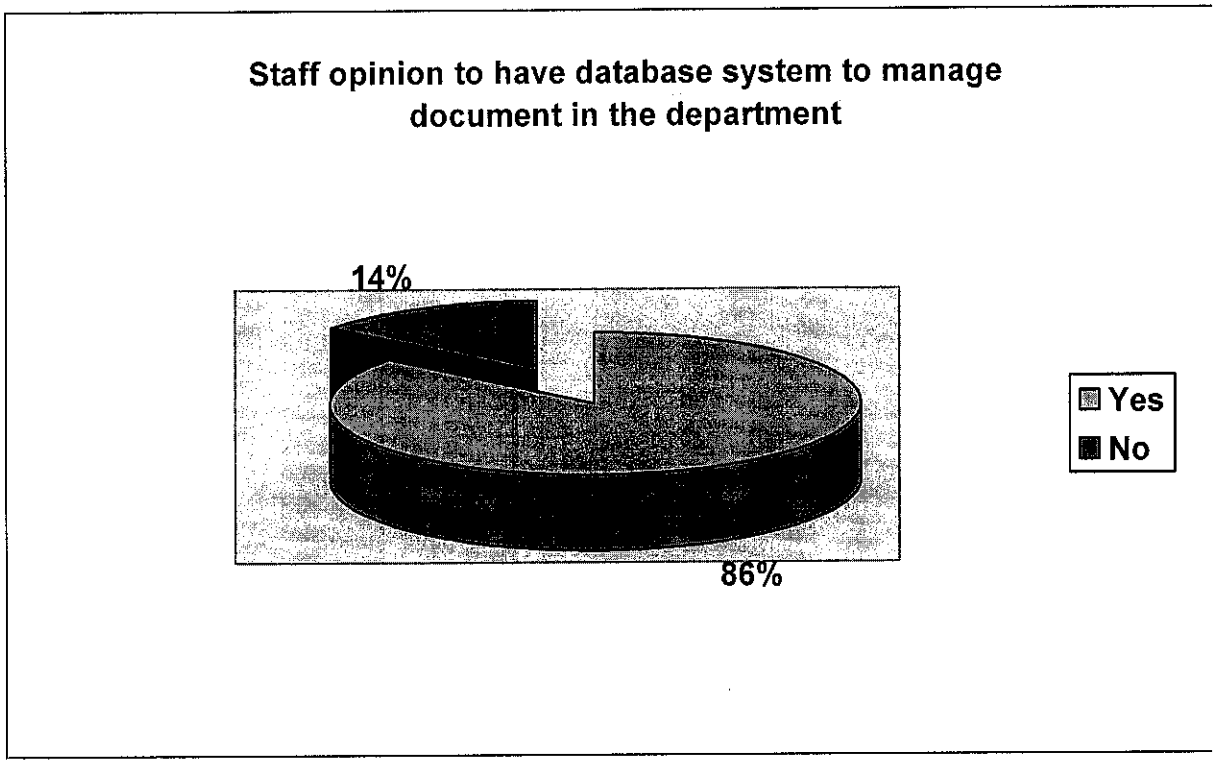


Figure 4.1.1c : The relevance to develop a database system to manage documents in HRM department

Discussion:

From Figure 4.1.1c, it seems that 86% of HRM staff felt that they need more efficient and reliable document management system. However, the other 14% of HRM staff felt that there is no need to have a database management system as they felt the current system is good enough.

Data Rationale :

According to survey conducted among the HRMA staff, most of the staff think that it is good and feasible to have a database system to manage the documents in the department. Among the factors that contributed to dissatisfaction of current document management system is because they tend to face difficulties to find the needed document.

Moreover, the department is always have many new documents to keep in the drawer and need to update the manual list. This will take some times because the controller needs to revise and update the list again every time there is new entry for new document.

The perception of current document management system – manual listing system

Data Gathered :

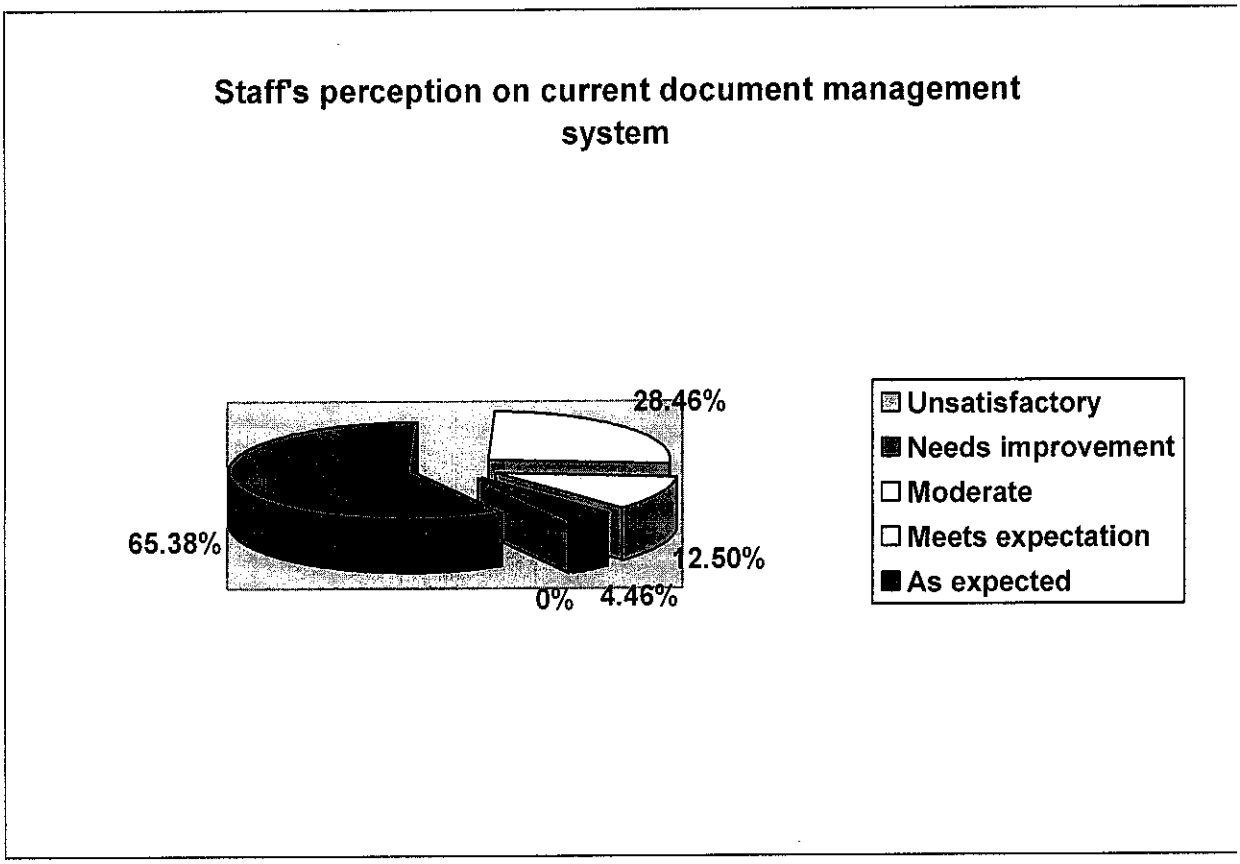


Figure 4.1.1d : Perception on current document management system – Manual listing system

Discussion :

From Figure 4.1.1d illustrates the percentage of 5 ranking for HRM staff's perception towards current document management system. It seems that most of the staff felt that the current document management needs improvement, which is 65.38%. 28.46 % felt that they are moderate with current condition and 12.5% taught the current document

management is meets their expectation. Whereas, 4.46% felt that current document management is as their expectation. Nobody felt unsatisfactory with current system.

