FACULTY OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY OF MALAYA

ONLINE ORGANIZER

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ABSTRACT

This project is about the development of a web-based organizer system. It began with an early research that covers the finding and gathering of information about the system. Then, scheduling the developing process and doing analysis on the system's requirements and design. Coding, implementing, testing and maintaining come after that. Simultaneously, discussion about the problems faced and possible bugs found would be conducted, plus preparing a complete documentation of project. Overall, the whole project required one to understand the concept that lies behind a system development. Self-discipline, determination, literal thinking, decision-making and time management would be the elements to ensure its success.

The application is the best way to boost productivity and simplify our life. It integrates three functions: Contact Manager, Calendar Manager, Personal Information Manager. User can use this system to store records of daily task, event, contacts and thoughts. Furthermore, these key features can be instantly access with a colorful toolbar to enhance the application user friendliness.

It also enables people to keep data and manage it in a more secure and efficient way. With the current popularity and expansion or the Internet, web based applications become a new platform for the organizer system. The user can use the application as long as connection to web server and database server.

All sorts of related information involve the online organizer were deeply analyzed and research had been done into the subject. In The analysis phase a questionnaire survey was conducted on 40 random samples to determine the requirement of the system. In reviewing the tools to fulfill such requirement, Active Server Pages (ASP), Hypertext Markup Language (HTML), Dynamic Hypertext Markup Language (DHTML), JavaScript & VBScript are deemed most appropriate to develop the system.

Building an effective system is about more that just technology but it takes me to exercising critical thinking skills too.

ACKNOWLEDGEMENT

This proposal was written with the generous help of a great many people, who contributed time, energy, ideas, suggestions, reviews and a great deal of encouragement while it was being completed.

My utmost gratitude to Mr. Nizam Ayub, my thesis supervisor and Mr. Amirrudin, the moderator of my project. I appreciated the words of guidance and support. They relentlessly bombarded me with hundred of questions, making me aware of the learning process and forcing me to experiment with various methods of conversing knowledge into the implementing system and have eventually smoothen the process of brainstorming.

Highest salute to my beloved parents: Encik Mohamad Nor and Puan Rahamah Mihat for their support, love, patience and guidance.

Finally, to the many friends who have shared in this experience with me from the start. Thank you for being there unconditionally.

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1.0 Introduction

1.1 Time Management

"Time is like money; the less we have of it to spare the further we make it go"

J. Billings.

What is Time Management? Time management is a personal process of scheduling, anticipating and reacting in situations in a planned, predicted, effective and efficient manner.

1.2 Role Of Organizer

Organizer is a tool to help people organize and manage information and also time scheduling. It is importance to manage our daily tasks.

1.3 Project Overview

Online Organizer is an interactive web based application organizer that manage time and information.

Realizing the importance of time and information management, The system acts as a Personal Information Manager thus controlling the user personal information such as My Card Number and account number, manage contact information and to maximize to use of time by planning the activities precisely.

1.4 Project Objectives

1) The system is develop for the objective of simplifying and facilitating some of the tedious process in the traditional way of organizing information.

2) To build a robust, effective and easy-to-use web-based organizer available for everyone in the Internet.

3) Helps to manage the quality of time by planning a schedule, keep track of appointments, tasks and events.

4) It gives the users the ability to organize information all in a familiar, browser-based environment. Allow users to access it form any place at any time via Internet providing reliability and availability to them.

5) Provide a secure storage of users' data in the database system where only authorized user are allowed to access to with an assigned user password.

6) Help to overcome user's confusions and problems by providing technical support section that allows users to summit their problems, suggestions or feedback about the system.

7) Educate users by providing online tutorial or help files on how to use the Organizer.

8) Allowed public user to view sharing schedule.

1.5 Project Scopes

The scope of project defines the overall requirement of the project and the aspects that are included in the project. It is used as a guide for the system development. It outlines extent of the project; targeted audience and other requirements will be stated in this segment.

1.6 Project Aims

To build :

- ✓ A friendly and interactive user interface. To provide a comfortable environment for users. Equipped with sufficient error detection and friendly confirmation messages.
- ✓ Easy search and retrieval for information. A system with efficient search on interactive features to ensure an easy method of search and retrieval of information will be encompassed.
- ✓ Last but not least, it convince users with the scalability and reliability of the system because it is developed with an established powerful tool

1.7 Project Constraints and Limitation

- E-mail does not provided by the system.
- No collaboration with the Project Management System. Thus it is not suitable for the company environment.
- It can only be accessed online. The users have to get online in order to access the system.

1.8 Target audience

Authorized users

Users may be range of general user such as students, lectures, workers, pensioner, housewife and others. However all these users should be at least computer literate or have a bit knowledge if using computer and the Internet. The user is suppose to sign up for an account.

Public Users

This type of user is 'glancing' over the sharing schedule (public schedule) that has been set by authorized users.

Administrator

System administrator will be the one managing and maintaining the system. Administrator will monitor the system database and assign a specific storage to the users. There will be a page loaded with a counter to measure the numbers of users connected to the server. Administrator also responsible for updating the system and debug any error occur during the run time to provide a reliable environment. Administrator will also define the users' status and keep them updated with any new events happen in the site.

1.9 Planning and Scheduling

Project schedule is very important for the success of a project. A succesful system project will be developed if developers understand the scope of the project, the task to be accomplish and the schedule to be followed.

The project schedule is the operating timetable of the project. It serves as the fundamental basis for monitoring and controlling project activities. In a project environment, proper scheduling function is of paramount importance because lack of continuity of day to day operations and often present much more complex problems of coordination.

1.10 Project Schedule For Current Project

The proposed project (my final year thesis project : to build and Online Organizer) will be carried out in two stages, with each stage has to be complemented within the period of 2 semesters respectively.

The first stage of the project is more on the requirement analysis, defination phase and system and software design phase according to the Waterfall SDLC model with prototyping. Therefore, the tasks have to be done in this stage are to determine the scopes and objectives of the project, project planning, literature review, system analysis, system design and also to build a system prototype.

In second stage, the project will carry on with the coding, unit testing and implementation testing, integration testing and the operation and maintenance phase (as recommended in the Waterfall Model). The task to be performed are evaluates system prototype, system coding and testing, system implementation and maintenance.

Month	6	7	8	9	10	11	12	1	2	3
Assigment										
Specification Analysis										
Design										
Coding										
Testing										
Debungging										
Documentation										

6 Refers to June

7 Refers to July

8 Refers to August

9 Refers to September

10 Refers to October

11 Refers to November

12 Refers to December

1 Refers to January

2 Refers to February

3 Refers to March

Table 1.0 : Gantt chart depicted the project schedule

1.11 Development strategic

This section breakdown structure consist of sections from the project proposal:

Stages	Activities
Review of literature	▪ Determine the project objectives
	▪ Determine the scope of project
	▪ Estimate the possible limitation of project
	▪ Analysis and research of the project
Select suitable tools	▪ Select the most convenience softwar for developing
System planning	▪ Determine the requirement for project
	▪ Project scheduling
	▪ Initial assessment
	▪ Possible effect of the system
System design	▪ Designing the flow of the system
	▪ Designing the database to meet the specification
	▪ Determine the detailed system (modules)
	▪ Build the system with all the designed requirement

System Implementation	▪ Coding each module
	▪ Coding and integrate overall modules
System Testing	▪ Insert dummy data for testing
	▪ Integrates all the modules
	▪ Test out and organize the possible output
	▪ Detect all possible error
System Debugging	▪ Correct all errors which detected earlier
	▪ Debugging
	▪ Rearrangement if necessary
Documentation	▪ Create documentation fur future enhancement
	▪ Create user manual

Table 1.1 : Development strategic

CHAPTER 2 : LITERATURE REVIEW

2.0 Introduction

In this course of literature review, we experimented and learned all sorts of information that could improve the understanding throughout the process. Review of literature is a background study about the knowledge and information gained to develop this project. The purpose of this literature review is to get a better understanding on the project. On the Bottom line, the literature review also enables the developer to do comparison among the existing systems.

2.1 Approach

There are number of methods used to collect information throughout the studies. One that cannot hide is the Internet websites which provide tremendous information on things such as software to be used, existing systems and others.

2.2 Description On Related System

2.2.1 Traditional Way Of Organizing (Paper Based Organizer)

Advantages

- Bigger view – It allows the user to have a bigger view on their details in the diary.
- Space specified for every use – gives room to write notes, record phone call and all the miscellaneous of information which would otherwise tempted to jot down on scraps of paper.
- Additional Information attach – conversion system, weight and measures, world time chart

Disadvantage.

- Carried all the time
- Facing the possibilities of loosing the organizer.

