FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY UNIVERSITY MALAYA

FAMOUS MALAYSIAN INDIANS

WEB PORTAL

JASVINDER KAUR CHIMA
A/P SARANDAR SINGH
WET010046

Supervisor : **Assoc. Prof. Dr. Diljit Singh**
Moderator : **Assoc. Prof. Dr. Roziati Zainuddin**

Dissertation submitted in partial fulfillment of the requirement for the bachelors of computer science

ABSTRACT

The Famous Malaysian Indians web portal is a system created to serve as an informative repository of valuable information. This site would be able to be viewed by anyone who is interested to know about the famous Indian personalities who have achieved fame in fields like sports, law, arts, business, health and politics.

This web portal will be incorporated with features like the search engine, voting poll and feedback section. The search engine would prove to be useful for target users like teachers and students. The users would be able to view information about the famous personalities, their pictures, quotable quotes, interviews and articles. The feedback section will enable users to submit their feedback via the feedback form. The voting poll will be useful for the administrators to know how the users judge the web portal so that better service could be provided in future.

The development of this site is divided into two main modules which is the user module and the administrator module. The administrator module consists of all the features in the user module but with extra capabilities. They have the authority to add or edit information since they have a username and password. This ensures that the information here is reliable. Research for the literature review was done through the Internet, past thesis documentations and discussions with group members and seniors. Six different existing web sites which are related to the web portal were reviewed.

ACKNOWLEDGEMENT

Firstly, I would like to thank Assoc. Prof. Dr. Diljit Singh as my supervisor and Assoc. Prof. Dr. Roziati Zainuddin as my moderator for their valuable advice and time. Their suggestions have been used to improve the features of the web portal.

The completion of this report needs the support and advice of many people. I would like to take this opportunity to thank my parents Mr. Sarandar Singh and Madam Amar Kaur for their encouragement and support in enabling me to complete this report. I would also like to thank my other family members for their support and time. Without their help, I might not be able to complete this project on time.

Besides that, I would also like to express my gratitude towards my friends who have helped me. Discussions were done with them regarding the system. Seniors also played a part in helping me when I had questions regarding this system. One of the important contributions towards the completion of this report comes from peers who gave their reviews.

Special thanks go to individuals who have helped me directly or indirectly in completing this report. Their help was essential when I most needed it.

Thank you,

Jasvinder Kaur Chima A/P Sarandar Singh

Faculty Of Computer Science And Information Technology.

University Of Malaya.

CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDIX

CHAPTER 1

INTRODUCTION

1.1 Background to Project

The project about the famous Malaysian Indians is a website about the Indians in Malaysia who have achieved success in various fields. These fields include business, medicine, sports, arts and politics. Indians comprise of Tamils, Punjabis, Sindhis, Gujratis and etc. Up to date, there isn't any website about famous Malaysian Indians done in the Faculty of Computer Science and Information Technology (FCSIT).

Through this website, the public can find out the contributions of Indians in Malaysia. Since Malaysia is a multi racial country, Indians also play a part in the development of the country. In a way, this website is also a form of recognition for the Indians who are successful in many fields.

However, setting up this site is no easy task because a lot of information needs to be gathered so that it is useful for the public. An effective database would be available with accurate information once all the information has been compiled. The information would consist of their profiles, achievements, their early years and etc. All this information would be available for the convenience of the public. Through the search function, a user can key in the keyword and search for the information that they are seeking.

Since this is a web portal, it resides on a web server. This site would be a knowledgeable site for fellow Malaysians and the world to know about the successful and famous Malaysian Indians.

1.2 Project Overview

The way people communicate with each other and how we retrieve and distribute information has changed rapidly over the years. The Internet is one of the most powerful communication tools today. Using the internet, you can communicate with other people from all over the world by means of electronic mail, read online versions of newspapers, magazines, academic journals and book; participate in discussions in groups with similar interests and others. What is a portal? It is a web site or service that offers a broad array of resources and services such as e-mail, forums, search engines and on-line shopping malls.

The Famous Malaysian Indians site is a web portal on Indians in Malaysia who have achieved fame in politics, sports, business, education, law, arts, etc. This site will contain a web server, database server and a client server. The users would be able to search for information about famous Malaysian Indians from the database, which would be set up. As long as the users have access to the Internet, they can retrieve this information at any time from any location.

This system will be developed based on a few objectives. One of the main objectives of this project is to create a web portal, which is dynamic and efficient. The main users of this site would consist of educationists and students. Besides that, this site is also created for people who are knowledge hungry and would like to know more about the lives of famous Malaysian Indians. The fields that the users can search from are business, law, sports, health, arts and politics. The user can search through a few

ways that includes key word searching. The information would mainly be about the biographies of the famous people, photo essays, articles, interviews and pictures. An administrator will maintain this site. Each administrator would have a user name and password for security reasons.

1.3 Objectives of Project

The main purpose of this project is to offer useful information based on this dynamic, integrated and efficient web portal to the public. Above and beyond this, the useful resources portal component is anticipated to serve as a resource repository for anybody who is interested to find information about famous Malaysian Indians mainly educationalists and students. Among the other objectives of the development of this system are as below: -

- To develop a scalable platform that will not only contain educational resources but also valuable information about the famous people.
- To act as a repository for information that can be managed and administered by those who have been given permission.
- To enable people to share knowledge in a secure environment.

1.4 Project Scope

This site would be divided into two main modules. One is a user module and the other is the administrator module.

1.4.1 User module

The user module will have certain features. One of the features is the search function. This feature enables the user to search for information of the famous Malaysian Indians in various fields. Information such as biography, achievements, etc. can be searched and viewed. Searching is often more effective then browsing (provided the user has a good idea of what they are looking for) many people prefer to search than browse to locate data on the web. Keyword searching method is familiar to most people. Users enter terms that are related or may appear in the entries they are looking for, and those terms are used to determine which resources best fit the search. Since I will be doing the law and sports section, certain search functions would be available. For the sports section, a user can search through the name, team and year. It also depends on different sports. The search above would be used for sports like football, hockey, basketball and badminton. Meanwhile for the law section, the search can be done through the personalities name, place and year. The voter's poll will make it possible for the users to vote and view the survey of the poll.

1.4.2 Administrator module

The administrator's module will have all the features as in the user module but with an extended capability. The difference here is the administrator will have a user name and password. This function is important so that the

administrator can add or edit information to the database. As there will always be some new information available, the new information needs to be uploaded by the administrator. The administrator will be the only authorized party to make changes to the data. By having a user name and password, the users can be assured that the information in the database is accurate and valid. Besides that, a feed back form function would be available. This is where a user can ask a question or give a suggestion or even give some updates about the personalities. Then the administrators would answer their questions and verify the information given so that they can update the database with the latest information.

1.5 Importance Of Project

This project will enable people from all over the world to know about the achievements of Indians in Malaysia. This web site can also serve as recognition for Indians in Malaysia. Many Indians in Malaysia have carved their names in various fields and attained success. Invaluable information about these personalities would be available in the database. The information that would be displayed in a systematic way would enable anyone who wants to acquire the information to do so in an easy manner. This web portal would serve as a resourceful repository for anyone who is interested to know about the famous Malaysian Indians.

The system would be developed to be user friendly and easy to use. This site would be accessible to anyone who has Internet connection. One of the limitations

of this project is that the search engine provided can only search for information stored in the database and not throughout the Internet.

Besides that, this project is important for the benefit of the future generation. Since the target users would be students, this web portal would be useful for them when they are doing an assignment or project which is related to the famous Indians in Malaysia. People would be able to know about the contributions of these personalities. As for myself, this project would give me an opportunity to learn more about the tools which would be used for developing the system. As to today, nobody has done the web portal about the famous Malaysian Indians in Faculty of Computer Science and Information Technology.