Data Rationale :

According to the survey conducted, more than half of HRMA staff felt that the current document management needs improvement. Among the factors that contributed to this perception is because the staff felt the current system is difficult to update and not efficient to apply as the department kept many bundle of documents.

They also faced difficulties to retrieve the document information and take longer time in order to retrieve the information. Among of the important information are drawer and file order for each document.

Due to reliability concern, the staff felt that with a database system, the information can be managed efficiently and the data can be updated easier compared to current manual system.

4.2 PROJECT FEATURES

The Document Searching System (DSS) for document physical location is known have several features. They are :

4.2.1 Ability to search the document physical location and display some information about the document

This system is knows to have a features of searching method, which its search the information about the needed document including the location of the document is located.

4.2.2 Easy for updating new or existing document information

The DSS allows the user to update any new data for new document and also existing document if there any changes to the information reside in the database.

4.2.3 Track the document from 'View by' function

In this system, the user may view the document from three major parts, which are 'view by student personal document', 'view by staff personal document' and 'view by MOM document' to view the information about the document according to these major types of document in the department.

4.2.4 Database driven

This DSS is a database driven system where there will be a links between the system interfaces with the information in the database. It is easy for the user to use the database technique since any updates for the database contents will automatically reflect the view of the system. It is for updating data in database easily.

CHAPTER 5
CONCLUSION AND RECOMMENDATION

CHAPTER 5
CONCLUSION

5.1 CONCLUSION

As for the conclusion, I have outline benefits of implementing the DSS in the department. There are:

5.1.1 Optimize the document management and retrieval

The documents physical location can be managed efficiently and easier to retrieve the information about the document from the system. The information also can be updated easily.

5.1.2 Ease of use

This system is very easy to use and to navigate through it. The button and pages are prepared step-by-step, therefore the user will not lose in using the system. The pages and button are indicated with simple and understandable words.

5.1.3 Increase productivity

By using this system, it will reduce the time required to find the document's name from the list. The browser in the system will search for it when the user enters data about the document. It also saves time in order to find the document.

5.2 RECOMMENDATIONS

There are several recommendations that I would like to recommend for future enhancement of the research area and also the Document Searching System (DSS), which are :

5.2.1 Integrate DSS with database system for the documents

As DSS retrieve the document information from the data stored in the database, DSS also can be integrated with other database system that allow the user to keep the documents to the database directly. For example, the designer creates new database system which has online form to key in the personal data of the employees and students. Therefore, DSS can easily trace the document from the database and designer should enable the user whether to print or view the document.

5.2.2 Bigger search area and provide multiple search result to the user

As per current DSS, the user have to key in either staff number (for staff personal document), student ID (for student personal document) or MOM index number (for MOM document) to retrieve the document. The result will be displayed the matches filed for key in the number and the field in the database. In future, DSS have to allow the user to key in the keywords to search for the document and the system will display more than one search result.

5.2.3 Online Document Searching System

Current DSS is a database system and for future enhancement, it can be manipulated to be an online document searching system. This means that the user can browse through the system via internet. Any activities done to the system, such as updating information and search document is done via internet.

REFERENCES

REFERENCES

1. Website refer to http://imet.csus.edu [1]

2. Website refer to http://www.medcomp.com [2]

3. Website refer to http://www.apa.org [3]

4. Website refer to http://www.webs.uidaho.edu/docsearch/rules.asp [4]

5. Book refers to Hill, J. R. & Hannafin, M. J. (1997). [1]

6. Technical report refers to PsycINFO User Guide – Search Techniques (2002). [3]

7. Research by Ralph Kimball (2000) [5]

Hill, J. R. & Hannafin, M. J. (1997). Cognitive strategies and learning from the World Wide Web. *Educational Technology Research & Development.* [1]

Ralph Kimball (2000). Two approaches for handling a list of keywords [5]

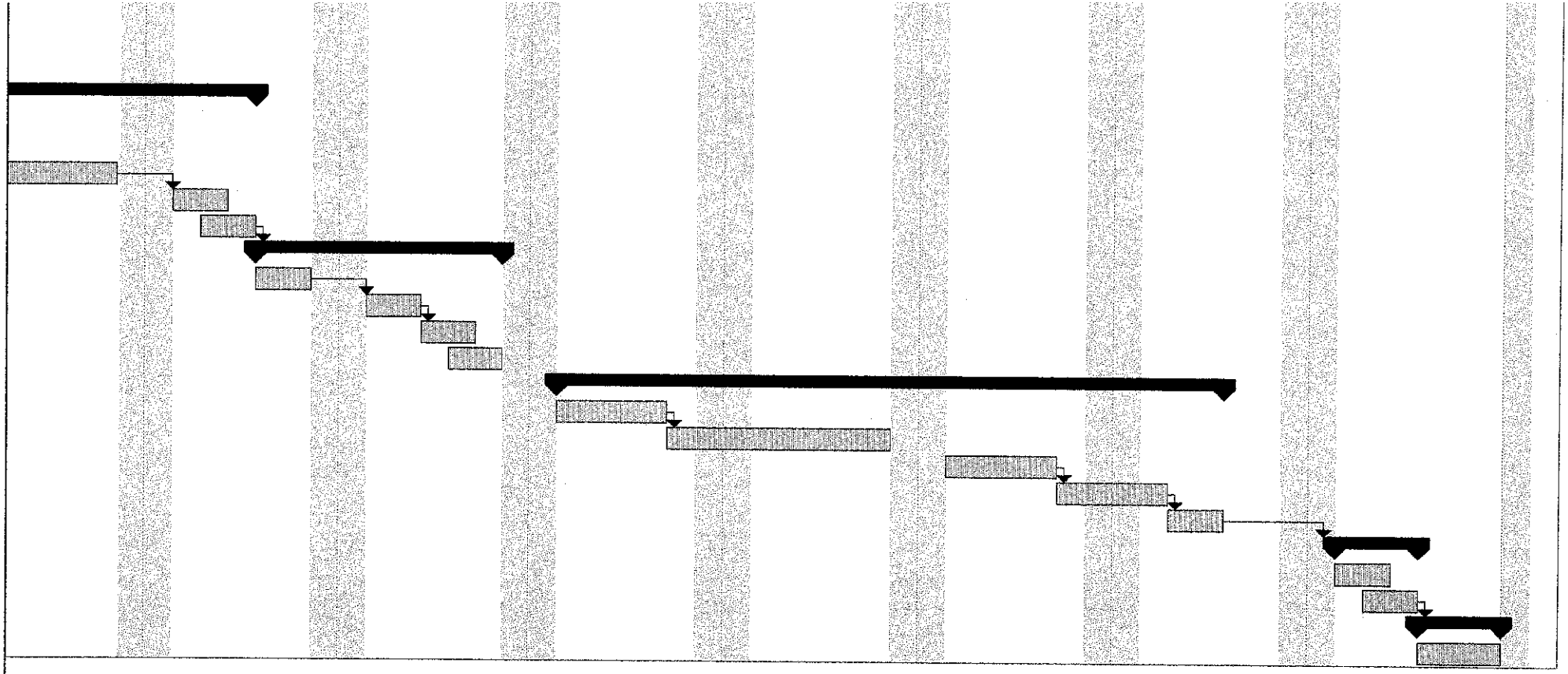
APPENDICES

APPENDIX 1
PROJECT GANTT CHART

First meeting with supervisor	1 day?	Tue 1/20/04
Meet with PFKSB's IT Executive to get ideas	1 day?	Wed 1/21/04
Submit the preliminary report	1 day?	Wed 1/28/04
Project Analysis	**21 days?**	**Wed 1/28/04**
Meeting with supervisor	1 day?	Wed 1/28/04
User requirements specifications	2 days?	Thu 1/29/04
Data gathering for the research elements	14 days	Tue 2/3/04
Analyse the data gathered to design the system	2 days?	Mon 2/23/04
Understand the requirements to be lined with data gathered	2 days?	Tue 2/24/04
Project Design	**7 days?**	**Thu 2/26/04**
Modelling	2 days?	Thu 2/26/04
Develop database for the system	2 days?	Mon 3/1/04
Design the functionality for the system	2 days?	Wed 3/3/04
Design the navigation map for the system	2 days?	Thu 3/4/04
Project Development	**18 days?**	**Mon 3/8/04**
Develop the form for the system	4 days	Mon 3/8/04
Coding and programming	6 days?	Fri 3/12/04
Create the database in the system	4 days?	Mon 3/22/04
Create the navigation bars for 'View by' section	2 days?	Fri 3/26/04
Create link from the database system to the address book	2 days?	Tue 3/30/04
System Testing	**3 days?**	**Mon 4/5/04**
Test the system in the local Domino Server	2 days?	Mon 4/5/04
Ensure that the system run smoothly	2 days?	Tue 4/6/04
System Implementation	**3 days?**	**Thu 4/8/04**
Sytem roll out and system maintenance and support	3 days?	Thu 4/8/04