2.2.2 Web based organizer

MSN calendar

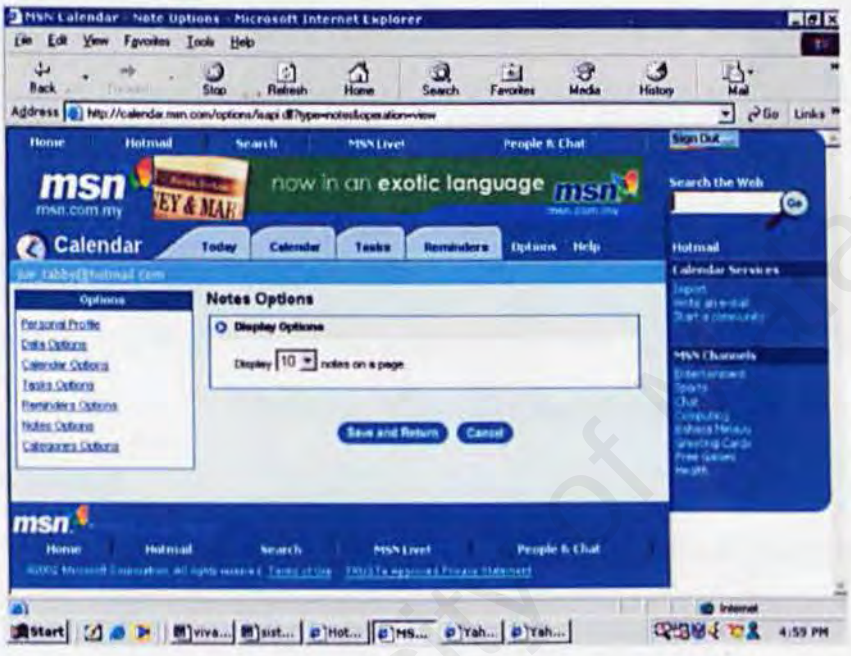

Figure 2.0 : Screenshot of MSN Calendar

Features

- User friendly Interface
- Support multi languages

Yahoo Calendar

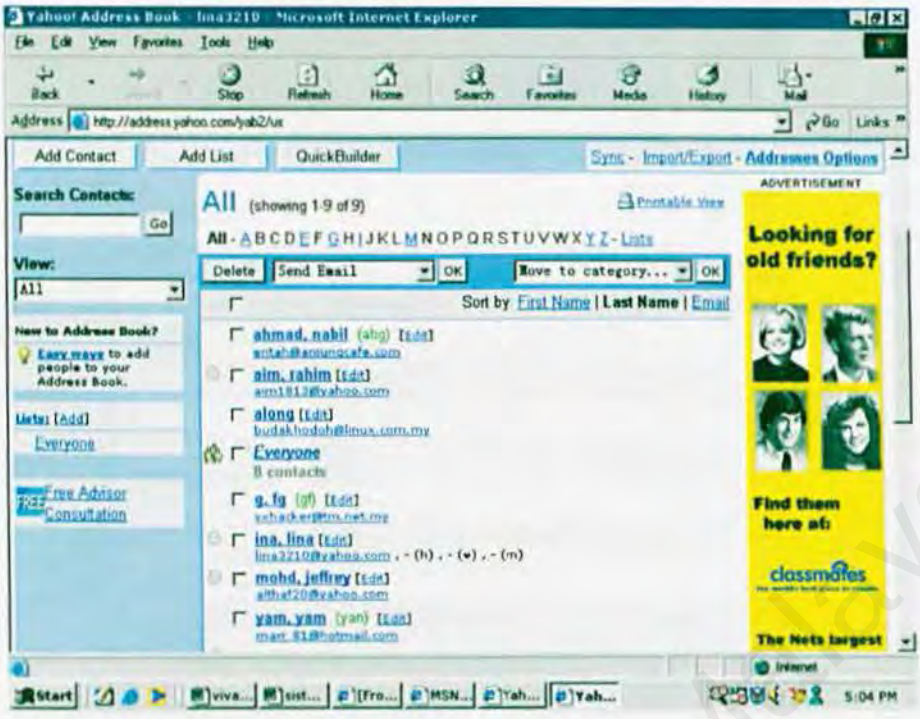

Figure 2.1 : Screenshot depicts Yahoo Calendar

Features

- Support synchronization with Outlook and Personal Digital Assistance

Northrock Communication

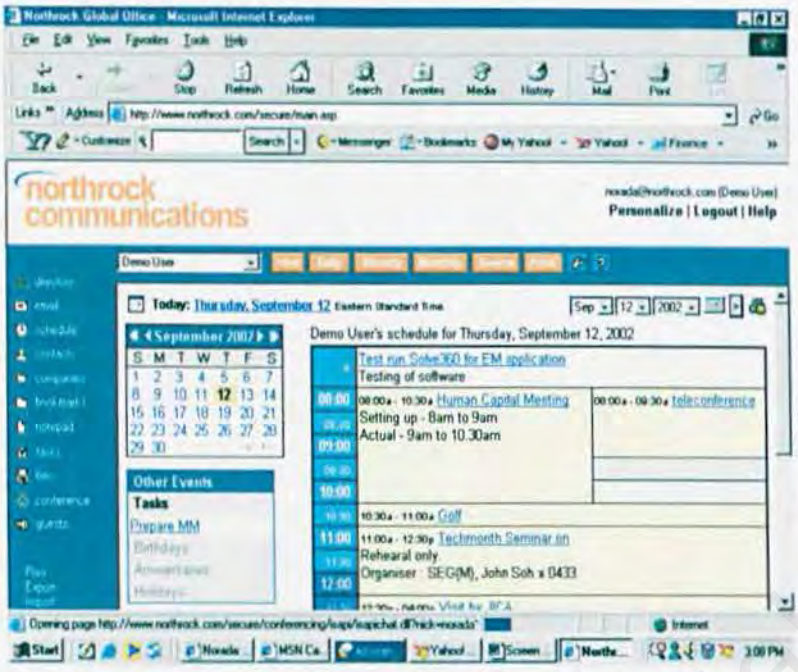

Figure 2.2 : Screen Shot of Northrock Communication organizer

Features

- The system support Project Management System
- Manage projects and tasks across their entire team with ease
- Includes an advanced web based email system that includes all the powerful features that you expect from a market proven product like folders, routing rules, Multilanguage spell check, vCard, search, file attachments, personalized email (e.g. you@yourcompany.com), and rich text
- Not suitable for other users such as student

CHAPTER 3 : METHODOLOGY

3.0 Introduction

Careful planning is required for project development process and the process of determining the project life cycle. This will help to avoid the problem such as schedule slippage, cost overrun, poor quality of product and high maintenance cost after the system implementation. Thus, the most important activity in the project planning phas is actually determining or planning the project development process.

3.1 System Development Life Cycle (SDLC)

System (software) development generally takes the form or a life cycle. We refer to this life cycle as the system development life cycle (SDLC). All systems go through generic stages in their lifetime. The stages are shown in the figure 3.1.

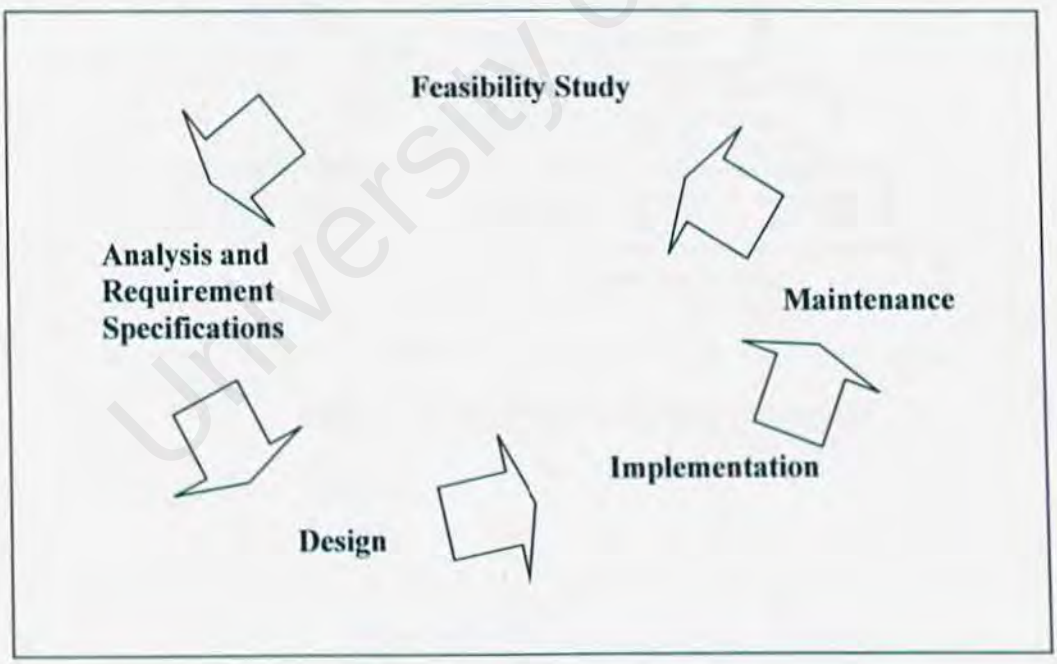

Figure 3.0 : System Development Life Cycle (SDLC)

The software engineering process consists of a set of steps that encoompass methods, tools and procedures. These steps are often referred to as software engineering paradigms or software life cycle models.

3.2 Software Process Model : The Waterfall Model with Prototyping

Waterfall with Prototyping is the suitable approach used to develop the system. The Waterfall model is the most commonly known model. It is easily understood and convenience to the developers.

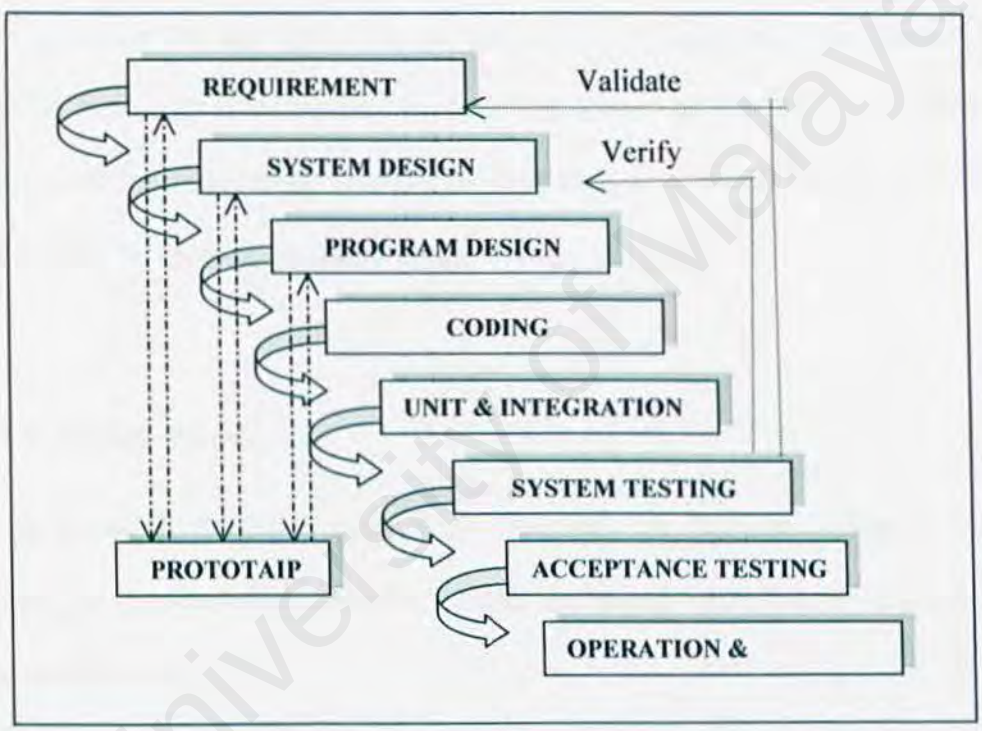

Figure 3.1 : Waterfall Model with Prototyping

The waterfall model views the software process as being made up of a number of stages such as Requirements Specification, Software Design, Coding and Unit testing, Integration and System testing, and Operation and maintenance. After each stage is defined it is 'signed off' and development proceeds to the following stage.

Prototyping moves the developer and customer toward a "quick" implementation. Meetings between developer and users are conducted to determine overall system objectives and functional and performance requirements. The developer then applies a set of tools to develop a quick design and build a working model (the "prototype") of some element(s) of the system. The user "test drives" the prototype, evaluating its function and recommending changes to better meet user needs. Iteration occurs as this process is repeated, and an acceptable model is derived.