1.6 Definitions

The definition for the words, phrases and terms used throughout this report is given as below:

Famous

A person whose fame is celebrated or who is named again and again with honor. These people include those who have dazzled our country by the splendor of their deeds or virtues. The personalities who have achieved wealth, eminence, a position of great distinction or superiority would be included in the database too.

Malaysian

A native or inhabitant of Malaysia. In the site, Malaysians who have permanent residency in another country would be included too.

Indians

A native or inhabitant of India. Indians in this web site means Malaysian's whose ancestors are originally from India. Indians consist of Tamils, Punjabis, Gujratis, Sindhis, Malayalees, Singhalese and etc.

Web portal

There is no one set definition of a web portal. It is defined as a web site or service that offers a broad array of resources and services, such as e-mail, forums, search engines and online shopping malls. Another definition of portal is that it is a door to the Internet, the place where you start your journey through the web world and your source of information (Miller,2000). A portal is also described as a hub, which users can locate all the web content that they commonly need. As noted there are various definitions for web portal but they can be categorized into three basic types of web pages.

1. Pulls together a lot of information of potential use to the reader. Contents in this type of web pages are quite varied. Examples include yahoo.com and cnn.com or a series of specific learning course modules.
2. Focuses on a single subject but contains very high coverage of that subject's material.
3. Personalizes a site. You partly select the content from a list, you partly get what the portal source wants to give you, and you can add anything else you want. When you sign in, the site knows what you want and gives you that information. For example yahoo.com.

1.7 Report Layout

Chapter 1 Introduction

This chapter gives an overview of the project, project objectives, scope of the project and the importance of the project. The project is introduced and defined in this chapter.

Chapter 2 Literature Review

This chapter discusses on the research done during the analysis and design phase of this project. This includes the method done to obtain the literature review. All the findings that were gathered are defined in this project.

Chapter 3 Methodology

Introduces the development model, development softwares, system requirements, system design and requirements analysis. Figures on the layout of the system are also featured in this chapter.

Chapter 4 System Design

The system architecture is included in this chapter. Figures on the interface design, and data flow diagrams are also available here. A few screen shots about the system can be seen here.

Chapter 5 System Implementation

The processes of implementing each module are described here. The software and hardware required for the development are mentioned here. The coding process, the development of the user interface and database are also included in this chapter.

Chapter 6 System Testing

The testing phases involved in this system are mentioned in this chapter.

Chapter 7 System Evaluation

Problems encountered while developing the system, system strengths and limitations are included in this chapter. Besides that, the future enhancements recommended for this system is also mentioned here.

Appendix

User manual is included in this chapter. The source codes are also inserted here.

Reference

Information on articles, web sites and books that were used for the system development process are available here.

Bibliography

Information on materials like statements and extra information from books and web sites are included here.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Role of Literature Review

Literature review is done when the scope of the project is being determined. The main purpose of the literature review is to provide a better understanding of the system to the developer .By doing the literature review; the developer will get an idea about how to build the system and to know what all the system is about. Useful knowledge on development tools, software and new ideas on the features of the system can be acquired. During literature review, the comparison between different development software will be useful to determine the best and appropriate software in the market. The comparisons between existing systems will help the developer to analyze the functions which exist and applicate them in his/ her system. Besides that, the developer can anticipate the problems, which may arise during the development of the system by having a look at existing system, which are somewhat relevant to the proposed system. From here, the advantages and disadvantages of the proposed system will be known. By knowing this, necessary changes can be made.

2.2 Approaches to Literature Review

A system is a collection of related parts treated as a unit where its components interact together. It consists of certain elements that interact to do specific tasks. A lot of information needs to be gathered in order to develop a system. The information gathered should be analyzed and a proper research should be done. There are a few methods conducted to do the research. There are as listed below: -

- Internet Research

Internet research was done on existing websites related to this project. These websites are mainly about people in overseas. So far not many websites about famous people in Malaysia could be found. A few search engines were used to search for information. Different keywords were used to search for related famous people sites on the Internet.

Example: Metacrawler, Yahoo, Google

Among the keywords used were halls of fame, famous Malaysian Indians in Malaysia, famous people, etc.

- Reference

Past thesis reports were used as a guideline to look through and help in the development of the system from the document room in Faculty of Science Computer and Information Technology. Information needed for the database is gathered through books, newspapers and magazines. Reports on previous web-based application systems through thesis reports give an idea on how to develop the system.

- Brainstorming

Brainstorming is a very good technique for generating ideas during group meetings. Since three people are doing the same topic, we had a few discussions to determine the scope of the project. Ideas from all the members were taken into account then the most suitable idea was given consideration for future usage. Each of us recorded the ideas on paper for future reference.

2.3 Web Based- Application

A web application is an application that resides on a web server. Different components interact with one another dynamically. These components work together simultaneously to create a system. The components consist of the web server, web browser and a database server.

2.3.1 Web Server

A web server is a computer that holds information about a web site. This includes HTML pages, images and so on. Every web server has an IP address and probably a domain name. Web server runs a specialized program called a HTTP daemon. There are few examples of a web server which includes Internet Information Server (IIS), Personal Web Server (PWS) and Apache.

Table 2.1: Comparison between IIS, PWS, Apache web server

Features	**Internet Information Server (IIS)**	**Personal Web Server (PWS)**	**Apache**
Platforms	Windows 2000	Windows 95/ 98/ ME/ NT	Unix, Windows NT /2000, experimentally supports Windows 95 /98
Brief Description	The most popular web server for	A basic web server for publishing	Currently the most popular web server

	Windows 2000	personal web pages	
Price	Comes with Windows 2000	Freeware. Packaged with Microsoft IIS in NT 4.0 option pack. Also included in Windows 98	Freeware

2.3.2 Web Browser

A web browser is a software program that knows how to contact a web server (using Hypertext Transfer Protocol (HTTP)), requesting a document from the web server and displaying that document returned by the server to the client. There are many different types of browser; the most popular ones are Netscape Navigator and Microsoft Internet Explorer. The appearance of the document varies from browser to browser depending on the capability of each browser, system and preference.

2.3.3 Database Server

The database server is a key component in a client/server environment. It holds the database management system (DBMS) and the databases. A database server is a computer for database storage and retrieval. It searches the database for selected records and passes them back over the network when there is a request from the client's machines. A database server and file server may be the one and the same, because a file server often provides database services. It is dedicated for database use only and not a central storage facility for applications and files.

2.4 Client-server computing

Client/server describes the relationship between two computer programs in which one program, the client, makes a service request from another program, the server, which fulfills the request. Although programs within a single computer can use the client/server idea, it is a more important idea in a network. In a network, the client/server model provides a convenient way to interconnect programs that are distributed efficiently across different locations. Computer transactions using the client/server model are very common. For example, to check your bank account from your computer, a client program in your computer forwards your request to a server program at the bank. That program may in turn forward the request to its own client program that sends a request to a database server at another bank computer to retrieve your account balance. The balance is returned back to the bank data client, which in turn serves it back to the client in your personal computer, which displays the information for you.

The client/server model has become one of the central ideas of network computing. Most business application being written today uses the client/server model. So does the Internet's main program, TCP/IP. In marketing, the term has been used to distinguish distributed computing by smaller dispersed computers from the "monolithic" centralized computing of mainframes and their applications have also turned to the client/server model and become part of network computing.

In the usual client/server model, one server, sometimes called a daemon, is activated and awaits client requests. Typically, multiple client programs share the services of a common server program. Both client programs and server programs are often part of a

larger program or application. Relative to the Internet, your Web browser is a client program that requests services (the sending of Web pages or files) from a Web server (which technically is called a Hypertext Transport Protocol or HTTP server) in another computer somewhere on the Internet. Similarly, your computer with TCP/IP installed allows you to make client requests for files from File Transfer Protocol (FTP) servers in other computers on the Internet. Other program relationship models include master/slave, with one program being in charge of all other programs, and peer-to-peer, with either of two programs able to initiate a transaction.