Project: prelim gantt chart
Date: Thu 6/3/04

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline



Project: prelim gantt chart
Date: Thu 6/3/04

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

APPENDIX 2
QUESTIONNAIRES SET

EY ON DOCUMENT MANAGEMENT SYSTEM IN HUMAN RESOURCE DEPARTMENT IN UTP

fulfilment of the requirement for the Final Year Project (FYP).
uestionnaire is to help in getting feedbacks from HRM staffs on their perception of current
ı to manage the document in HRM department. Please take a moment to fill in the questionnaires.
you.

BACKGROUND DATA

Please answer each question by checking one box, and give examples is possible.

Date joint UTP : _____ (eg. Jan 2000)

Education : ☐ PhD ☐ M.A ☐ Degree

☐ Diploma ☐ Other (please specify)

Gender : ☐ Male ☐ Female

Race : ☐ Malay ☐ Chinese ☐ Indian

☐ Other(please specify)

GENERAL

Please answer each question by checking one box, and specify where required

Are you satisfied with the current document management system ?

☐ Yes ☐ No

Do you think that proper document management system is needed in this department ?

☐ Yes ☐ No

Do you face any difficulty to find the document whenever it's needed ?

☐ Yes ☐ No

Do you think it is feasible to have a system that can manage the information about the documents ?

☐ Yes ☐ No

Do you think that by having a management system, it will help a lot in order to retrieve back the document ?

☐ Yes ☐ No

Please answer each question by circling the number.

1 = unsatisfactory 2 = needs improvement 3 = moderate 4 = meet expectation 5 = as expected

HRM department is able to manage and keep the document information (such as drawer, file order, etc) manually

1	2	3	4	5

The document information is updated frequently

1	2	3	4	5

Manual list provide enough document information to enable HRM staff to find the document easier

1	2	3	4	5

Documents are filed and kept efficiently (such as using index number system)

1	2	3	4	5

Manual listing system help much in finding the document in its physical location

1	2	3	4	5

Any new document that keep in the department will be updated in the list of document

1	2	3	4	5

In current document management system categorized the documents into several type of document (such as staff personal document, student personal document, etc)

1	2	3	4	5

HRM department has good and efficient document management system

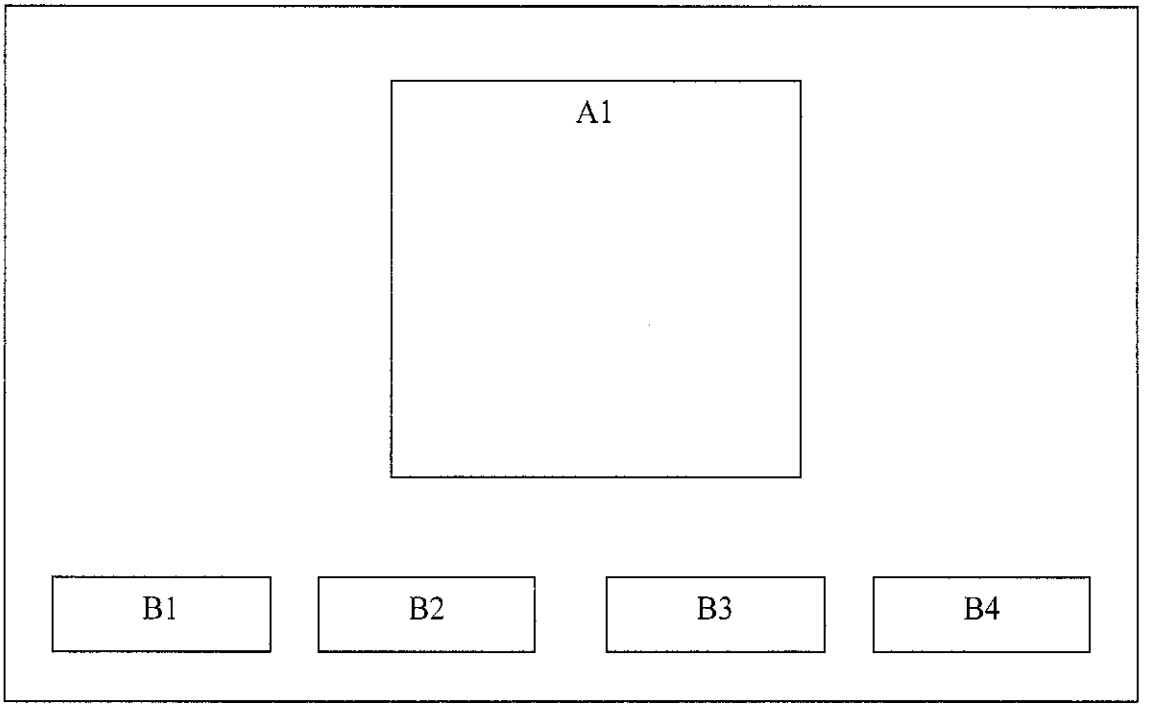
1	2	3	4	5

APPENDIX 3
SYSTEM'S STORYBOARD

APPENDIX 3

SYSTEM'S STORYBOARD

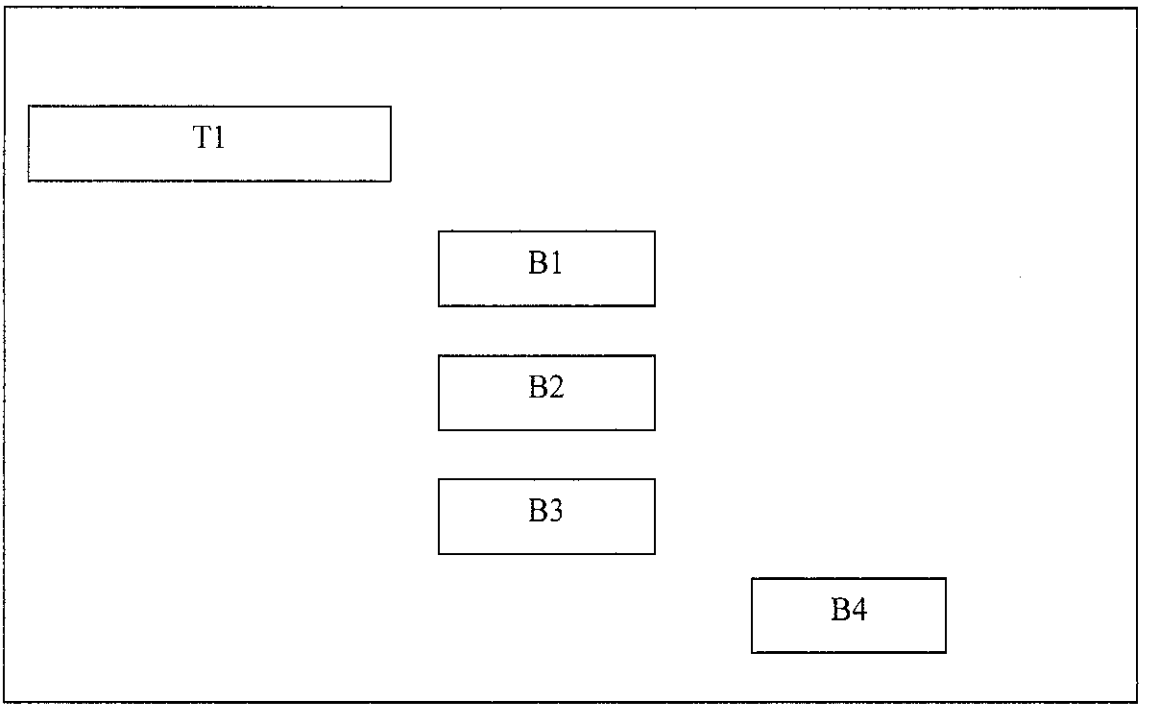
(1) Main page



Description :