3.3 Feasibility Study

In this phase, the feasibility study of the customer's specifications is done, in which the project members determine the whether the requirements can be implemented and tested or not.

3.4 Requirement Analysis

The system's requirements, constraints and goals are established in consultation with the customer. They are then defined in a manner, which is understood by both customer and development team. In this system, the requirement analysis begins with requirements gathering concentrating on the purpose and scope of the prototype.

3.5 Software Design

The systems design process divides the requirements to either hardware or software systems and establishes an overall System Architecture. Software design involves representing the software system functions so that they may be transformed into one or more design entity. A design focusing on representation of the core aspects or some selected features of the system is prepared and documented.

3.6 Implementation

The design is implemented as per the architecture and criteria defined and the individual units or modules are tested in dependently.

Test Plans are prepared and the prototype is tested using the Test Plans. The students of the faculty, personal users and lecturers will test the system.

On completion of testing the prototype is reviewed and evaluated by the developer and users against the overall objectives and requirements identified. Based on feedback from users and the requirements further features are identified to add to the prototype and the product is refined by repeating the above cycle until the full-fledged working model evolves. However, if the users accept the product, the iterative process is completed and further activities such as implementation and documentation are initiated based on the users requirements.

3.7 Integration and System Testing

The individual program units or programs are integrated and tested as a complete system to test the interfaces. The complete testing of the system is done as one unit from the customer's point of view to ensure that the software requirements have been met. After testing, the software system is delivered to the customer.

3.8 Maintenance

Maintenance involves correcting errors which were not discovered in earlier stages of the life cycle, improving the implementation of system units and enhancing the system's services as new requirements are discovered.

3.9 System Study

The task involve in this stage are as follows:

- Information Gathering
- Model data requirement
- Definition of Functional Requirements
- Determine environmental requirements

3.10 Information Gathering

During this stage, we will gather information from the relevent users on what is required for the new system. Information, which will be gathered, are as follows:

- Overview on Functionality
- Details information on processes involved

- Output requirement, this will include the definition of the reports

In this stage, what needs to be identified would be the input, the processes and the outputs of the system. In order to obtain information, various fact-finding exercises need to be identified. One of the most effective means to gather this information is to conduct detailed interviews with the users. Others would surfing the internet in seeking of relevant information, brainstorming and role playing.

As the Online Organizer is a new system, it is important for the developer to find about the available information from the current information system and to pay particular attention to the information which is to be put onto the system.

The detailed interview tool must be planned properly in order for this exercise to be beneficial. A list of people that must be interviewed must be prepared in advance. The list should consist of people chosen from the various field such as the students, workers, house keeper and others.

3.11 Model Data Requirement

The objective of the information gathering phase is to obtain Model Data Requirements. The steps which are necessary in obtaining the Model Data Requirements are as follows:

- Develop conceptual data model
- Produce data model

3.12 Definition of Functional Requirements

In an effort to define the functional requirement, we would have to perform the following activities:

- Create system context diagram
- Produce functional model

3.12.1 Create System Context Diagram

A context diagram comprises one process box for the entire system together with the terminator and the data flows that pass between them and the system. The purpose of creating this context diagram is to identify and examine the interfaces between the terminators and the system. The context diagram will show the various inputs within the Online Organizer, how the information will be processed, the sources of the information and where the information is stored.

3.12.2 Produce Functional Model

To produce a functional model, a study of the functionality requirements of the system needs to be performed. This exercise seeks to identify and to document all the main tasks that will be done by the system.

3.13 Environmental Requirement

In determining the environmental requirements, definition of security and control requirement will be performed. Security refers to the protection of data against unauthorized disclosure, alteration or destruction. This is to ensure that the users are only allowed to do the things they are supposed to do. For the control requirement of

the application, the system will ensure that authorization is granted only to legitimate users.

CHAPTER 4 : SYSTEM ANALYSIS

4.0 Introduction

System analysis is a problem-solving technique that decomposes a system into its component pieces for the purpose of studying how well those component parts work and interact to accomplish their purpose. The sentence above is one of the definitions for the term 'system analysis'. System analysis is very important for the developers to build effective, complete and consistency system models and increase the productivity and product quality relatively. Different type of system analysis methods and models are recommended to tackle different type of problems and also different aspect of a problem.

4.1 Functional Requirement

Functional requirement is a description of activities and services a system must provide, it describes the interactive between system and the environment. Functional requirement are functions or sub-system that are mandatory to the system. The absence of the functional requirement will make the whole system incomplete. In the case of Online Organizer, the functional requirement are listed as below:

- The system is able to add, update and delete all event, tasks
- The system is able to perform queries (search)

4.2 Non-Functional Requirement

Non-functional requirement is essential definition of the system properties and constraints under which a system must operate. It is a description of other features, characteristics and constraints that define a satisfactory system.

Mostly system users might expect certain degree of non-functional requirement. Some of them are user friendliness, efficiency, short loading and respond time, reliability, accuracy, modularity, maintainability, accessibility, security and expandability.

4.2.1 User Friendly

User friendliness of the system is important not only to ensure users believed the system as a first choice to organize time management but to guarantee the correctness of information captured. Certain precaution and standard application graphics interface used just to have the system is easy to use and acquire all the details successfully.

4.2.2 Efficiency

A system is said to fulfill the efficiency requirement when its process or procedure can be called, accessed and functioning well to produce or output at a pace or speed acceptable by the users. Furthermore, all that has to happen in an unlimited of times after the system implementation whenever the users need it. The outcomes of the same process or procedure with the same input must be similar every time being called.

Efficiency of the system must be obliged in order to make it a reliable service in the future. The system will undergo a best process flow expected with highest rating of scalability. For this reason, I had design a full scale of system development, which will be described later on.

4.2.3 Short Loading Time and Response

A system must be able to provide short loading time and respond time. Slow loading and respond time might cause the users to wait and discourage them from using the system again. However, the system performance depends on the hardware that being used.

4.2.4 Modularity

Modularity means the system is broken into small modules so that distinct functions of objects could be isolated from one to another. This will make the system testing and maintenance process easier because of the processes can be done portion by portion.

4.2.5 Maintainability

This may be defined qualitatively as the ease with which software can be understood, corrected, adapted and enhanced.

4.2.6 Expandability

This criteria is discuss based on the degree to which system architecture, data or procedure design can be extended and enhanced after the system is implemented.

4.2.7 Security

Security issue is the very core object to consider when it comes to web based Application System. The potential of the systems to be cracked intensify exponentially with the number of users. For this reason I offer the best solution for the web base application system. I believed that our solution could make the system reliable and secured. Besides, I also have look into in details the:

- ✓ Access rights to own organizer account
- ✓ Secured workflow
- ✓ Secured data transfer over the internet
- ✓ Application-application communication security

4.2.8 Error Free

To have the system published to users, to ensure the system is an acceptable method fir Web based users: the system should comes with least bugs and error free. Having these entire requirements the system should be one of the best directions users should go in the first place.

4.3 Hardware and Software Requirement

One of the most important choices to be made during the process of software development is that of which software tools should be used. A correct choice might lead the development process to a more comfortable and lower risk position.

This section examines development tool selection criteria by taking a look at the technology matrix for specified requirement of Microsoft Technology.

		MICROSOFT TECHNOLOGY				
	Required Functionalities					
1	Online Data Updation Environment	X	X	X	X	X
2	Web Based Registration	X	X		X	
3	Web based Verification System	X	X		X	
4	Security for user & application access	X	X	X	X	X
5	Reporting Tool	X	X			
6	Online Help	X			X	
7	Online updating of existing records	X	X	X		

DHTML, Jscript and VB script

Microsoft Active Server Pages

Microsoft SQL Server

Microsoft IIS 5.0

Microsoft 2000 Advance Server

Table 4.0 : Technology Matrix For Specified Requirement

4.3.1 Hardware Requirement

The recommended system configuration for developer is a computer running Microsoft Windows® 2000 with a Pentium III processor and 128 megabytes (MB) of RAM. Below are the minimum requirements to develop the system:

Minimum Requirement	
Computer/Processor	Computer with Pentium 133 megahertz (MHz) or higher processor; Pentium III recommended
Memory	64 MB RAM
Hard Disk	10 GB Hard disk
Operating System	Windows 98, Windows 98 Second Edition, Windows Millennium Edition (Windows Me), Windows NT 4.0 or later,* Windows 2000, or Windows XP or later.
Drive	CD-ROM drive
Display	Super VGA (800 × 600) or higher-resolution monitor with 256 colors
Peripherals	Mouse or compatible pointing device, printer

Table 4.1 : Minimum hardware Requirement to develop the system

4.3.2 Software Requirement

Facility	Usage
Microsoft FrontPage **Microsoft Visual Interdev**	To develop the hardcore and graphical user interface
Microsoft Access 2000 **Microsoft SQL Server**	To create database
Macromedia Flash	To create multimedia effect
Adobe Photoshop 6.0	To edit and create graphic images
Personal Web Server	In order to publish the pages for development purpose

Table 4.2 : Software requirements and the usage of the facility.

4.4 Software Tools

4.4.1 Active Server Pages (ASP)

Active Server Pages (ASP) is a great tool for creating dynamic web pages. ASP is a Microsoft technology and it works by allowing us the functionality of a programming language: we write programming code that will generate the HTML for the web page dynamically. So, whenever a user browses to our web site and requests one of our ASP pages, the ASP code is processed at that time by a special piece of software – the web server. This processing generates the HTML, which is then passed to the browser and used to create a page itself, on the users screen.

The power of ASP lies in two facts: first, the HTML is not created until the user wants to see the web page, and second, it doesn't care what the web browser is being used. ASP isn't the first technology to offer these features, but it's undoubtedly one of the most powerful and widely used in industry; and crucially, it's one of the fastest. It is different from many Microsoft Technologies in the following respect: while ASP must be executed on a computer that supports it, we can view ASP-driven web pages from any computer, and with any modern browser. This has enabled developers to enhance their web pages with interactive features, and even to solve common business problems – to such an extent that pages with the *.asp* suffix are fast becoming as common as those with the *.htm* suffix

ASP is potentially one of the most important innovations to emerge on the web – for developers and users of the Internet and intranets alike.

4.4.2 Personal Web Server (PWS)

PWS for Windows 98 provides a graphical administration interface designed for users with no prior experience creating and administering Web sites. This interface is also provided as the default administration tool in Personal Web Server for Microsoft® Windows NT® Workstation; however, with the Windows NT Workstation version, you can also administer your personal publishing site with Internet Service Manager, the same full-featured administration tool used to control Microsoft Internet Information Server.