2.5 Web Application Programming Technology

Table 2.2: Comparison between Active Server Pages and Common Gateway Interface

ASP	CGI
-Language is six times faster to write than other conventional web page design methods.	-Programming is consistently outperformed by ASP and is five times slower.
-Takes less time to write and debug (no compilation)	-Web pages are "non-dynamic", thus continuous changes cannot be made "on the fly".
-Allows for multiple browsers.	-Programs take more time to write.
-It is inherently multi-threaded which allows a greater number of concurrent users.	-It is not inherently multi-threaded, which limits the number of concurrent users.

2.5.1 Macromedia Dreamweaver MX

Macromedia MX is an integrated family of tool, server and client technologies for building Rich Internet Applications that can be delivered across major platforms and devices. Macromedia MX enables the creation of a new generation of Internet solutions that extend existing infrastructure and standards to offer a significantly more effective user experience at a lower cost.

Products in the Macromedia Dreamweaver MX family offer designers and application developers' powerful new functionality to create effective user experiences across the spectrum of Internet solutions from plain HTML websites to full Internet applications. Together, the Macromedia MX products provide the first complete family of tool, server and client technologies for building a new generation of Internet solutions: Rich Internet Applications.

2.5.2 Microsoft Interdev 6.0

Visual Inter Dev (VI) is a project management software for high-end web development. Visual Interdev comes as part of Microsoft's suite of professional programming tools known as Visual studio. It integrates many of the existing tools for designing web application and provides two ways for developers to edit HTML. One-way is through special version of Microsoft Front Page for WYSIWYG (What You See Is What You Get) editing and the second are by providing a nice color code text editor.

Microsoft knows that no matter how efficient Front Page editor was, programmers would still insist on being able to set the HTML codes directly. So they took pains to

include a text base source editor that allows users to click on the tabs easily and switch between WYSIWYG and text views.

Visual InterDev 6.0 is the tool that Microsoft is promoting as their favourite ASP editing tool. The text-based editor is a really useful feature of Visual InterDev 6.0. This is because it is colour-coded and helps format programming blocks by automatically indenting text to the level of the line above it. Best of all, all the text editor includes context-sensitive help for HTML text and script commands. This useful feature will help tremendously especially in debugging of codes.

Visual InterDev 6.0 is for programmers, but it is designed so that graphical designers, writers, editors and programmers should all be able to work together using their own tools on the same project. Visual InterDev is a major piece of software, both in the number of things it does and the amount of external things it tries to pull together. The result is a powerful but one of the most complex and difficult editors to master.

2.6 Web Application Development Language

2.6.1 Hypertext Markup Language (HTML)

The Hypertext Markup Language (HTML) is the language used to define the content of web pages. In its basic structure, HTML is quite simple, consisting of tags that precede or bracket various types of information [WILL 98]. It is a non-proprietary format based upon Standard Generalized Markup Language (SGML) and can be created and processed by a wide range of tools, which are simple plain text editors to sophisticated WYSIWYG (what you see is what you get) authoring tools. HTML files are different

from other text files because they include a special code called HTML tags. The HTML tags are surrounded by two angle bracket characters (< and >).

2.7 Scripting Language

A scripting language is a special type of programming language used to provide control in another host environment. It is interpreted rather than compiled. Therefore, a program built with a scripting language's interpreter and cannot be run as a stand-alone application.

2.7.1 VB Script

VB Scripting Edition (VB Script) was introduced by Microsoft to allow web page developers to make use of their existing VB skills. When creating client side script, VB Script inherits its syntax and structure from VB programming language. VB Script is an alternative to Java Script in the client side scripting language. However, only Microsoft Internet Explorer supports this language. Netscape Navigator user's need a Netscape plug-in called Script Active. It can be used to validate from data, displaying status bar messages, Active X controls and working with cookies.

VB script is closely related to the BASIC programming. It is a scripting language that is easier to use. It can act as a client side and server side programming just like Java Script. VB Script can be used as the server side programming which means the language is executed on the server that serves the web site's files rather than on the browser that receives those files. The scripts are processed before the pages are sent out across the Internet to the browser.

2.7.2 Java Script

Java Script can create dynamic HTML pages that process user input and maintain persistent data using special objects, files and relational database. A Java script page can validate the data entered before it is sent to the server. If the data is invalid, Java script can block transmission to the server. With Java script, one can create multi part documents, build a dynamic document that links one document to another and generate documents that interact with the user.

2.8 Database Management System

2.8.1 Microsoft Access

Microsoft Access is fast becoming the dominant computer based database management system for most database applications. It stores data in the form of tables, which can be related to each other based on the system developed. There are two methods to create a database. One is by creating a blank database with the tables, forms, reports, and other objects being added later. This is the most flexible method but it requires one to define each database element separately. The second method is by using a Database Wizard to create an operation in the required tables, forms and reports for the type of database chosen. This is the easiest way to start creating a database. Either way, the database can be modified and extended at any time after it has been created.

2.8.2 Microsoft SQL Server 7.0

Microsoft SQL Server is the database management system that is developed by Microsoft Corporation. It is a client/server relationship system (RDBMS). SQL server 7.0 Enterprise edition builds on the established strengths and broad functionality of

SQL server extending its already extensive scalability, interoperability, availability and manageability. By using Microsoft SQL Server, modern applications can be developed by separating the client application and the database services.

2.9 Studies on Existing Related Sites

Studies on existing sites which are related to the project are done to get some basic ideas to adopt some features that will be useful in the development of the Famous Malaysian Indians web portal. Then, comparisons are done between the existing sites with the one proposed to show the advantage of this site. The sites which are somewhat related are as below:-

2.9.1 My Kedah, Malaysia

[URL: http://www.mykedah.com] [Date visited: 7 August 2003]