Above illustration is illustrated the Main page of the system. A1 is for title and banner of the system, Document Searching System (DSS) for document physical location. B1, B2, B3 and B4 are the main menu button that provide in the main page. B1 represent 'Search' button and B2 represents 'New Document' button. For B3, it represents 'View Document' button and B4 for 'Exit' button.

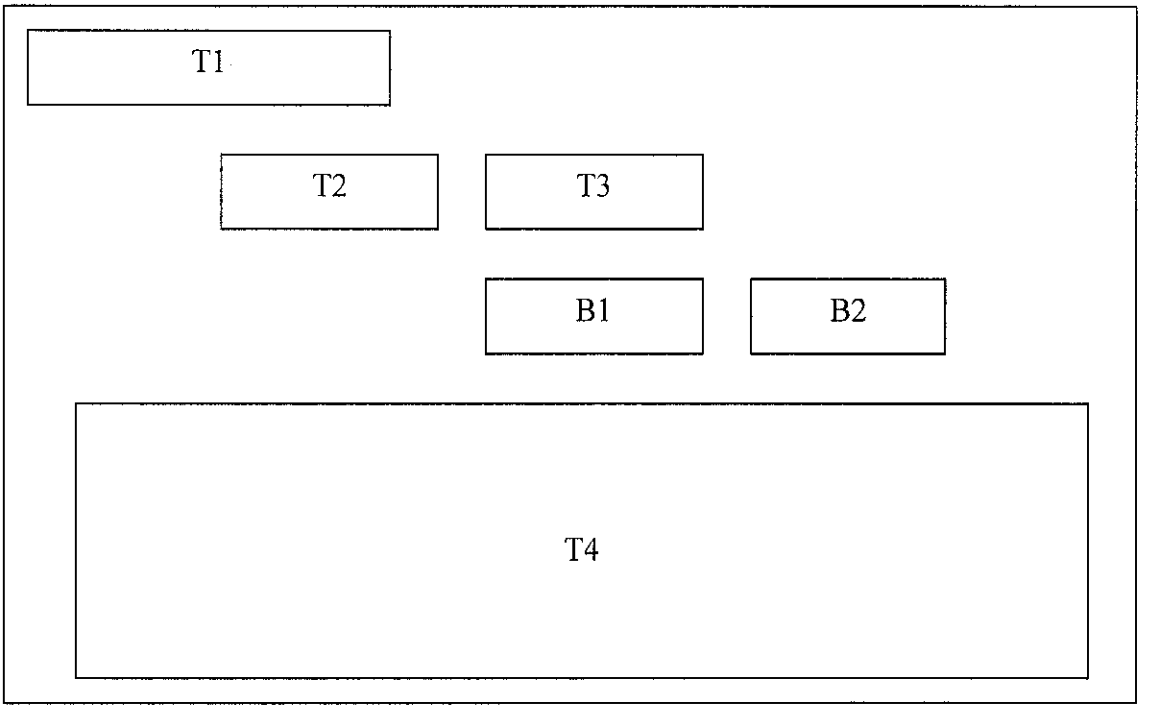
(2) Search Document, New Document and View Document menu page



Description :

Above illustration shows the Search Document, New Document and View Document menu page of the system. For each page, the arrangement of text and buttons will be same. T1 is the text that will tell the user about the action should be taken in this page. For example 'Please choose any type of document below to search the document'. B1, B2, B3 and B4 are the main button in these pages. B1 represent 'Staff Personal Document' button and B2 represents 'Student Personal Document' button. For B3, it represents 'Minutes of Meeting (MOM) Document' button and B4 for 'Home' button to go back to the main page.

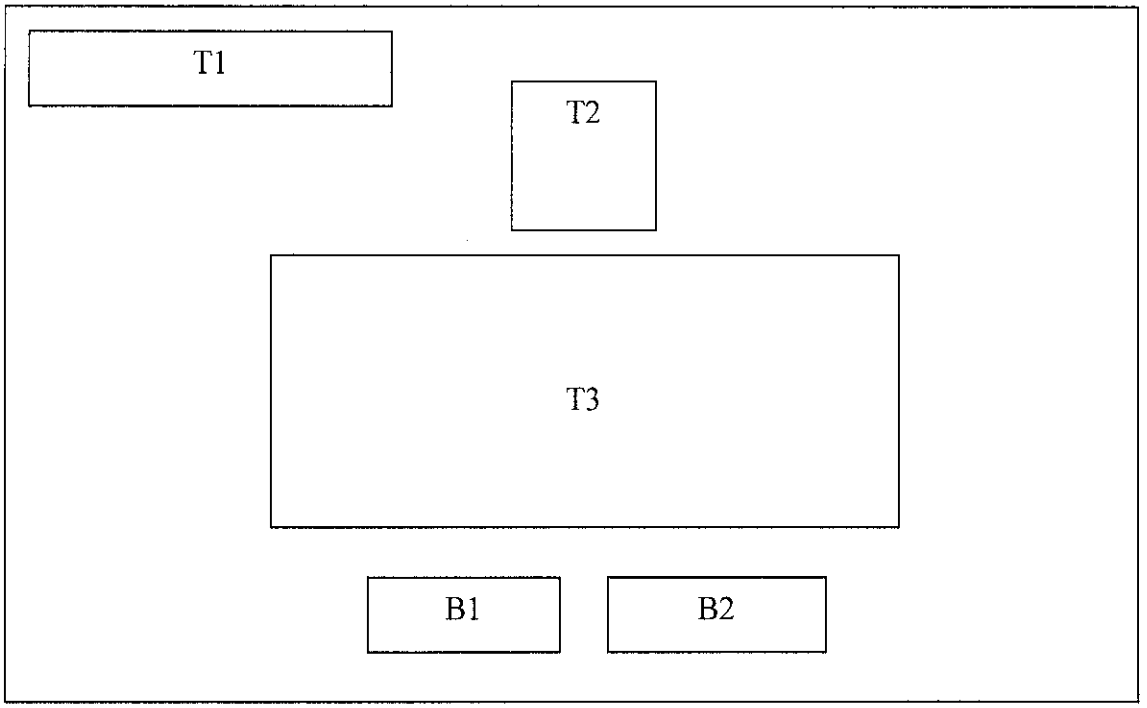
(3) Search Document page



Description :

Above illustration demonstrates the Search Document page of the system. For each search page, the arrangement of text and buttons will be same. T1 is the text that will tell the user about the action should be taken in this page. For example 'Please enter student ID'. T2 is text for 'Student ID' and T3 is where the user key in the student ID to find student personal document. B1 and B2 are the two buttons in these pages. B1 represent 'Search' button and B2 represents 'Reset' button. Search result will be displayed in T4. the search result will display the information about the search document including the location of the document (drawer and file order).