The Personal Web Manager (PWM)

The PWM was the interface for PWS, Microsoft's web server for use on Windows 95/98 and Windows 2000 NT WorkStation.

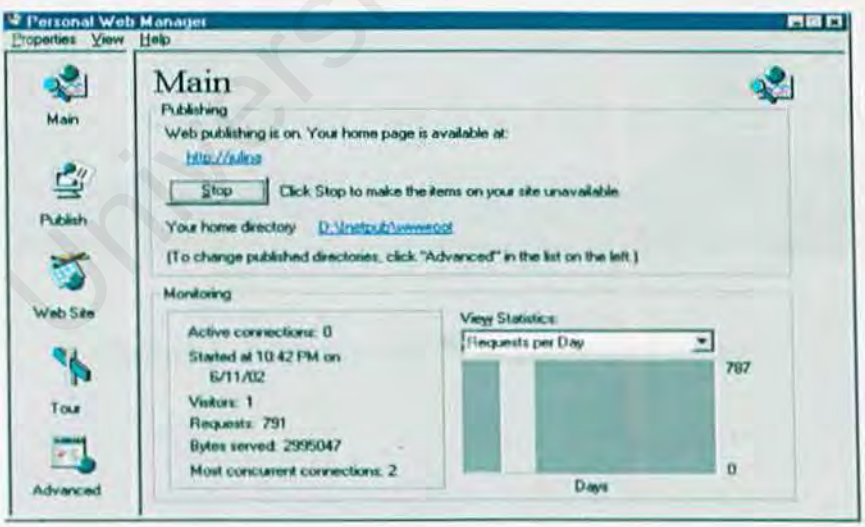

Figure 4.0 : Screenshot of Personal Web Manager

4.4.3 Microsoft Visual InterDev 6.0 (VI)

Visual Interdev comes as part of Microsoft suite of professional programming tools, known as Visual Studio. VI is a tool for designing dynamic web applications. It is, in effect, just a development environment and a collection of useful tools and utilities.

Interdev is the tool that Microsoft is promoting as their favored ASP editing tool. Useful feature of VI is that it highlight ASP <% and %> tags in Yellow and the ASP script itself is highlighted using blue for legal keywords – so they stand out from the HTML.

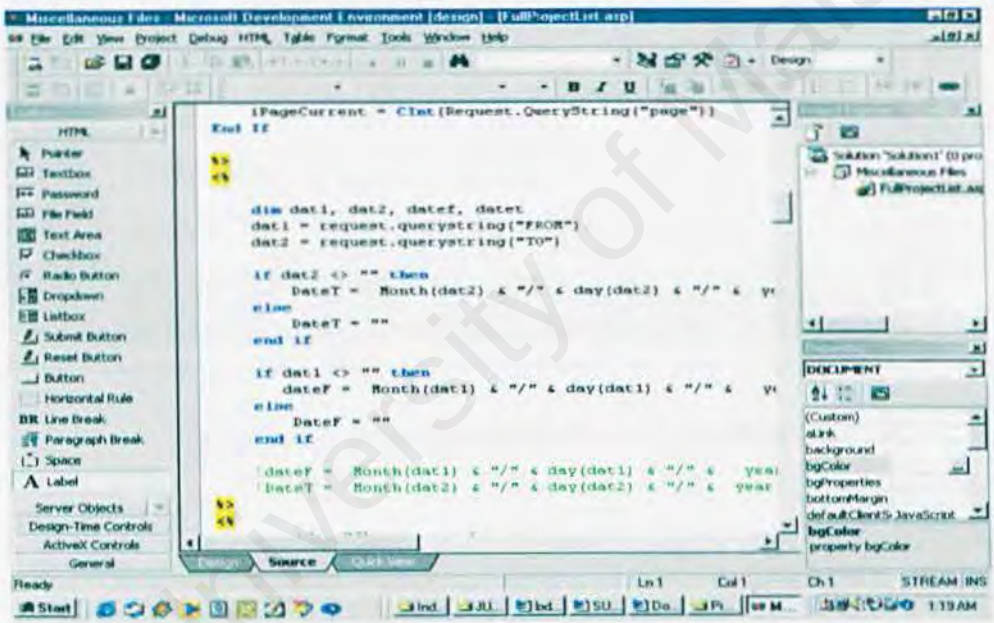

Figure 4.1 : Screenshot of Visual Interdev 6.0 session

4.4.4 Microsoft FrontPage

Microsoft FrontPage 2000 comes as part of Microsoft Office 2000 Suite - It's another tool for creating and designing web pages, but it doesn't offer all the functionality of Visual Interdev. It is Ultimately a weaker but easier application to use and it costs a lot less than Visual Interdev.

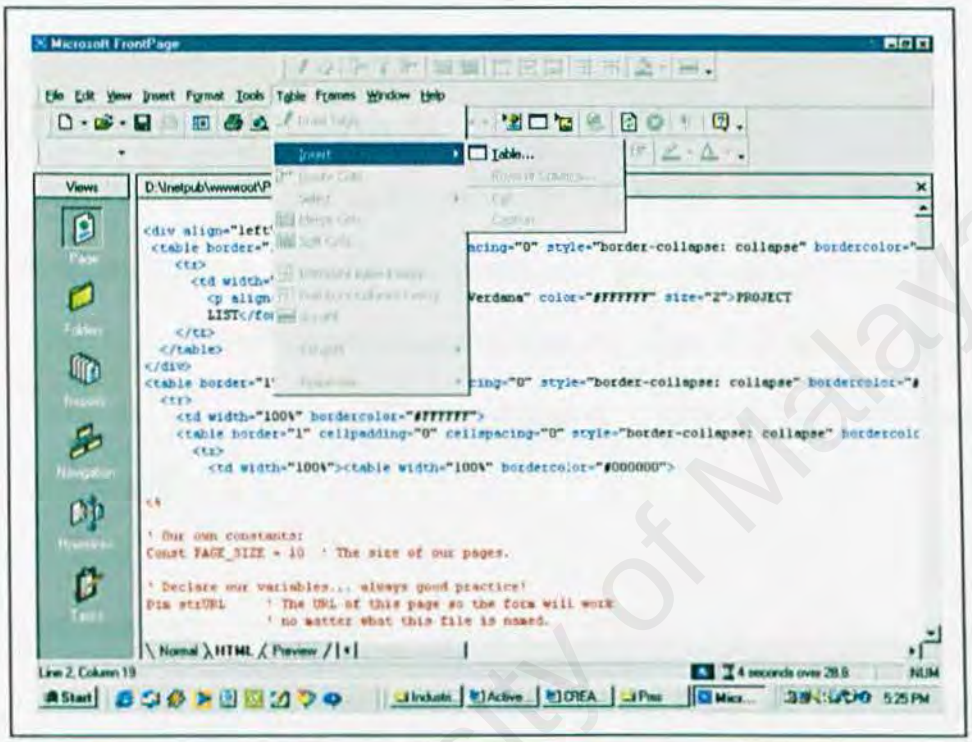

Figure 4.2 : Screenshot is taken from FrontPage 2000

4.4.5 Microsoft Access 2000

Since Microsoft Access database management system development tool works well with Active Server Pages (ASP), it is chosen to create the Online Organizer system's database for the purpose of development. During the implementation stage, the database will be convert to Microsoft SQL Server.

4.4.6 Microsoft SQL Server 7.0

SQL Server 7.0 is the leading Microsoft Windows® database, bringing scalable business solutions, powerful data warehousing, and integration with Microsoft Office 2000 to a system development environment. Microsoft SQL Server 7.0's single code base will scale from a PC to multiprocessor clusters with 100% application compatibility.

Microsoft SQL Server 7.0's comprehensive platform makes it easy to design, build, manage and use data warehousing solutions. Fully integrated with Microsoft Office 2000, Microsoft BackOffice, and Microsoft Windows, Microsoft SQL Server 7.0 provides easy, seamless access to data and enables desktop multidimensional analysis.

4.4.7 Macromedia Flash

Macromedia Flash can be used to create multimedia effects in the SMS reminder to the developer. It is an integration between ASP and Flash.

CHAPTER 5 : SYSTEM DESIGN

5.0 Modules Of Online Organizer

5.0.1 Contact Manager

- Access your contact information from anywhere at any time.
- Set general preferences such as number of contacts to display
- Once your contacts are on the web, you can access them from anywhere

5.0.2 Task Manager

- Perform tasks section such as querying, adding, deleting and updating.
- The Schedule can be used to schedule meetings or events for yourself, with another person, or your entire team. It can remind you of upcoming meetings, keep track of birthdays, holidays, important tasks and makes managing complex tasks like recurring events easy.
- choose a day, month, and year to view, and with some minor modification will even put your events onto the page on the proper days.
- Specify event title, venue, date and description
- The Default View shows a normal style calendar with an area to the right to list the selected days events.

5.0.3 Note-pad Manager

- Access your notes from home, work or anywhere anytime

- Write down those thoughts that you have in your head and get to them later
- The virtual notepad can be used to store and retrieve your miscellaneous notes. Use the notepad to jot down information, ideas, phone calls, meeting notes - or anything else you can type in!
- Save those ideas and interesting facts in a cool place

5.0.4 To-Do List

- This section shows you how to organize and prioritize your tasks and projects.
- The task list may be displayed by priority, status, or project.

5.0.5 Reminder Manager

- Set up destinations for your event reminders, when to be reminded, etc.

Sub module :

- Email reminder
- Pop up reminder
- SMS reminder

5.0.6 Sharing

This function allows users to designate calendar events as public or private.

- Set up access to your calendar for public
- Use the calendar to publish a list of events
- Set an appointment or send email to the user
- Guest access allows you to delegate tasks by permitting others restricted access to only the information they need.

Sub module :

- Set appointment

5.0.7 Reports

The print function lets you format your contacts and schedule for printing purposes.