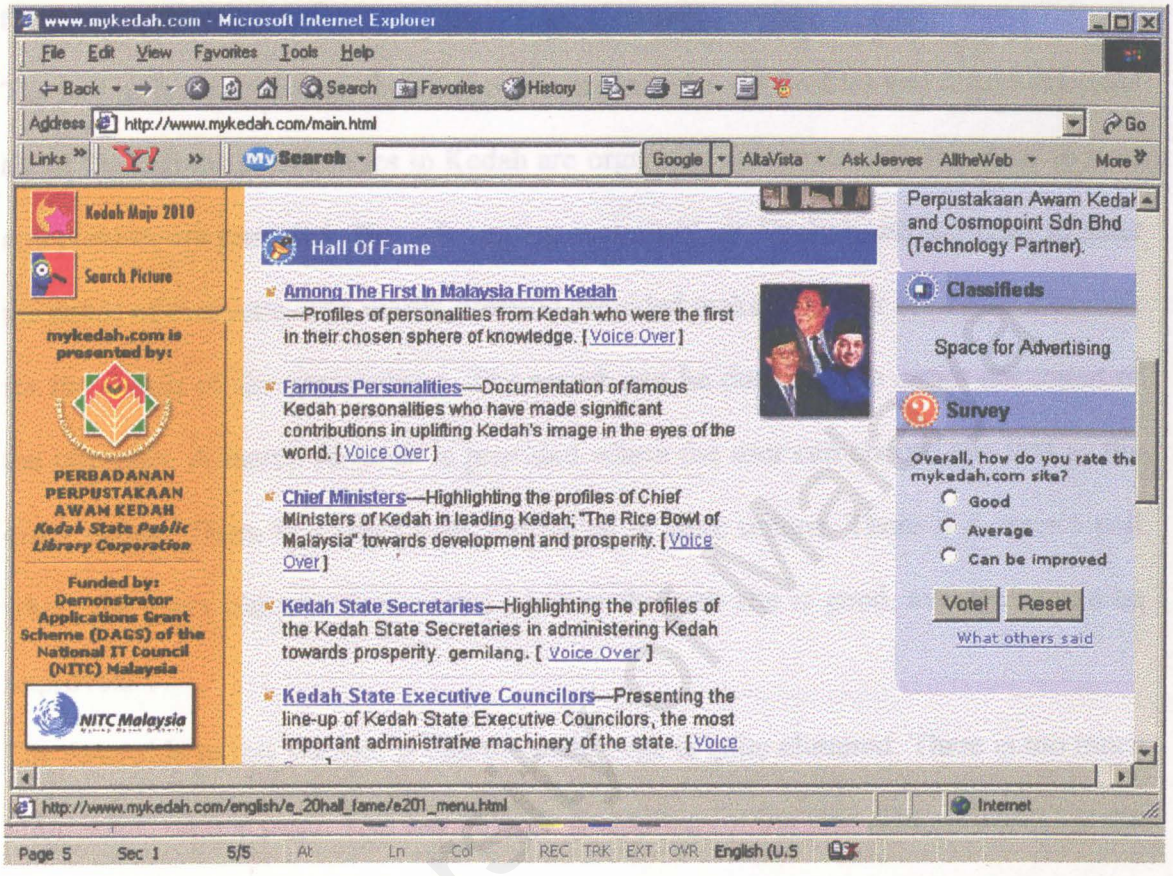


Figure 2.1: My Kedah website

This site is a local site which is presented by the Kedah State Public Library Corporations and funded by Demonstrator Applications Grant Schema (DAGS) of the National IT Council (NITC) Malaysia. This site is quite informative about the state of Kedah. There are a few categories the users can choose from. There is a section called about my Kedah where the background and the objectives of the site are stated. There is also an e-community and e-services. This is where forums, student net and classified functions exist. Calendar of events, business directory, currency converter, prayers time

and information about the collection of traditional foods are available on the e-services. Other links to the federal government and agencies, and state government and agencies are also available. A feedback form is included in the about my Kedah section so that the users can send in their comments.

The hall of fame section as shown above is organized well. Profiles and documentations about the famous personalities in Kedah are organized systematically. It is easy to read and pictures are provided. The information is available in English and in Malay to cater the needs of everyone. The search function provided makes it easier for the user to look for the details of the personalities. The search can be done for the entire document or the title only. A match function is provided where the user can choose any text or the exact phrase. There is a voice over too which is quite unique. There is a voter's poll where the users can give their views whether the web site is good, average or can be improved.

The downside to this website is that the main page is quite cluttered. There is too much information on one page. This can be quite frustrating for the user. They wouldn't know what to see first. The colors chosen for the interface is quite attractive.

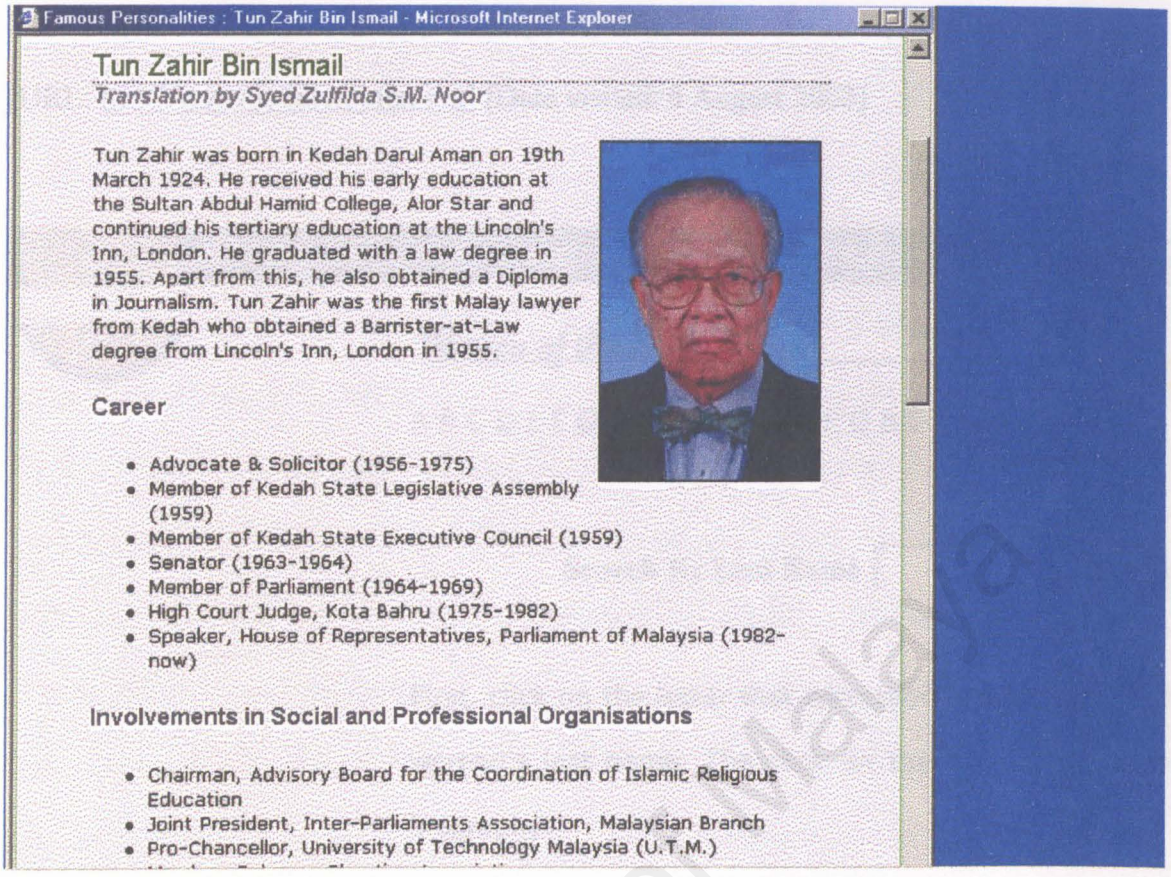


Figure 2.2: An example of the hall of fame section

2.9.2 National Women's Hall of Fame, America

[URL: http://www.greatwomen.org] [Date visited: 6 August 2003]