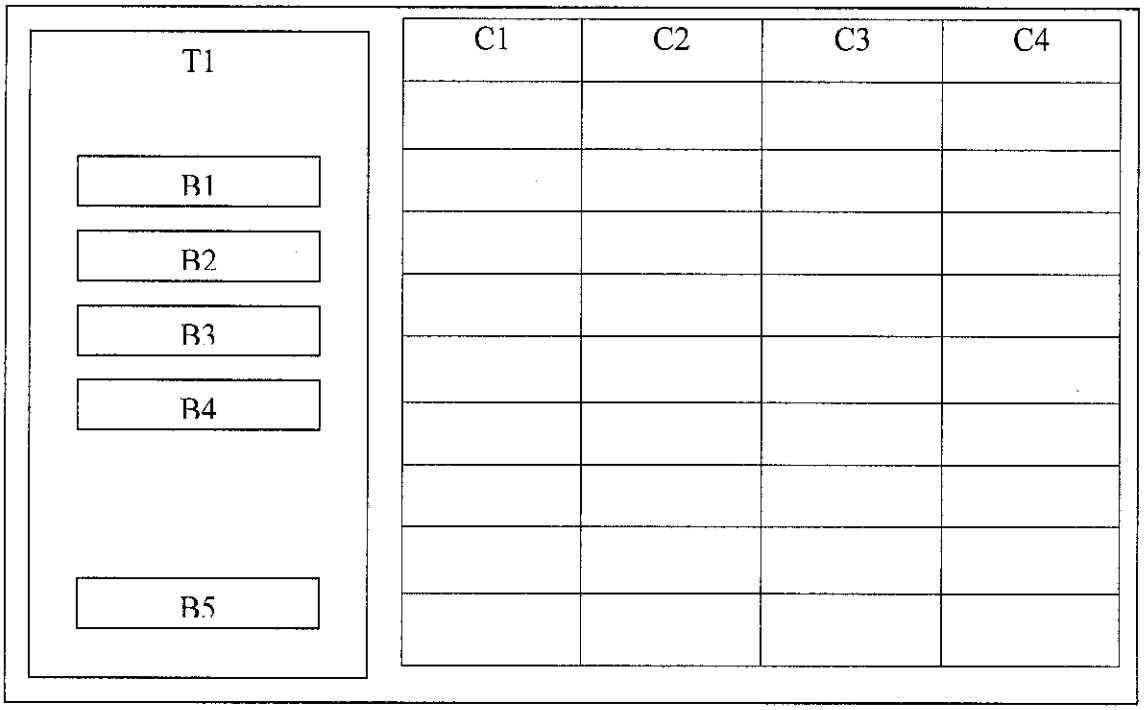
(3) New Document page



Description :

Above design is for the New Document page of the system. For each new document page, the arrangement of text and buttons will be same. T1 is the text that will tell the user about the action should be taken in this page. For example 'Please enter the document information'. T2 is for uploading any the pictures for staff and student (not applicable for MOM document) and T3 is where the user key in the document information such as name, ID number, drawer, file order and others. B1 and B2 are the two buttons in these pages. B1 represent 'Save' button to save this document and B2 represents 'Back' button.

(5) View Document page

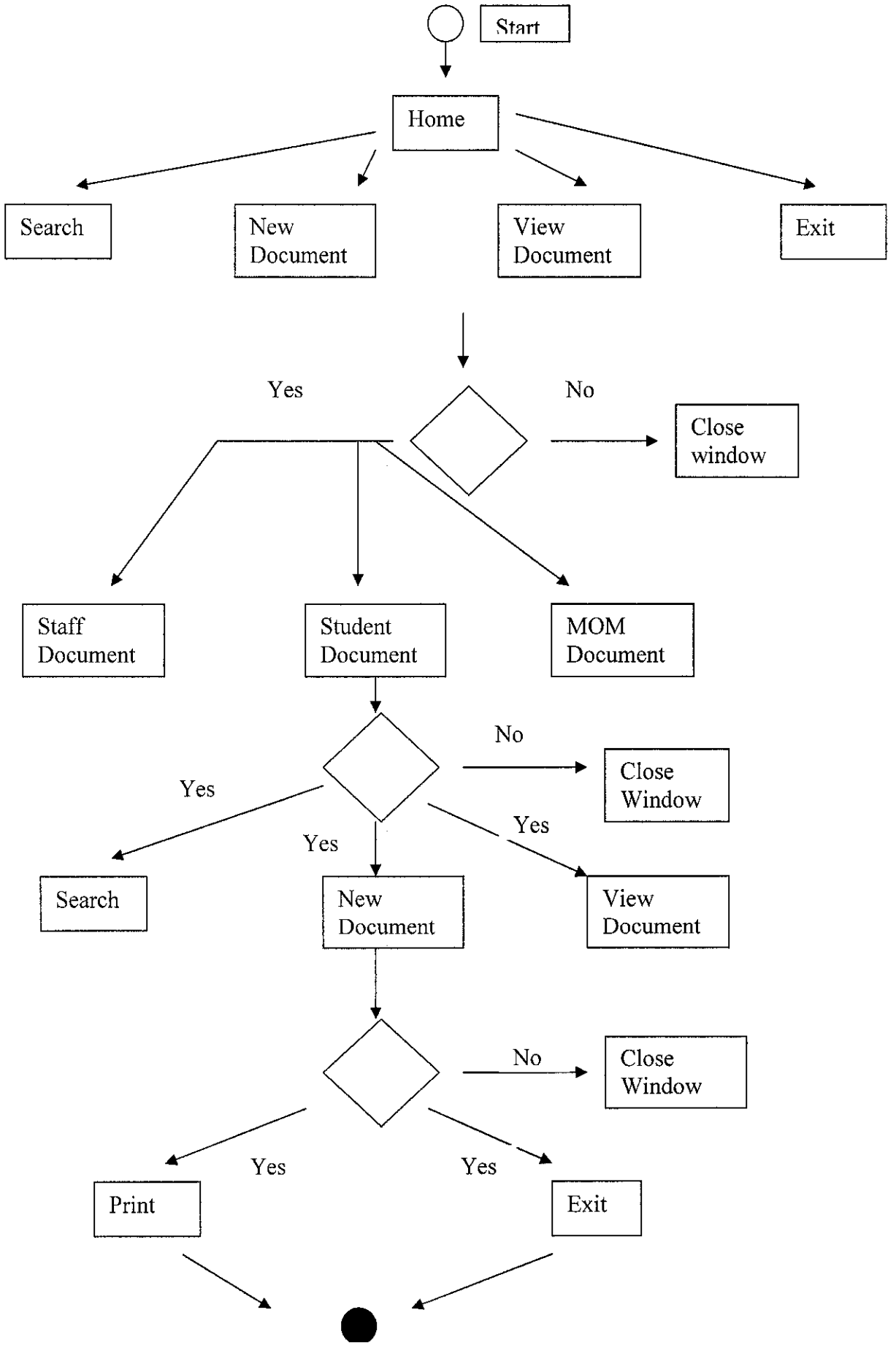


Description :

Above design is pictured for the View Document page of the system. For each view document page, the arrangement of navigator pane and display pane will be same. T1 is the navigator pane that will place the buttons to navigate through this view page. B1 is button for 'by Name' and B2 represents 'by ID' button. For B3, it represents 'by Drawer' button and B4 is button for 'by File Order'. While for B5 is 'Back' button to go back to the previous page which is View Document menu page. In the table illustrated above, it is the display pane, where the document information is displayed here. The pane will revise every time the user clicks the button on navigator pane. C1 will display name, C2 for ID (staff or student accordingly), C3 will show the drawer that the document reside and C4 shows the file order of the document in the drawer.