5.1 Interface Design

Graphical user interface For System Log In

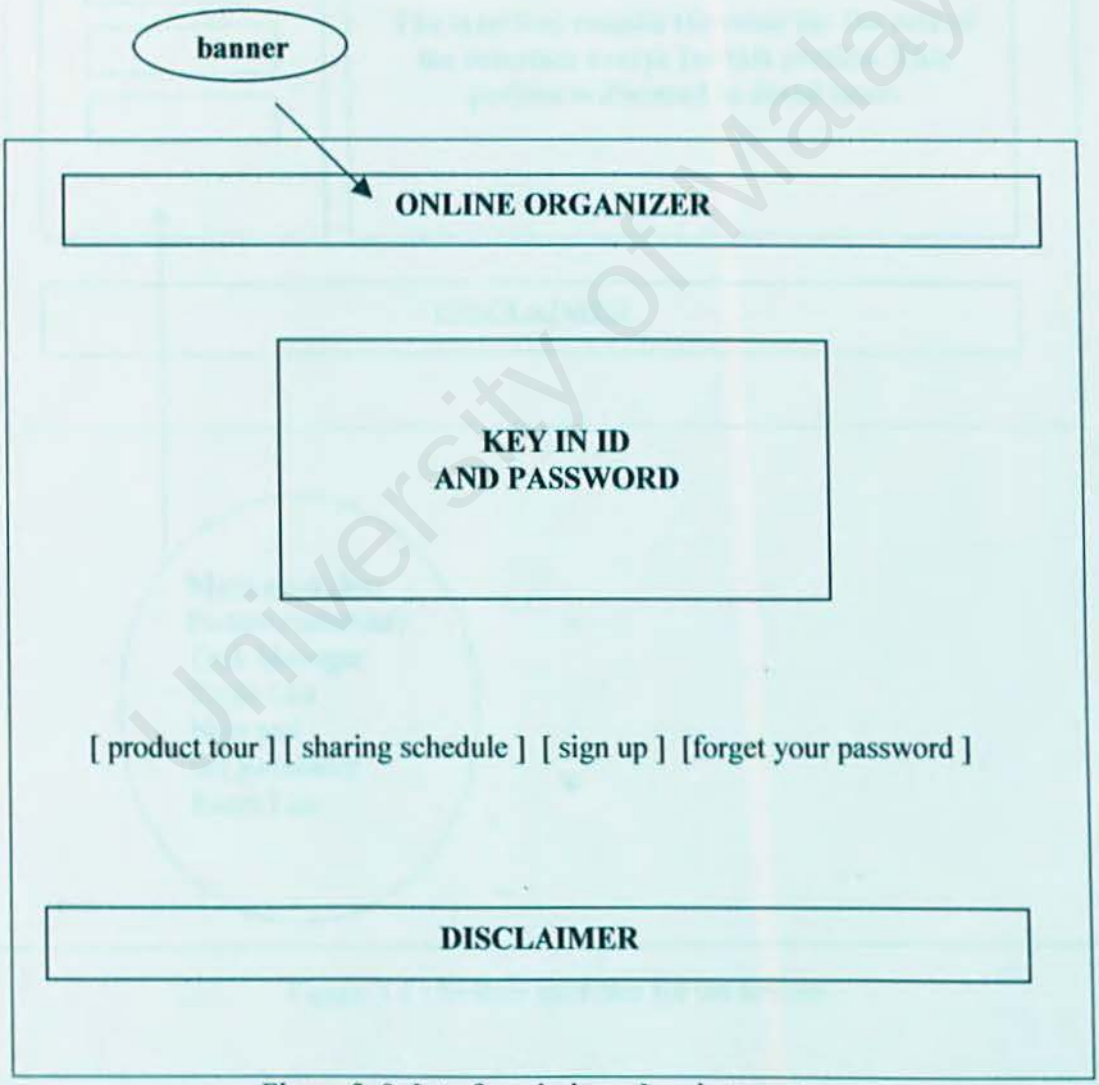

Figure 5. 0: Interface design – Log in to system

Interface After log into the system

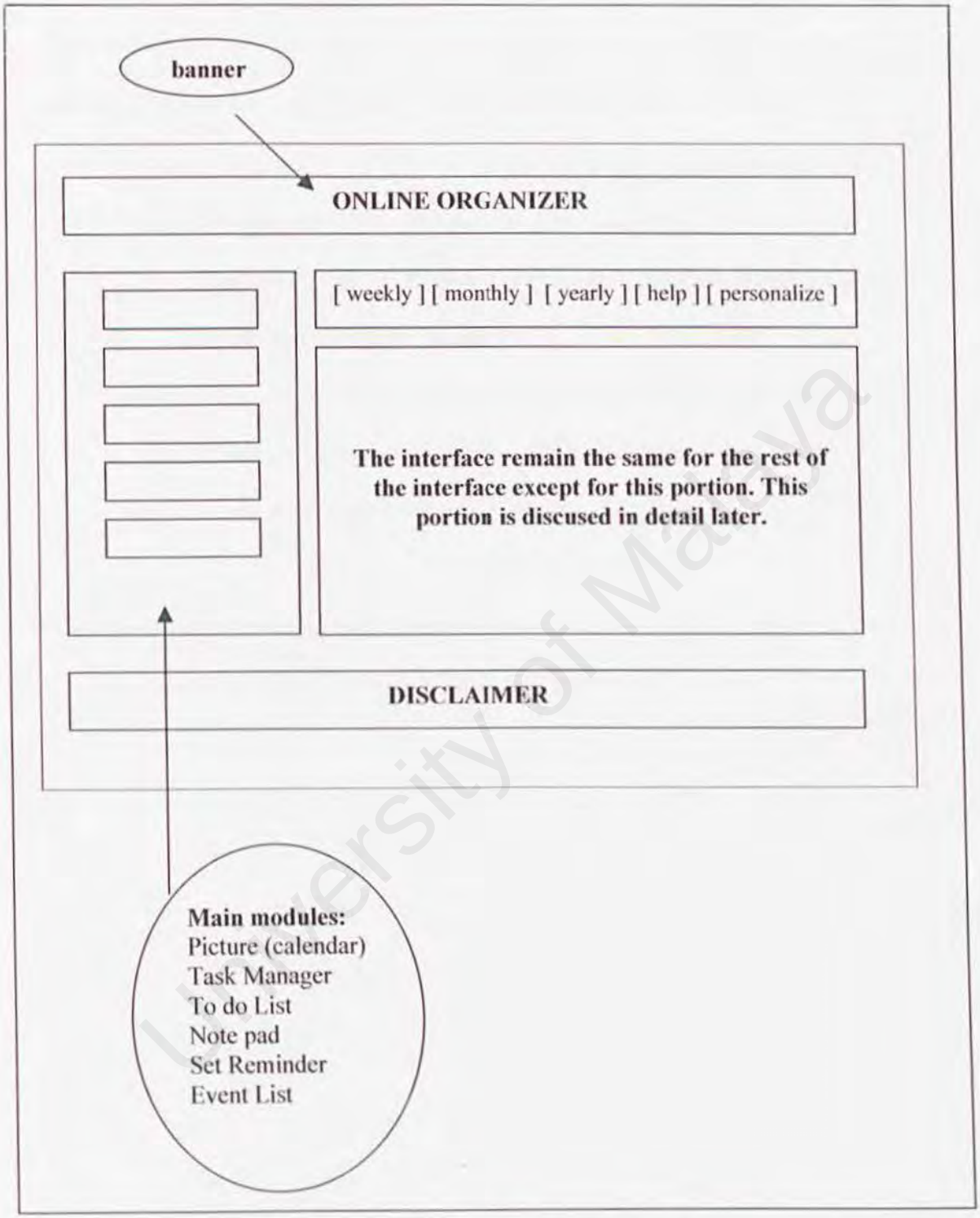

Figure 5.1 : System interface for the system

5.2 Database Design

The primary activity of database design is to select logical representations of data objects (data structures) identified during the requirement definition phase.

There are four ways that data is represented at various points in system's life cycle:

1) External view : The data itself and the context it is in.
2) Conceptual view: The process of verbalizing the facts that represented by the data of the external view.
3) Logical view: Represents information as entities, attributes and relationships following the rules of relational theory.
4) Physical view: Physical implementation of the logical view.

The database of Online Organizer consists of five main tables, which cater User, Contacts, Tasks, Notepad and Options.

CHAPTER 6: SYSTEM IMPLEMENTATION

6.0 Introduction

System implementation is a process to convert the system requirement into program codes. This phase also describes how the initial and revised process design put into the real work. It involves coding step that translates details design representation software into a program language realization.

6.1 Development Environment

Development environment has certain impact on the development of a system. Using the suitable hardware and software will not only help to speed up the system development but also determine the success of the project. The hardware and software tools used to develop the entire system is as discuses below:

6.1.1 Hardware Requirement

Minimum Requirement	
Computer/Processor	AMD Athlon XP 1800+, 1.53Ghz
Memory	192 MB RAM
Hard Disk	10 GB Hard disk
Operating System	Microsoft Windows XP.
Drive	CD-ROM drive
Display	Super VGA (800 × 600) or higher-resolution monitor with 256 colors
Peripherals	Mouse, scanner , printer

Table 6.0 : Hardware requirement

6.1.2 Software Configuration

A few of software tools were used for the system development as listed as below:

Software	Usage	Description
Microsoft Windows XP Professional	System Requirement	Operation System
Internet Information Server (IIS) 5.0	System Requirement	Web Server Host
Internet Explorer 5.0	System Development	Viewing the web pages
Active Server Pages (ASP)	System Development	Coding the web pages
Hyper Text Markup Language (HTML)	System Development	Coding the web pages
JavaScript	System Development	Add capability to the system
Microsoft Visual Interdev	Coding and interface	Coding ASP and HTML
Microsoft FrontPage	Coding and interface	Coding ASP and HTML
Microsoft Access	Database	Build the database to store and manipulate the data
Adobe Photoshop	User Interface Design	Image design and creation

Table 6.1: Software used to develop the application

6.2 Development of Online Organizer

This section explained the development of this project, which focus on the analysis of the usage of the technology and the development tools that had been used.

6.2.1 Database Development

The backend of this project is Microsoft Access XP. The database is built according to the system requirement as depicted in chapter 4. But only some sub modules were able to develop.

The data has to be available when the user wants to use it and must be accurate and consistent. Beyond this, the objectives of database design include efficient storage of data as well as efficient updating and retrieval. IT is necessary that information retrieval be purposeful. The information obtained from the stored data must be in a form useful for managing, planning, controlling or decision-making.

Field Name	Data Type	Description
UserName	Text	Private Key. Unique ID for user to log in.
UserPass	Text	Password for user to access the system
UserFirstName	Text	User First Name.
UserLastName	Text	User Last Name
UserAdd	Text	User Address.
UserZip	Text	Postal ZIP code.
UserCity	Text	City.
UserCountry	Text	Country.
UserHomePhone	Text	Home telephone number.
UserMobilePhone	Text	Mobile telephone number.
UserEmail	Text	E-mail.
UserGender	Text	Gender
UserBirthday	Text	Date of Birth.
UserOccupation	Text	Occupation
UserComName	Text	Company name.
UserComAdd	Text	Company address
UserComZIP	Text	Company postal ZIP code.
UserComCity	Text	Company City.
UserComCountry	Text	Company Country
UserWorkPhone	Text	Company Work telephone number.
UserComFax	Text	Company Fax number.
UserComEmail	Text	Official E-mail
UserComPhoneExt	Text	Company work telephone extention
UserComPhone	Text	Company work telephpne number.