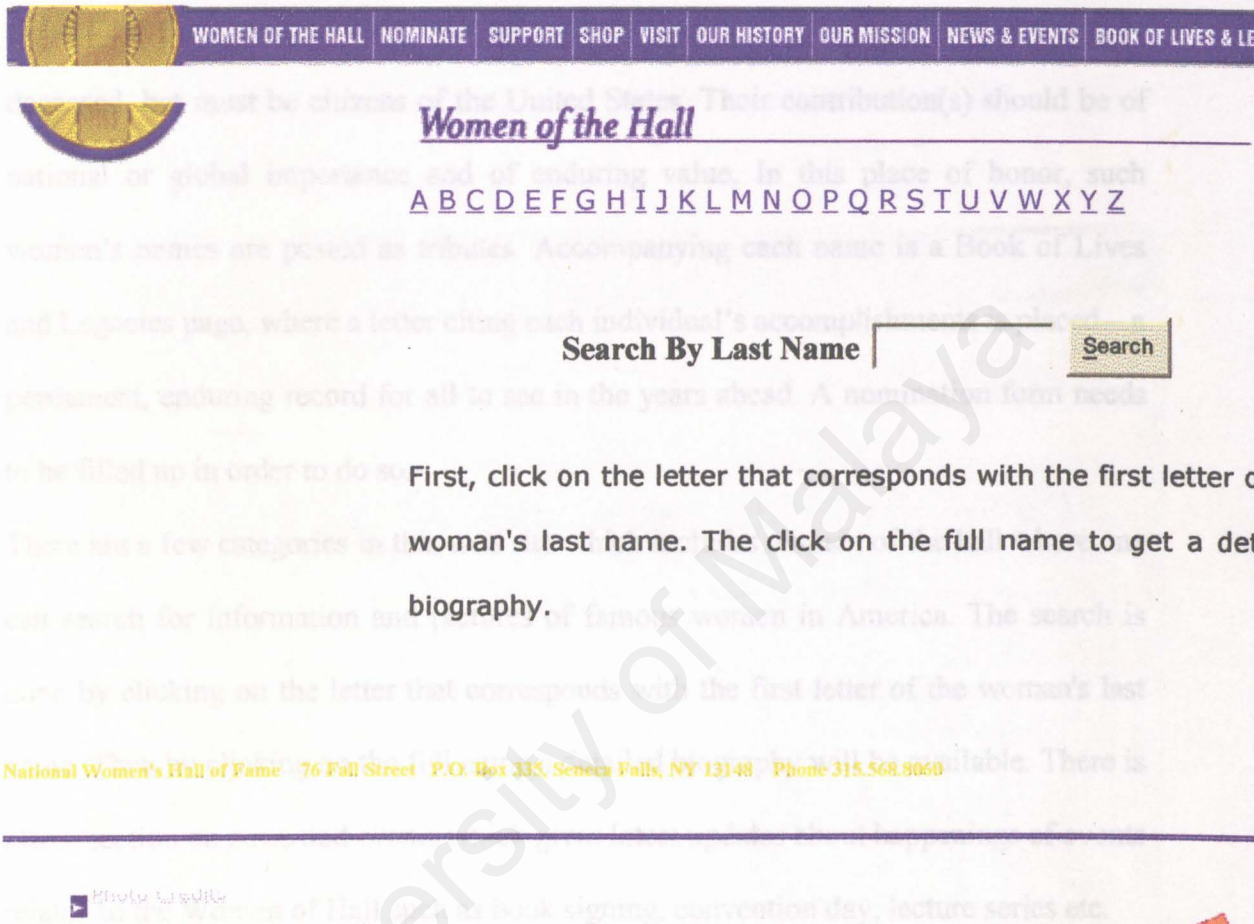


Figure 2.3: National Women's Hall of Fame

The study for this site is an example of a foreign hall of fame. This National Women's Hall of Fame website has been created to honor women of achievement and accomplishment. There is a special section called nominate on this website where American's can nominate their friend, mother, colleague or any woman whom they feel

deserving of a lasting honor. The mission of the National Women's Hall of Fame is: "To honor in perpetuity those women, citizens of the United States of America, whose contributions to the arts, athletics, business, education, government, the humanities, philanthropy and science, have been the greatest value....". Nominees may be living or deceased, but must be citizens of the United States. Their contribution(s) should be of national or global importance and of enduring value. In this place of honor, such women's names are posted as tributes. Accompanying each name is a Book of Lives and Legacies page, where a letter citing each individual's accomplishments is placed – a permanent, enduring record for all to see in the years ahead. A nomination form needs to be filled up in order to do so.

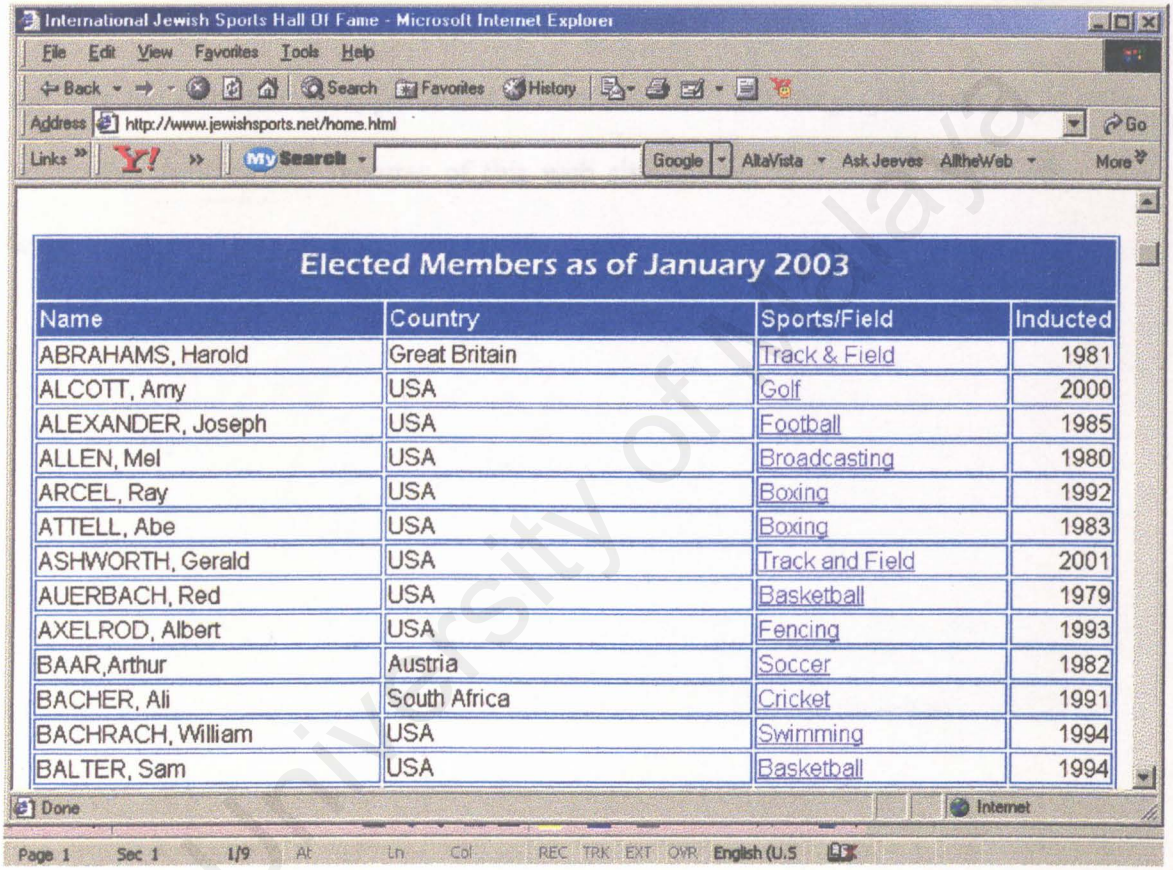
There are a few categories in this web site which includes women of the hall where one can search for information and pictures of famous women in America. The search is done by clicking on the letter that corresponds with the first letter of the woman's last name. Then by clicking on the full name a detailed biography will be available. There is also a section on news and events which gives latest updates about happenings of events related to the Women of Hall such as book signing, convention day, lecture series etc. This site also includes their history and their mission. There are other categories like shop, visit, support and book of lives and legacies. There is also a Frequently Asked Questions (FAQ) page where answers to common questions are stored. This site also provides good contact numbers.

The interface is not quite attractive and can be improved. It is rather simple. This web site caters for the women of America. It is more of a membership website where the

members will receive latest updates about it even though other users can access the information available on this website.

2.9.3 International Jewish Sports Hall of Fame

[URL: http://www.jewishsports.net/home.html] [Date visited: 8 August 2003]



Elected Members as of January 2003

Name	Country	Sports/Field	Inducted
ABRAHAMS, Harold	Great Britain	Track & Field	1981
ALCOTT, Amy	USA	Golf	2000
ALEXANDER, Joseph	USA	Football	1985
ALLEN, Mel	USA	Broadcasting	1980
ARCEL, Ray	USA	Boxing	1992
ATTELL, Abe	USA	Boxing	1983
ASHWORTH, Gerald	USA	Track and Field	2001
AUERBACH, Red	USA	Basketball	1979
AXELROD, Albert	USA	Fencing	1993
BAAR,Arthur	Austria	Soccer	1982
BACHER, Ali	South Africa	Cricket	1991
BACHRACH, William	USA	Swimming	1994
BALTER, Sam	USA	Basketball	1994

Figure 2.4: International Jewish Sports Hall of Fame

This site is an international site which recognizes regional and local Jewish halls of fame established in North America and encourages the development of others throughout the world. The categories included in this web site are name, country, sports/ field and the year they were inducted. This website is very simple and is not quite

attractive. No search engine is incorporated to search for any of the information here. The web site has been categorized by sports and field. The name of this web site is quite misleading because a user would think it's about sports but it actually includes other fields such as broadcasting. The sports which have been included are track and field, golf, swimming, cricket, football, basketball and etc. So if a user wants to know about a certain sportsman or sportswomen, they have to click on the sports or if they know the name of the sportsperson then they can easily find the information needed. Besides that, the way the information is presented is cluttered. It is not very systematic. It is rather confusing. Among The features of this web site are not as dynamic as the other two websites presented earlier.