APPENDIX 4
SYSTEM'S FLOWCHART

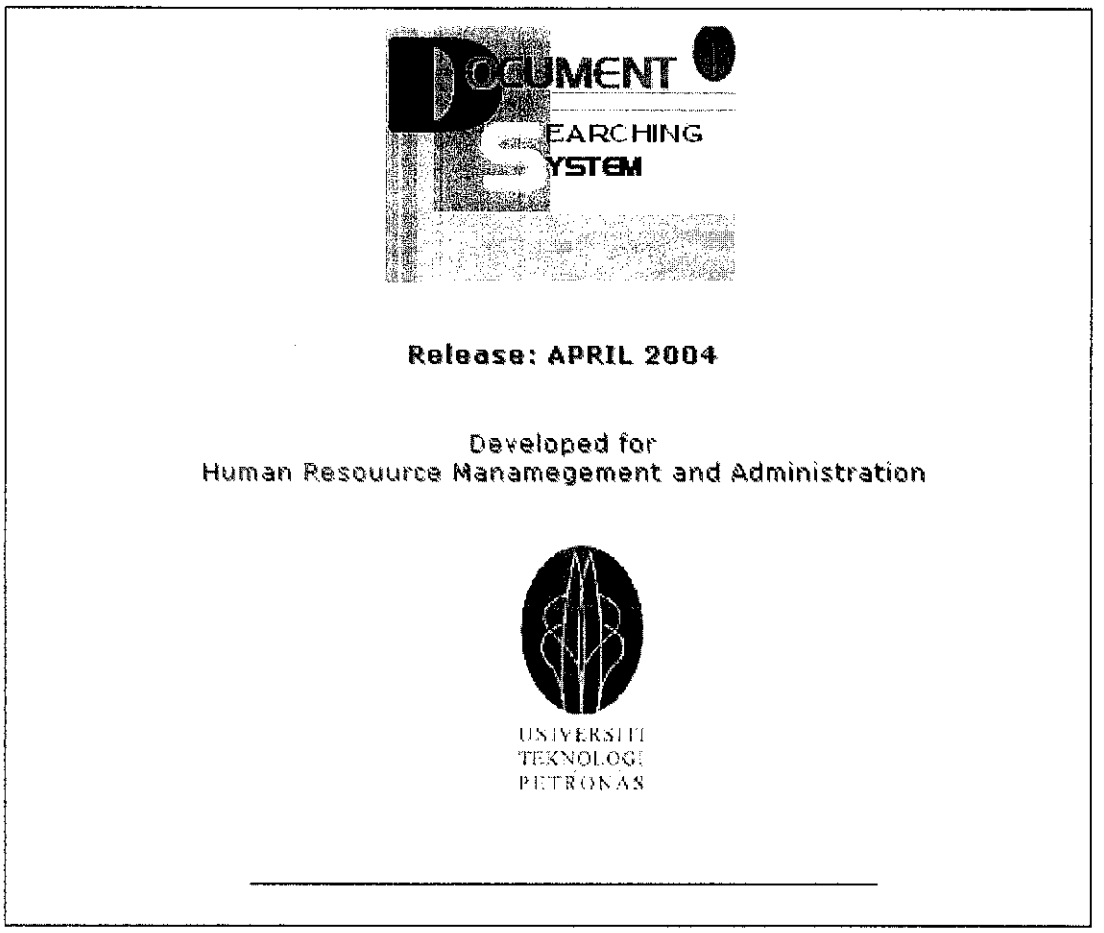
APPENDIX 4
SYSTEM'S FLOWCHART



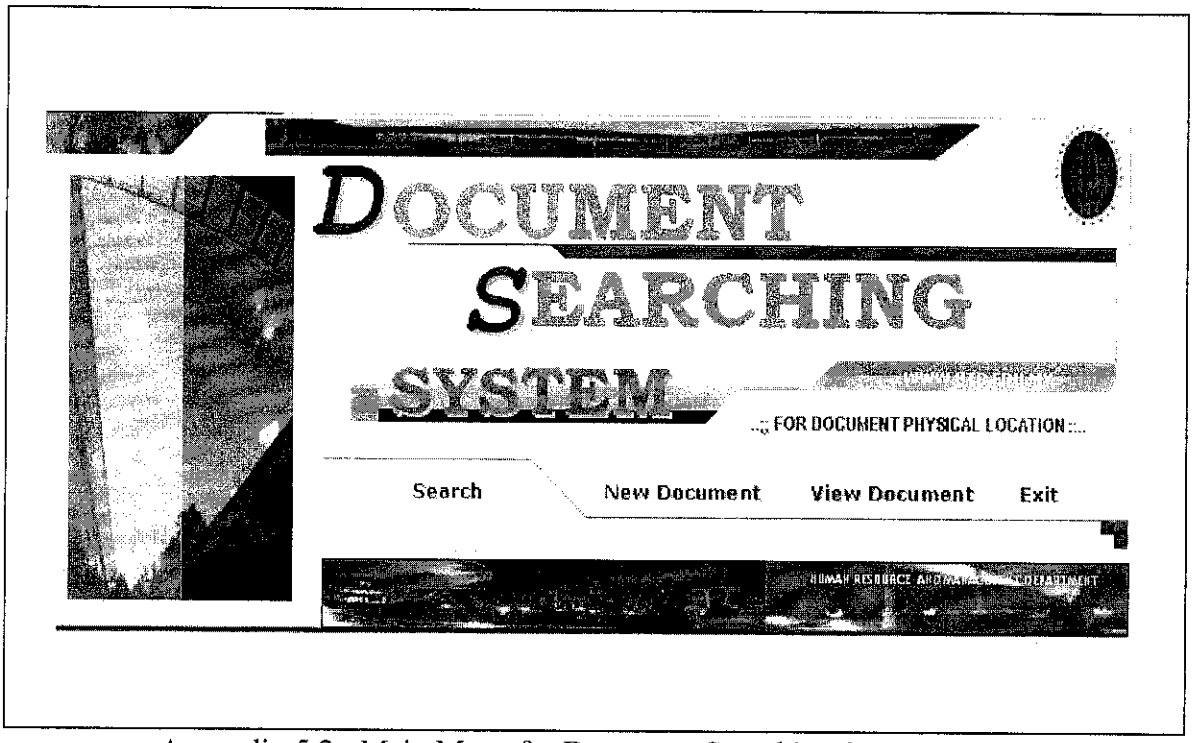
APPENDIX 5
FRONT END DESIGN – FOR STUDENT PERSONAL DOCUMENT

APPENDIX 5

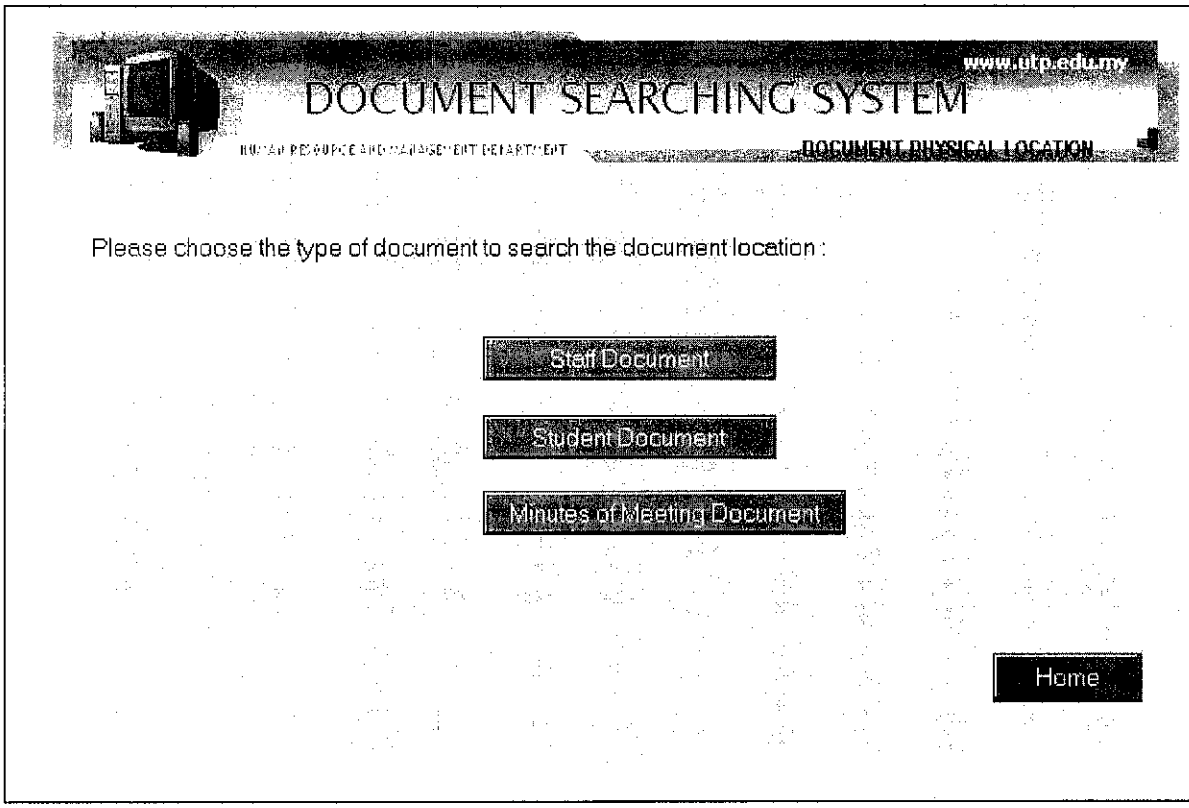