Table 6.2 : The user table

Field Name	Data Type	Description
ID	AutoNumber	Private Key
Event_Name	Text	Event Name
Date	Date/Time	Date of event
Location	Text	Location.
Description	Memo	Any relevant information
Category	Text	Category

Table 6.3 : The Event table

Field Name	Data Type	Description
ID	AutoNumber	Private Key
Name_Last	Text	Contact First Name.
Name_First	Text	Contact Last Name
Name_Suffix	Text	Contact Suffix.
Company	Text	Contact Company name.
Job_Title	Text	Contact job.
Address_1	Text	Contact address.
Address_2	Text	Contact address.
City	Text	Contact City
State	Text	Contact State
Zip	Text	Contact Postal ZIP
Country	Text	Contact Country
Phone_Work	Text	Contact Work telephone
Phone_Work_Ext	Text	Contact Work extention
Phone_Home	Text	Contact Home telephone number.
Fax_Work	Text	Contact work telephone number
Phone_Mobile	Text	Contact work fax number
Email_1	Text	Contact E-mail
Notes	Memo	Relevant information

Table 6.4 : The contacts table

Field Name	Data Type	Description
ID	AutoNumber	Private Key
Category	Text	categories

Table 6.5 : The categories table

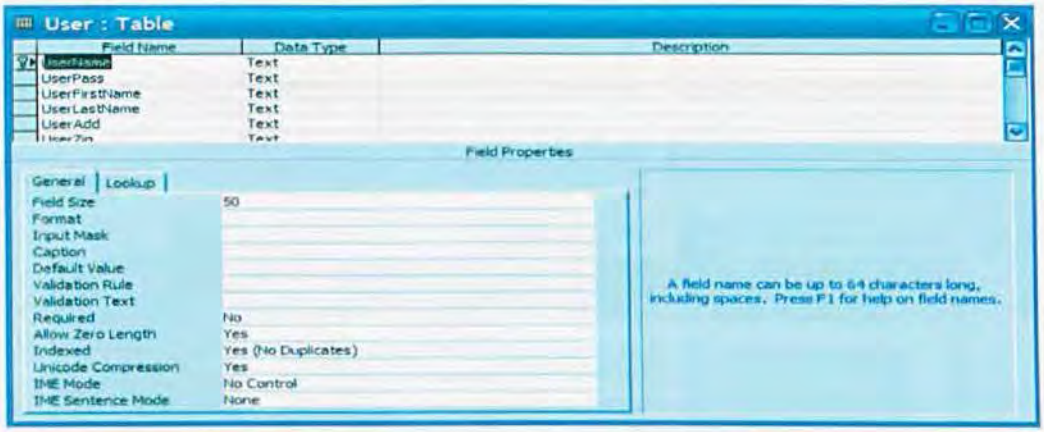

Figure 6.0 : Setting up the table for user

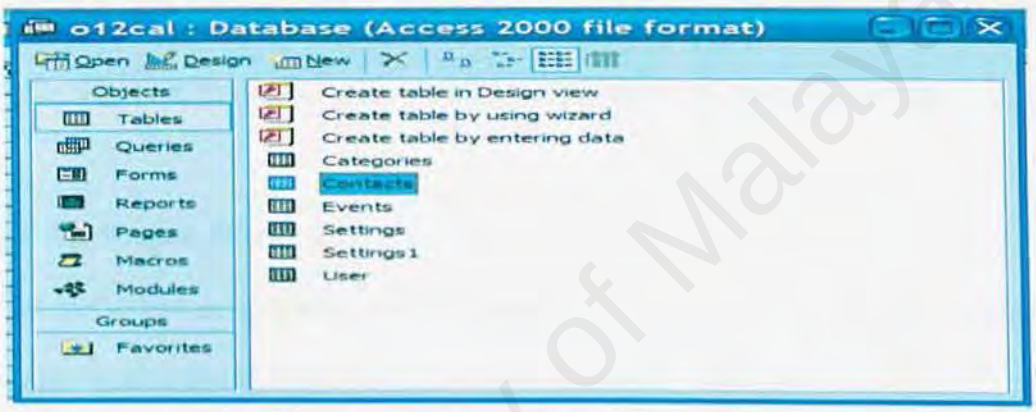

Figure 6.1: Tables in Online Organizer

6.2.2 User Interface Development

The user interface for this project was developed using Microsoft Interdev and Microsoft FrontPage XP. Microsoft Interdev and Microsoft FrontPage are editor programs that allow the user to edit HTML and ASP coding. They have the user interface design tools that are user friendly and easy to use.

Besides, Image editing tools like Adobe Photoshop was used to create image for the project.

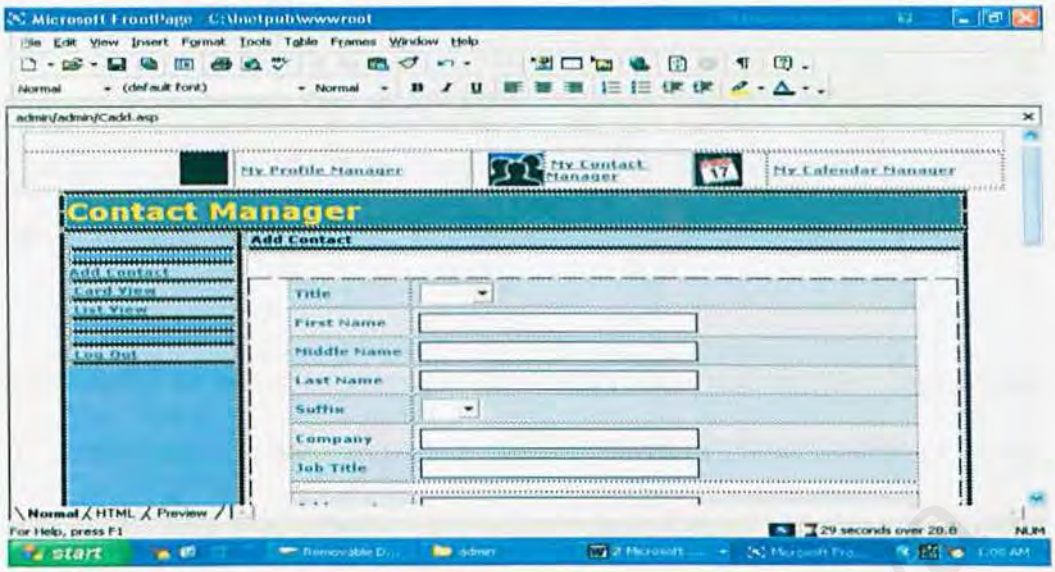

Figure 6.2 : User interface development using the Microsoft FrontPage

6.3 Application Development

The application development involves creating and designing user interface, coding the application and linking the application to database.

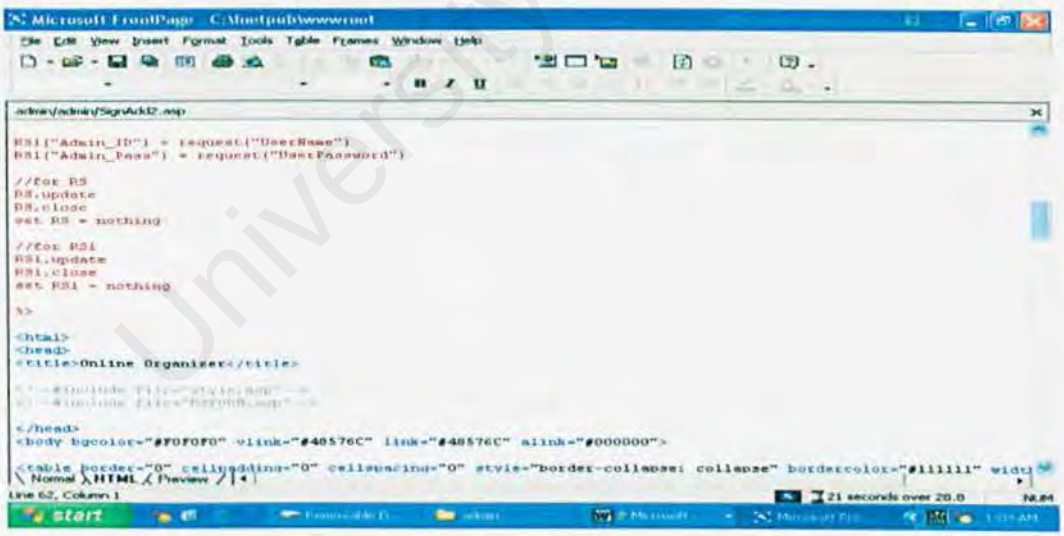

Figure 6.3 : System development including interface design and ASP coding.

6.3.1 Structured Programming

Structure programming extends the principles governing structured design to the writing of a program. It is based on the principle of the modularization that follow the top-down development.

Structure is a method of organizing and coding programs that simplifies control paths so that the programs can easily understood and modified. Structured programming reduces the complexity created when program jump forward and backward to other parts of the program, obscuring the logic and flow of the program.

Active Server Pages (ASP) support structured programming by providing sequential, iteration (FOR and WHILE statements).

```
<%
Set RSCATEGORY = Server.CreateObject("ADODB.Recordset")
RSCATEGORY.Open "Categories", Conn, 2, 2

Do While Not RSCATEGORY.eof

If (RSCATEGORY("Category") <> RSFORM("Category")) Then %>
<option value= "<%=RSCATEGORY("Category")%>">
<%=RSCATEGORY("Category")%>
</option>

<% Else %>
<option value="<%=RSCATEGORY("Category")%>"
SELECTED><%=RSCATEGORY("Category")%>
</option>

<% End If

RSCATEGORY.movenext
Loop
RSCATEGORY.close
set RSCATEGORY = nothing
%>
```

6.3.2 Modular Programming

Modular programming is defined as breaking an application into small programming units that perform a single task. In Asp, using the function and sub function based on the events can do this.

When an application is composed of small functions that perform a single task, maintenance is much easier. Functions can be shared among forms by coding the functions into .asp file. The other file can share these functions by including that file in the header.

CHAPTER 7: SYSTEM TESTING

7.0 Testing Strategy

There are three types of testing, namely, unit testing, module testing and integration testing. After a program is completely coded, it will be tested under unit testing. Module testing will start when all the programs under a particular module have been completely coded and tested under unit testing. The integration testing is to recover error associated with interfacing when integrating all the modules.