2.9.4 Achievement Gallery

[URL: http://www.achievement.org/galleryachieve.html] [Date visited: 11 August 2003]

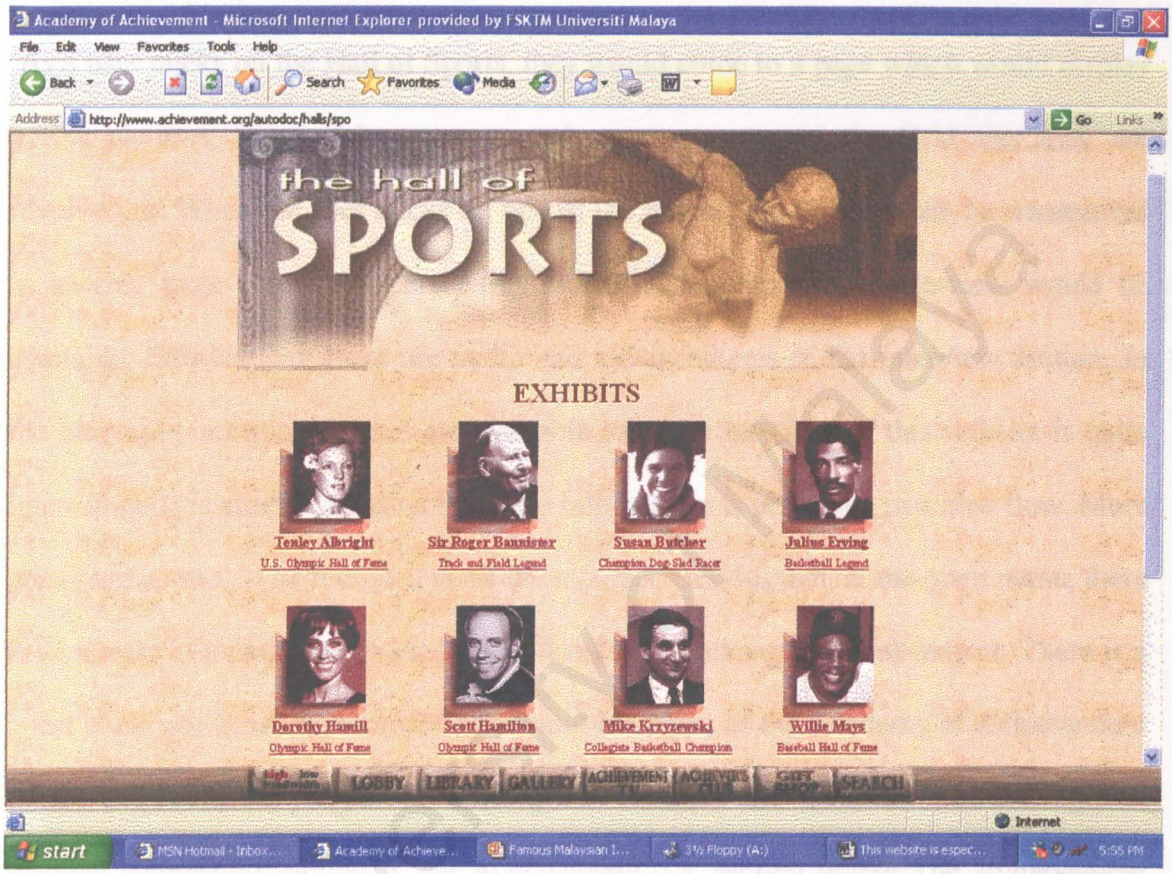


Figure 2.5: Hall of Sports

This website is especially dedicated to legendary achievers. These contemporary role models have been categorized in the great walks of life: the Arts, Public Service, Sports, Business and Science and Exploration. The biography and profile of each featured achiever are also available. The Gallery of Achievers is linked in specific areas to the Steps of Success. The Gallery of Achievement offers guests the opportunity of conversing with current-day Academy members. In the Steps to Success section, users

can browse through essential elements of achievement shared by all Academy members: Passion, Vision, Preparation, Courage, Perseverance and Integrity. Here is where members will describe in their own words how they applied these principles to be successful. In this section there are also quotes of the day.

As a user clicks on the Hall of Sports, they would come to a page which would display a few pictures, names of sportsman and sportswomen and the field that they are involved in. When the user clicks on one of the names, they would then be transported to another page where the personality's profile, biography and interview would be available. Besides that, there are audio and video features in the interview section. In the biography section, pictures are available too. The interface of this website is quite interesting. It is simple yet attractive. The information is presented in a nice flow. More personalities should be included in all the sections. Besides that, at the main menu, there is an access to main areas and exhibit halls of the Academy of Achievement. There is a guest book which can be accessed by alumni members of the Academy of Achievement Salute to Excellence program or other guests who are not members can also register. Another interesting section is the Achievement TV section where The Achievement Television Network introduces a revolutionary concept by bringing individuals who have shaped the history of the twentieth century directly into classrooms. The electronic forum allows students to learn from outstanding individuals. A polling survey and bulletin board are also featured here. Curriculum materials are provided for teachers and students.

The library section has five main areas: Books That Change Lives, Virtual Book Club, Who's Reading What, Reader's Bulletin Board, and a link to the Library of Congress. In Books That Change Lives, guests will discover which books influenced the childhood of America's most extraordinary achievers. In the Virtual Book Club, guests can participate in monthly live chat sessions with renowned contemporary authors. Each session will focus on two books: one the author has written, and another which the author considers a favorite. The Library is also linked to the Library of Congress site on the World Wide Web.

The achiever's club section is a special by subscription-only area, where members can access on-line chats with Academy of Achievement inductees and other club members. The Achievers' Club discussion group's features live dialogue with Academy members on a variety of topics. Another section called curriculum center allows parents, teachers and students to integrate portions of this site into their curricula. Grade specific curricula containing audio, video and text are available and can be downloaded. The sponsor exhibit area allows a user to explore information and exhibit materials from Academy of Achievement sponsors and provides links to sponsor sites. There is a search feature where the user has an option of searching using the exact match of words or case insensitive. There is also a keyword search which gives the users to view three categories which are gallery of achievers, curriculum center or uncategorized. Here the words are organized alphabetically and when the user clicks on the word they will reach to the page where there are a few options available. Then the user can click on one of the available options.