FRONT END DESIGN – FOR STUDENT PERSONAL DOCUMENT



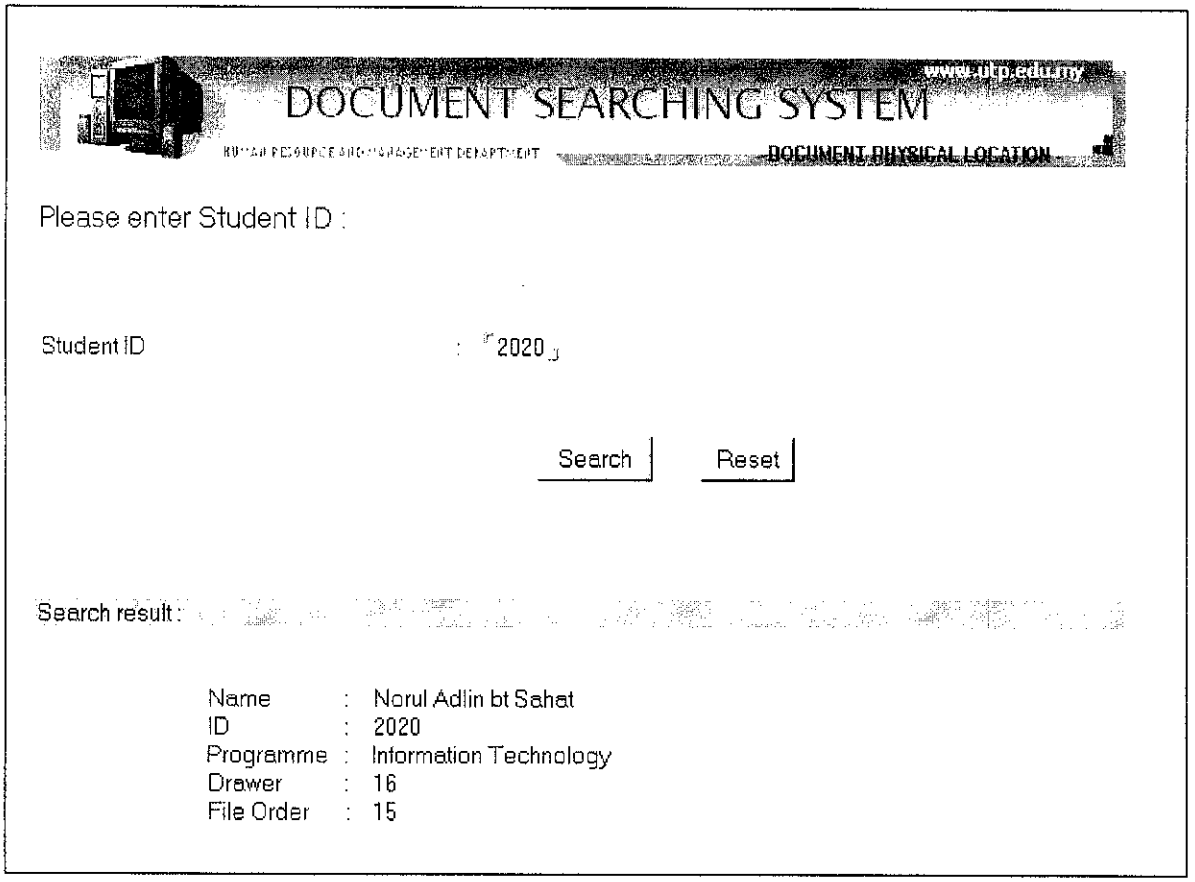
Appendix 5.1 About the database



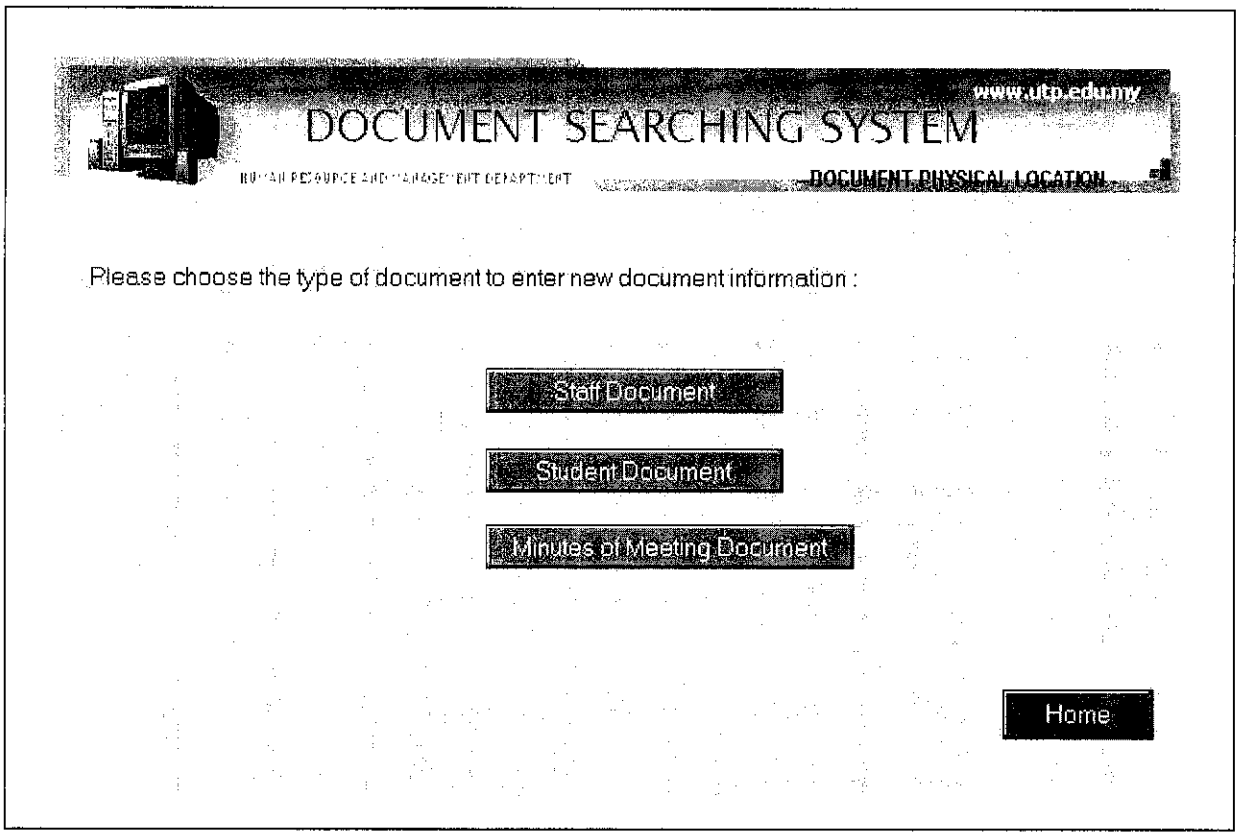
Appendix 5.2 : Main Menu for Document Searching System (DSS)