The objective of testing is to find error and fault. Fault identification is the process of determining what fault caused the failure, and fault correction or removal is the process of making changes to the system so that the faults are removed.

7.1 Type of Faults

Faults can be categorized as algorithmic faults, syntax faults and documentation faults. Algorithmic fault occurs when a program algorithm or logic does not produce the proper output for a given input because something is wrong with the processing steps. Syntax output can be checked while parsing for algorithmic faults. This will ensure that the construct of programming language is used properly. Documentation fault occur if the documentation does not match what the application does, and such faults can lead to other faults later because of the wrong implementation.

7.2 Unit Testing

Unit testing tries to look for all the possible errors that will occur in a program. A complete test process should test all of the following categories of test data:

- Normal data – to test a given correct data will produce the expected results.

- Erroneous data – for a given erroneous data, like invalid date format, does the system detect it?
- Boundaries value analysis – data that are out of the range specified will be use to test the system because errors may occur at the extreme point.
- Condition testing data- some functions may be active under certain condition, therefore a set of data are tested on all possible conditions.

Unit testing involves testing each program on its own, isolated from the other programs in the system. The following steps specify how unit testing is carried out for this system:

- The code of the program is examined by reading through it to spot for algorithmic faults and syntax faults.
- All commands buttons, text boxes and other control objects are tested to check its functionality.
- Different types of test data are used like number, character, date and etc. To test all the controls objects.
- Test cases are developed to ensure that the input is properly converted to the desired output.

7.3 Examining the Code

The codes of the program are read and walked through with documentation to identify faults. This method is useful to identify faults that have been left out by the programmer.

7.4 Control Objects Testing

Command buttons are clicked to test their functionality and text boxes are tested with different data types and also null value to make sure invalid data will not cause any fault.

7.5 Different Data Type Testing

Different data types like numbers, characters or date is used to test certain functions because some control objects will only accept certain data type, invalid data type can be traced by the system without causing any error.

7.6 Choosing Test Cases

Input data and condition are chosen to test a program and then the program is allowed to manipulate the data and output is observed.

7.7 Module Testing

Module testing is to test the Online Organizer form of the system. All the programs under a sub module are grouped into one form and all the related forms are grouped into a module. This testing will make sure menu bar choices will make the correct form active and the control will pass back to the specific form when the current form is closed.

7.8 Integration Testing

When the individual programs work properly, integration testing is started. If there is a fault during the testing, the fault does not lie within the unit of the system.

Sandwich integration testing approach is used for the system. This approach combines top-down

strategy with bottom-up strategy. The testing starts form the login screen of the system and down to the lowest level of the form functions. This testing is repeated several times to make sure that all the control objects work properly.

7.9 System Testing

System testing is to ensure that the system fulfills user requirements. The system testing involves function testing and performance testing.

7.10 Function Testing

Function testing is based on the system functional requirements. Unfortunately, only some sub modules are being implemented because of some limitations. Each sub module is tested individually to determine whether the system performs as required.

7.11 Performance Testing

Performance testing addressed the non-functional requirements of the system. The types of performance tests are:

- Security test – to ensure the system fulfills the security requirement.
- Timing test – to ensure the response time of the system is acceptable.
- Human factor test – simple forms and displays related message to determine user friendliness.
- Volume test – to ensure all the fields can accommodate the expected data

CHAPTER 8: DISCUSSION

8.0 System Strengths

8.0.1 Security

Like most system, security is one of the most important aspects in the system. This system provides user login. Every login has own privileges and the privileges will determine the task that the user can handle in the system.

8.0.2 Simple and User Friendly Interface

The user interface of the system is very user-friendly and quite consistence from one interface to another in the same module. The flow of the system is very easy to follow and users are not dealing with complex procedure in performing certain functions. All the functions can be perform easily by just clicking a button and filling the requirement information.

8.0.3 Fast Response

Each web page is design to be lightweight. These pages are loaded in a reasonable amount of time to ensure a fast view of the pages where heavy graphics have been avoided.

8.0.4 System Transparency

System transparency refers to the condition where the users do not need to know where the database resides, how are the system structure, its database management system and anything related to the system built. This feature is very important to avoid confusion that could be lead to destruction of the important data.

8.0.5 Consistency

Online Organizer maintaining its consistency where screen design, layout, structure and links are maintainable.

8.1 System Limitation

8.1.1 No Reminder Service

System does not provide auto pop up message, email reminder and SMS reminder for the user for the important events.

8.1.2 No Product Tour Facility

Online Organizer did not provide any online help. The user who require more information may not satisfy with the brief instructions and description. It should be considered to enhance in future.

8.1.3 Others

- No Note Pad facilities
- No sharing facilities.
- No To do list
- No forget your password function.

8.2 Future Enhancement

Due to time contraint and lack of knowledge, not all of these ideas could be incorporated into the system. It can be consider in the future enhancement.

- SMS and E-mail Reminder
- Sharing Facilities so that public users are allow to view authorize users shedule
- Product Tour
- Change and forget password function
- Better interface
- Interactive interface using the multimedia Flash or others.

8.3 Learning Process

I have chosed new Operating System that is Microsoft Windows XP and its server Internet Information Services 5.0 (IIS). Below is my learning processes.

Installing Internet Information Service 5.0 (IIS 5.0)

This is how it works to Install IIS.

Locating IIS ON Web Server Machine

1) Go to the control panel (Start | Control Panel) and select the Add or Remove Programs icon. The following dialog will appear diplay a list of currently installed programs.

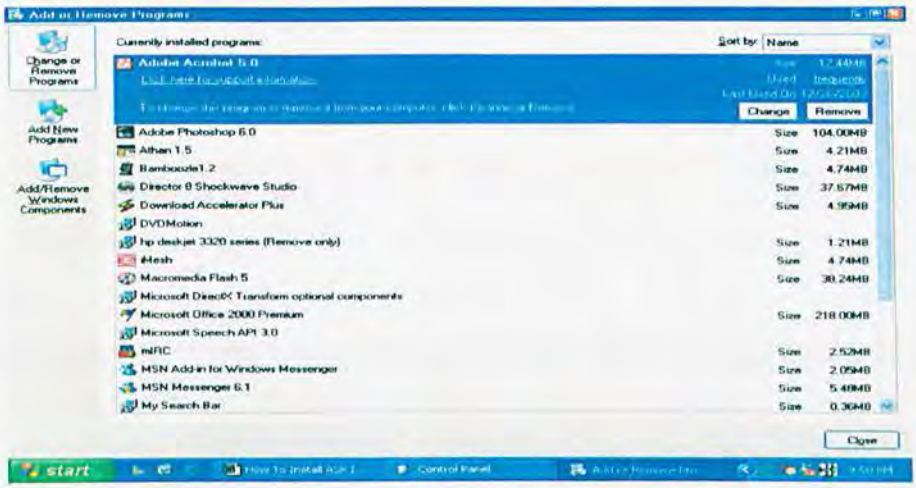

Figure 8.0: Locating IIS on Web Server Machine

2) Select the Add/Remove Windows Components icon on the left side of the dialog, to get to the screen that will allows to install new windows component.

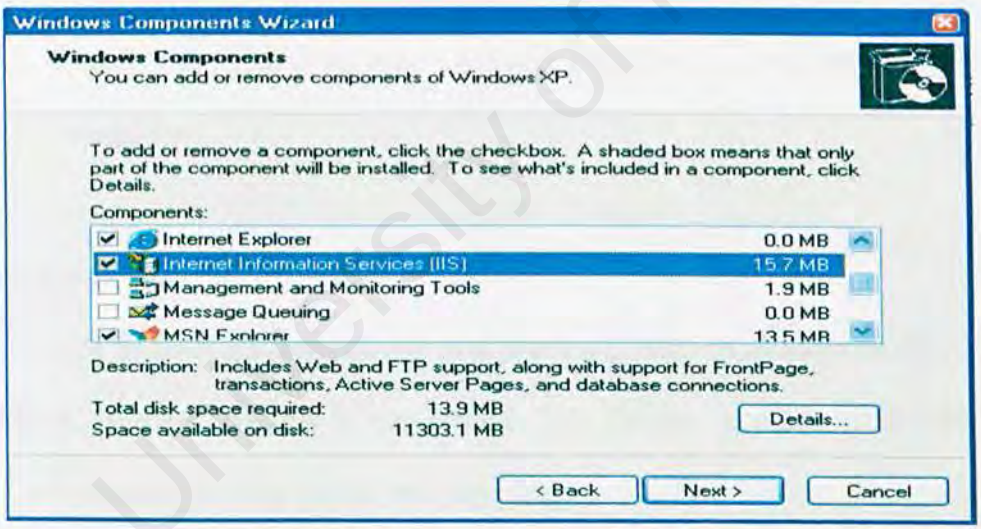

Figure 8.1: Add on Windows application

3) Locate the IIS entry in the dialog and note the checkbox that appears to its left. If the checkbox is cleared, then place a check the checkbox and click on Next to load IIS.

4) Click on the details button. There are a few options here, for the installion of various optional bits of functionality. For example, **World Wide Web Server** option allows IIS to be able to serve and manage web pages applications.

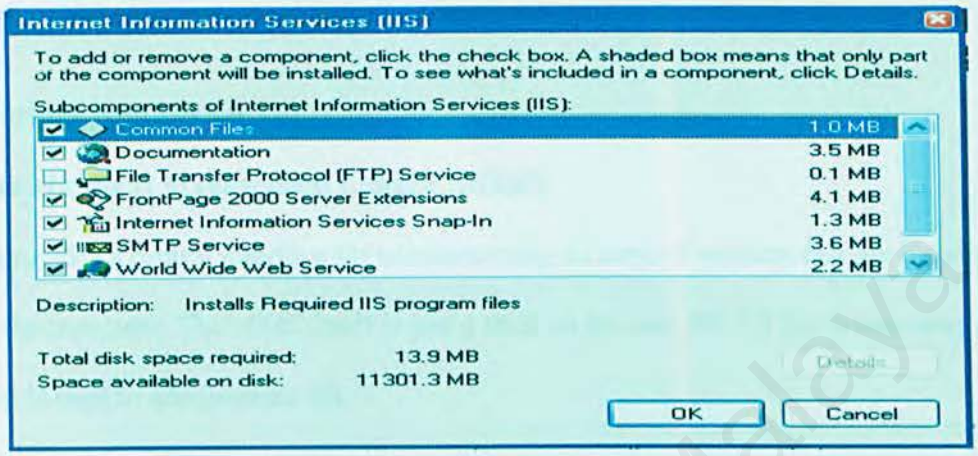

Figure 8.2: IIS options

5) Click OK to return to the previous dialog. Click Next to complete the installation.