2.9.5 National Basketball Association, America

[URL: http://www.nba.com/players/international_player_directory.html] [Date visited: 12 August 2003]

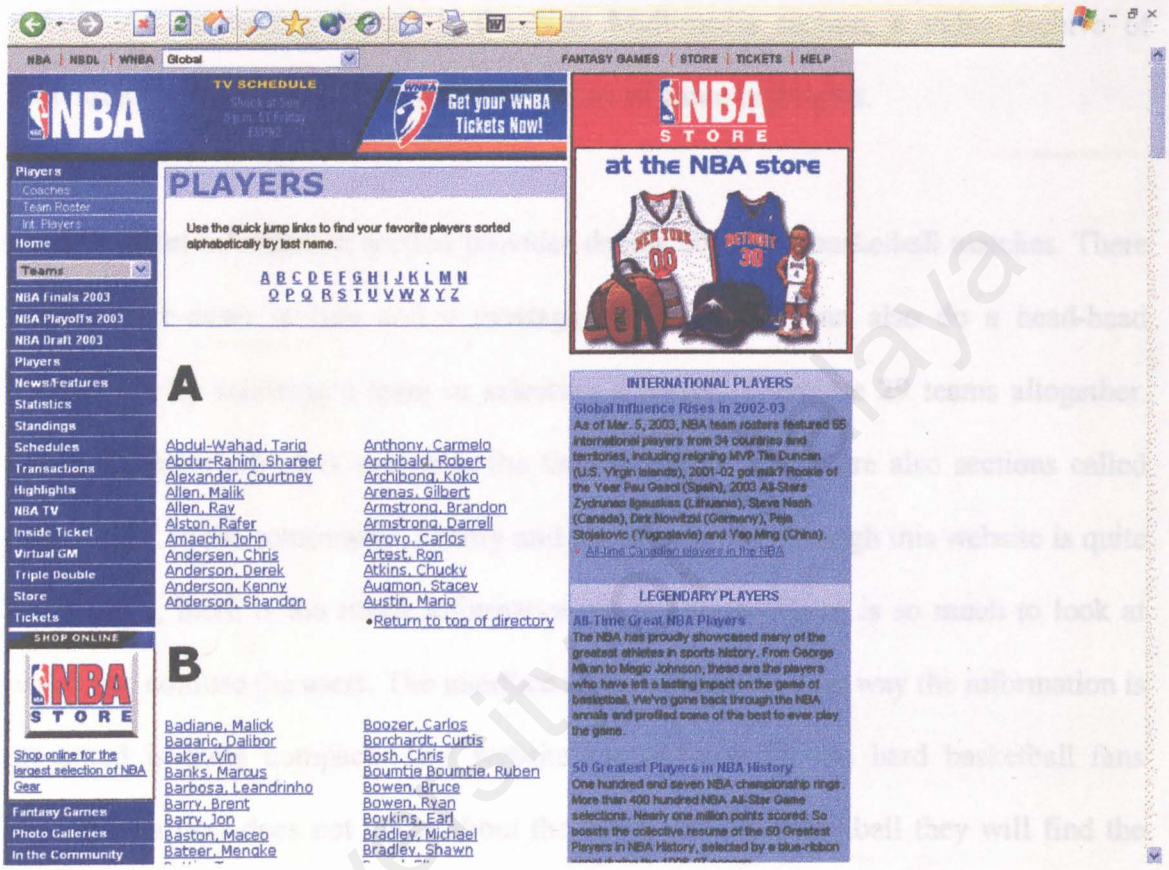


Figure 2.6: National Basketball Association

This website is quite comprehensive for basketball fans. There are a few categories in this web site which includes NBA Finals 2003, NBA Playoffs 2003, Players, Highlights, etc. There are quick jump links which are used to find about favourite players sorted alphabetically by last name. When the user clicks on the name, the

players career highlights, picture and personal details will appear. On this page, there is another menu where a user can choose from. This includes season statistics and notes, season splits, game-by-game statistics, biography and printable player file. There are other links too which connect to home, news, roster, statistics, schedule/scores and tickets. An interesting feature is the Nets Multimedia section, a video archive of individual player video clips and a growing list of game highlights.

The ticket information section provides details about the basketball matches. There is also an e-news section and a message board. A user can also do a head-head comparison by selecting a team or selecting a player. There are 29 teams altogether. Another feature which is unique is the fantasy games. There are also sections called inside stuff, in the community, history and photo galleries. Though this website is quite informative, there is too much information on one page. There is so much to look at which can confuse the users. The interface is quite simple but the way the information is presented is quite compact. This website caters more for die hard basketball fans because if a user does not know about the terms used in basketball they will find the information here not useful.

2.9.6 The Law's Hall of Fame

[URL: http:// www.duhaime.org/Law_museum/hall/fame.htm] [Date visited: 14 August 2003]

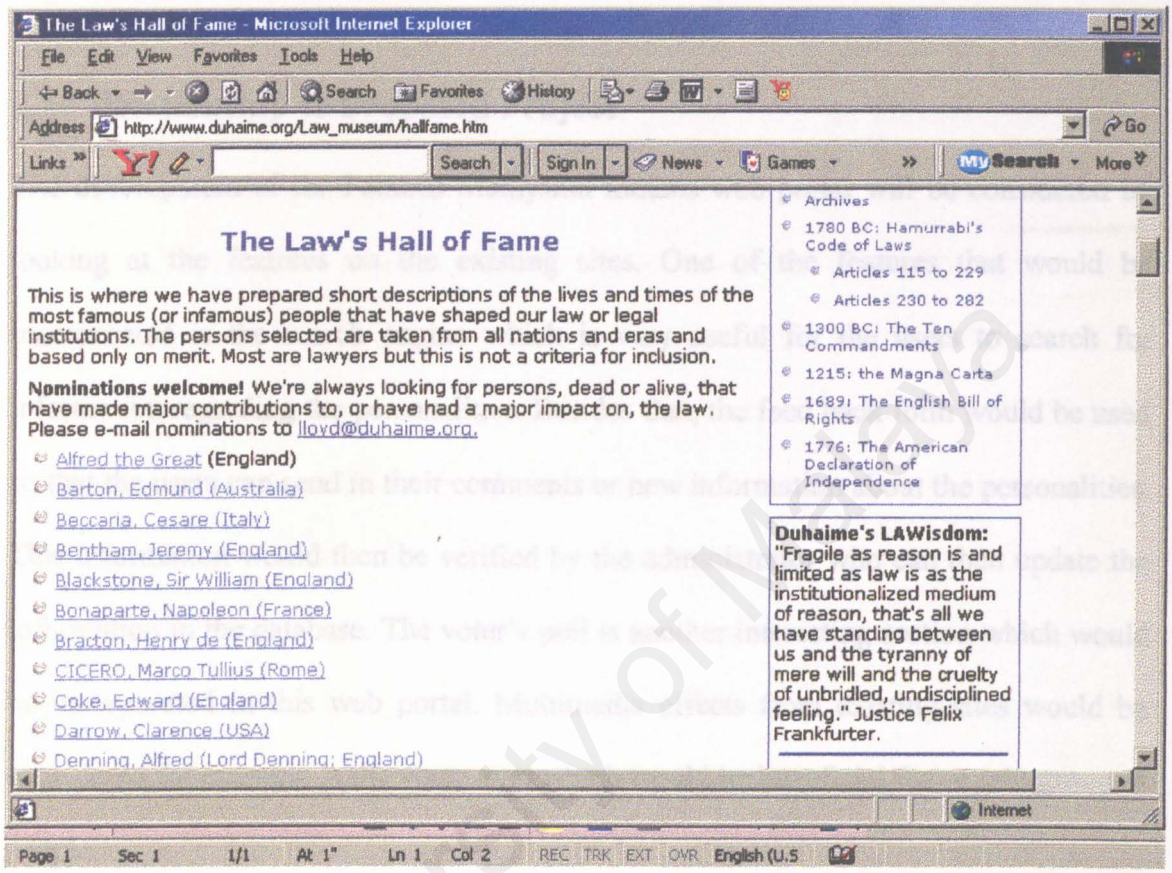


Figure 2.7: The Law's Hall of Fame

This hall of fame section is from the law website. This section has short descriptions of the lives and times of famous people who have played a part in shaping the law or legal institution. There are quotable quotes from famous people in law available on this web site. This web site caters mostly for people in the legal institution. There is useful information like the legal dictionary which is arranged in alphabetical order. Besides that, there are legal resources the family law, criminal law, contract law and etc. This web site is quite simple. There is no search function available. The short descriptions

are not compiled in a systematic order in my opinion. This makes it hard for the users to read. There are links to the law museum. Basically, this website is useful for people who want to know about the law system.