Appendix 5.3 : Search document navigator



Appendix 5.4 : Document search page (example for student document)



Appendix 5.5 : New document navigator

Student name : Nik Noorfadly bin Nik Yahya

Student ID : 1234

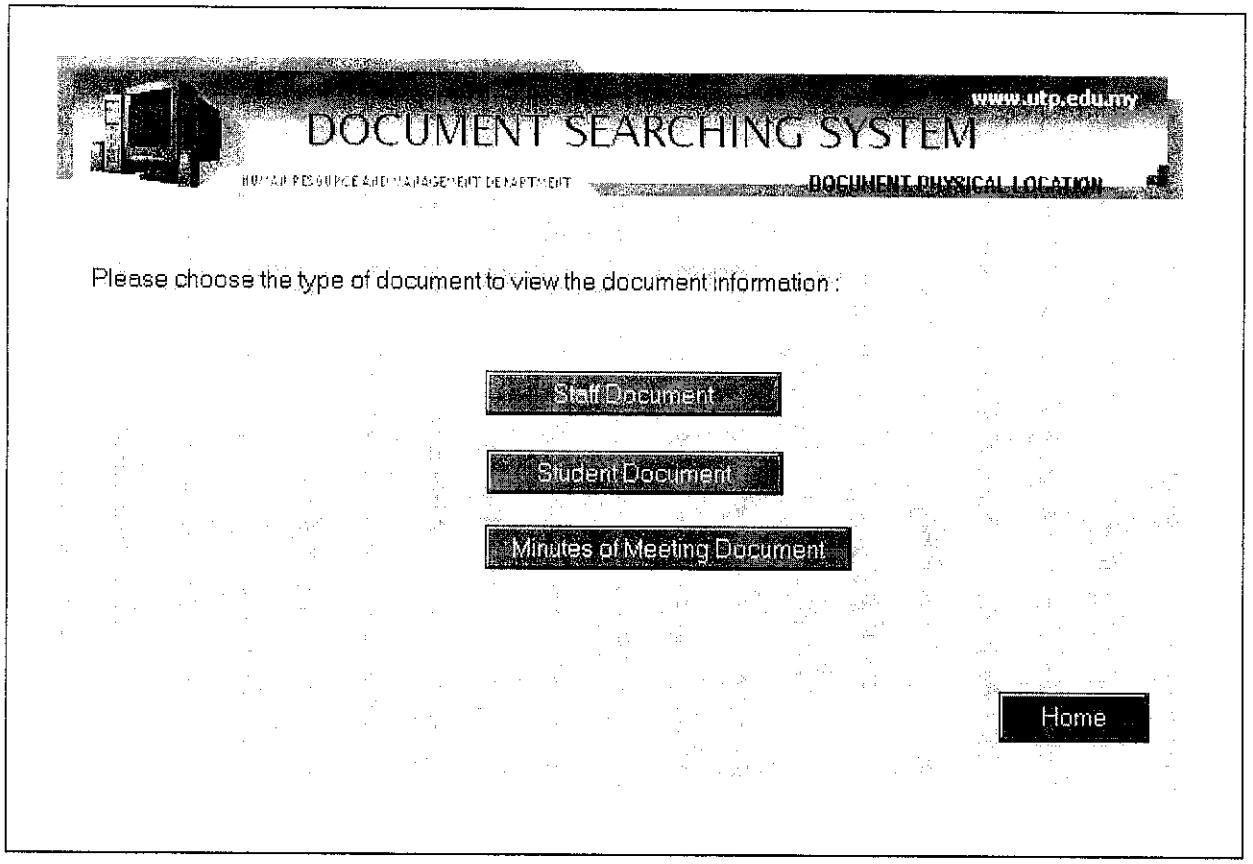
Programme : Chemical Engineering

Drawer : 23

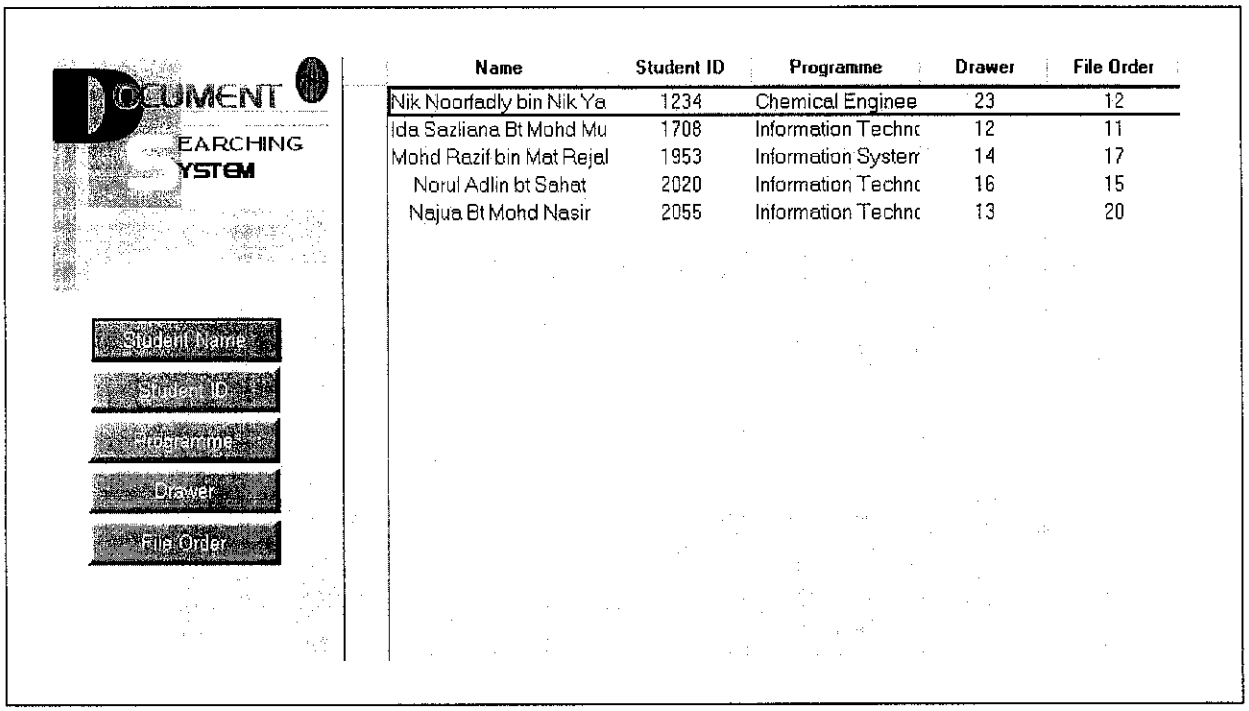
File Order : 12

Save Home

Appendix 5.6 : Form for new document (example for student document)



Appendix 5.7 : View document navigator



Appendix 5.8 : View document (example for student document)