How It Works

IIS installs most of its bits and pieces under the C:\WINDOWS\system32\inetsrv directory. \InetPub directory is also created. This directory contains subdirectories that will provide the home for the web page files.

In my InetPub directory, it contains several directories:

- Admin scripts
- IIS samples
- wwwroot

- mailroot

wwwroot

This should be default web directory. This directory is generally used to contain subdirectories, which hold the pages that make up the asp web sites.

Working with IIS 5.0

The Microsoft Management Console (MMC)

It provides a central interface for administrating all sorts of services that are installed in the computer. The MMC itself is just a shell on its own. IIS 5.0 has is own snap in that is used to administrate IIS.

a) From the Start menu select Run; in the resulting dialog, type MMC and press OK.

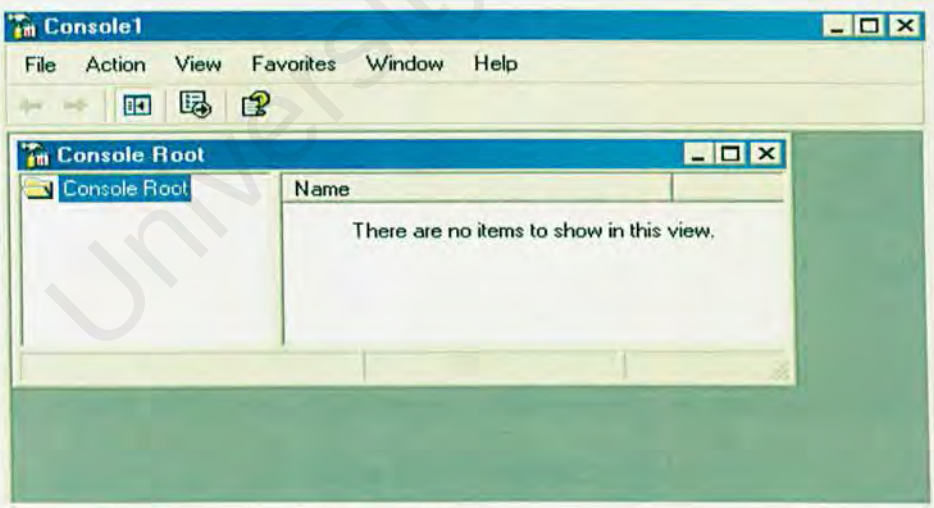

Figure 8.3 : The MMC

b) Locate snap-in. The IIS 5.0 snap-in is encapsulated in a file called iis.msc, which contained in C:\WINDOWS\system32\inetsrv directory.

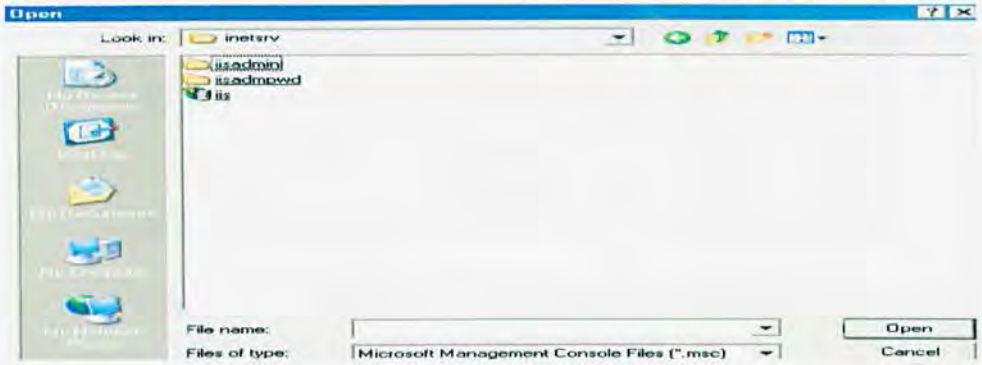

Figure 8.4: Locate the IIS snap-in.

c) In MMC shell, selected the console menu. Then select open to navigate the iis.msc file then click open. It appeared like this:

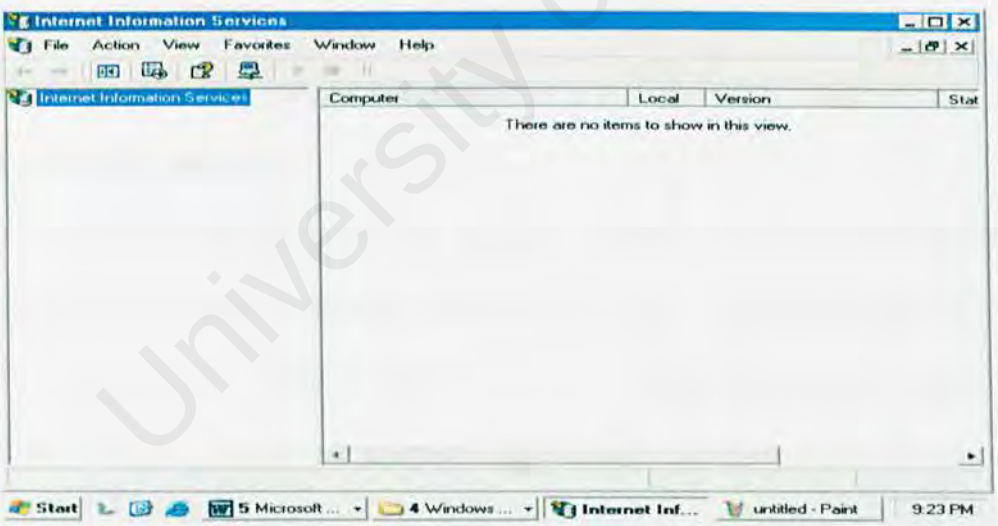

Figure 8.5 : The MMC

d) I have placed a file named component contained openaution.dll in C: directory. This was being taught by one of the system analyst during my practical training. Then, select run in the start menu and type

- regsvr32 C:\component\OpenAuction.dll and
- regsvr32 C:\component\aspsmartupload.dll

Figure 8.6 : C:\component\OpenAuction.dll

Figure 8.7 C:\component\aspsmartupload.dll

8.4 Problem Encountered and Solutions

8.4.1 Software Selection

Due to rapid development of this type of application, there are a lot of technologies emerging in the market for the development of the internet, application such as ASP, PHP and JSP. Without the knowledge of these kinds of development technologies, it is difficult to select appropriate software

To handle this problem, a study has been done on the web technology, programming language, operating system, web server and development tools to find out the

features and capabilities. All of the studies are carried through books, journal paper and web surfing.

8.4.2 Common Errors with ASP that I encountered with

Page Cannot Be displayed: HTTP Error 403

If this error persists, it is probably because do not have permission to execute the ASP script contained within the page.

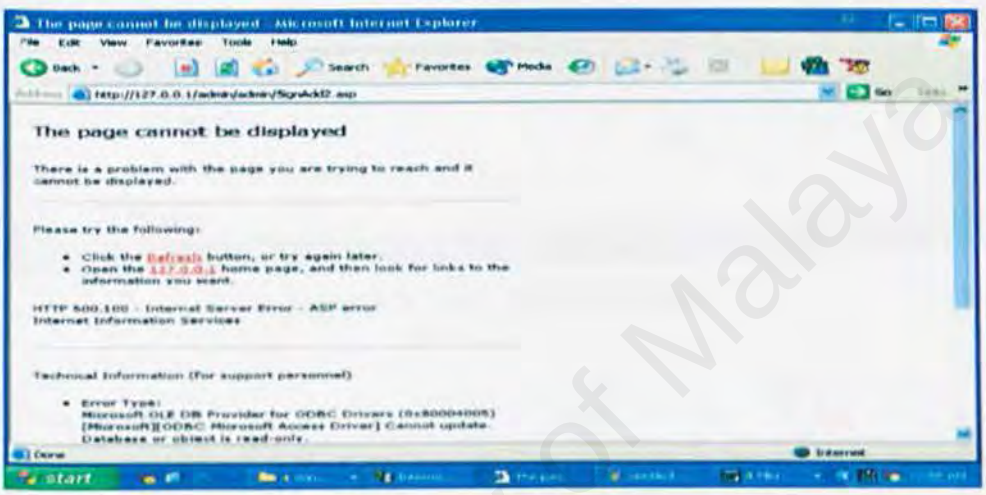

Figure 8.8: Page Cannot Be displayed

Page Cannot Be Found: HTTP Error 404

It means that the browser has managed to connect to the web server successfully, but the web server can't locate the page requested for. This could be because of mistyped the URL at the browser prompt.

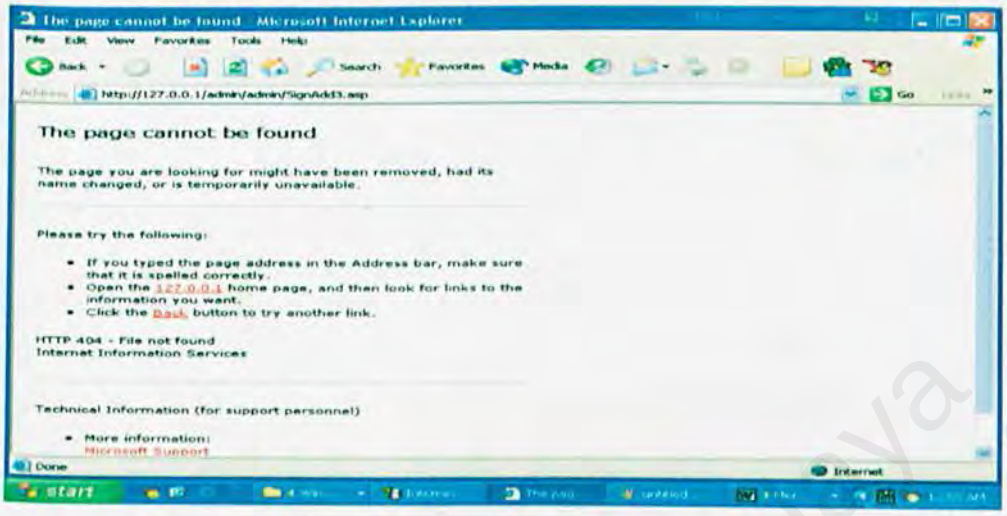

Figure 8.9: Page Cannot Be Found

8.5 Conclusion

Building a web based application is a challenging task. A lot of research and time taken in developing this project. On the other hand, a lot of valuable knowledge I have found out in installing and configuring Windows XP, programming in HTML, ASP and JavaScript.

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