2.10 Relationship to Proposed Project

The development of the Famous Malaysian Indians web portal will be considered by looking at the features on the existing sites. One of the features that would be incorporated is the search engine which is very useful for the users to search for information regarding the personalities. Besides that, the feed back form would be used so that the users can send in their comments or new information about the personalities. This information would then be verified by the administrator who can then update the information in the database. The voter's poll is another interesting section which would be incorporated in this web portal. Multimedia effects from existing sites would be considered for example is the voice over which would be beneficial for certain group of people.

The web portal on Famous Malaysian Indians might not be so dynamic compared to some of the existing web sites. One factor for this is because there isn't any web portal on this topic done before. A lot of information needs to be collected to make it efficient and dynamic. Information about these personalities will be found from libraries, magazines, newspapers, interviewing and etc. Later they would be compiled and added in the database.

2.11 Summary of Literature

Based on the literature review done, it is clear that the methods used give us the understanding of the system. This would be essential to ensure the success of the system. The project about the Famous Malaysian Indians is a web portal. This means that the web server, database server and web browser play an important role in the development of the project. By looking through the existing web site, it gives the developers an insight on how to set up the system. New ideas can be formed or incorporated. When the literature review is done, the information gathered will be organized and understood in a meaningful way. They will then provide a direction for the system to be developed in a proper way. The literature review also helps the developer to analyze the requirements to determine what are the correct requirements for the project. Overall, the literature review gives the developers an opportunity to understand the system better. This will minimize the errors that might occur in the future. The developer would also be better equipped when dealing with problems later on regarding the system.

CHAPTER 3

METHODOLOGY

This chapter will describe the methodology used for the system development process. Three software development processes that will be considered are the waterfall model, waterfall model with prototype and the prototype model. Every system development process model includes system requirements as input and delivered product as output. These are some reasons for modeling a process:

- To form a common understanding of the activities, resources and constraints involved in a system development.
- Help to find inconsistencies, redundancies and omissions in the process and its constituent parts. As these problems are noted and corrected, the process becomes more effective and focused on building the final product.
- The model reflects the goals of the development, such as building high quality system, finding faults early in the development and meeting required budget and schedule constraints.
- Every process should be tailored for the special situation in which it will be used. Building a process model helps to understand where that tailoring is to occur.

3.1 Project Objectives

The web portal on Famous Malaysian Indians will be a dynamic site for the users to use. The purpose of this web portal is to provide a scalable platform that will have useful information about the famous Indian in Malaysia. This web portal is beneficial to students, educationists and also generally to everyone who is interested in widening

their knowledge about the personalities. It would also serve as a repository of valuable information for the future generation in an easy way.

3.2 Development Methodology

3.2.1 The Disadvantages of Waterfall Model

- It cannot be adopted on all projects because some projects need repetition in its development process except for well understood problems.
- There is no insight how the each activity transforms one artifact into another, such as requirement to design.
- It treats software as a manufacturing process and not as a problem solving process.

3.2.2 The Disadvantages of Prototyping Model

- Developers will be too eager to finish the system without concern for the actual quality of the system.
- Unsuitable operating system or programs may be used to produce fast outputs.

3.3. Rationale for Proposed Methodology

3.3.1 The Waterfall Model With Prototyping

This system development process is similar to the typical waterfall model except it includes activities and sub processes that enhance the understanding of the model. Prototyping is such a sub process; a prototype is a partially developed product that enables users and developers to examine some aspect of the proposed system and decide if it is suitable or appropriate for the finished product.

Often, the user interface is built and tested as a prototype, so the users understand what the new system will be like, and designers get a better sense of how the users like to interact with the system. Three other processes occur in the model life cycle; validation ensures that each system function can be traced back to a particular requirement in the specification; system testing also verifies the requirements; verification ensures that each function works correctly.

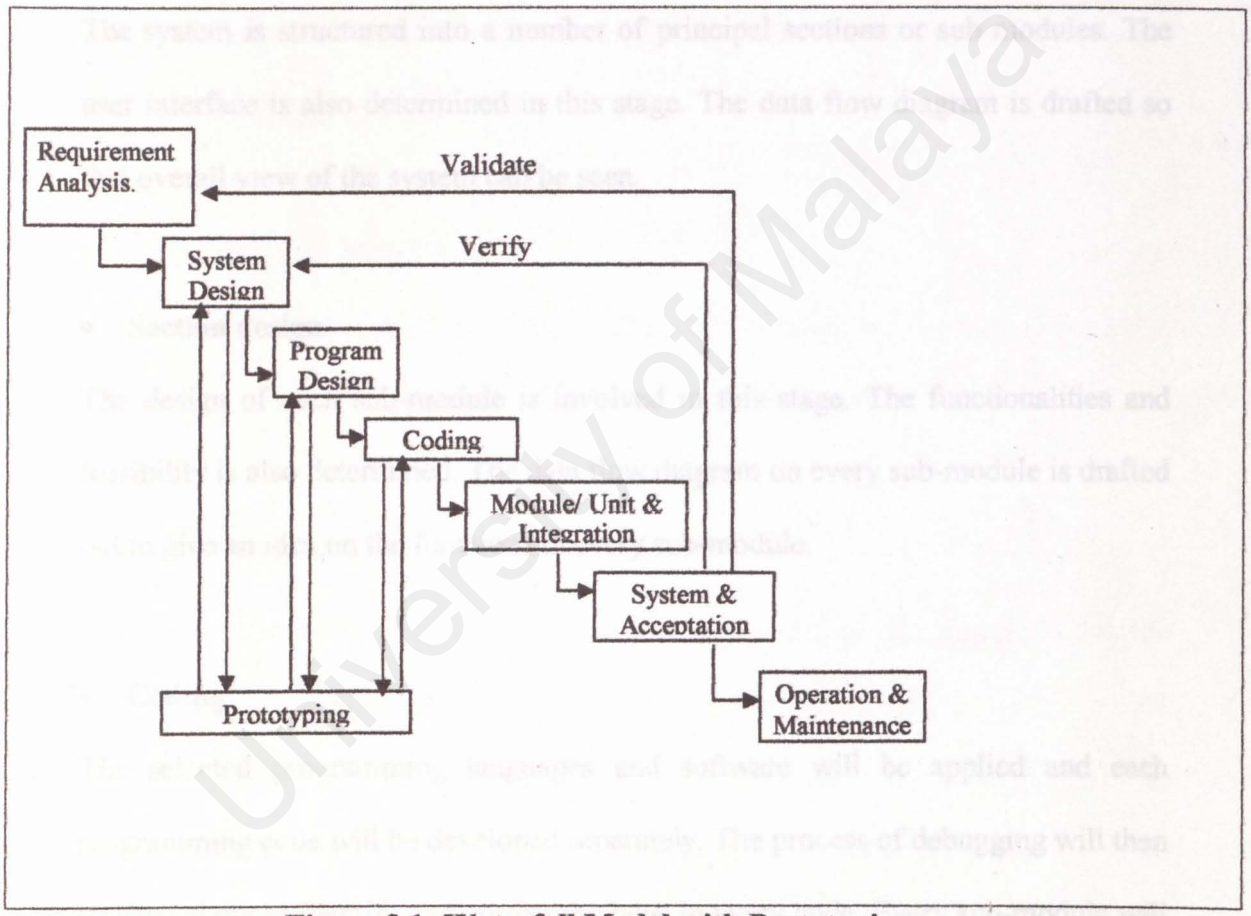


Figure 3.1: Waterfall Model with Prototyping

3.3.2 Stages in the waterfall model with prototyping

- **Requirements Analysis**

This is the first stage in this model. The systems functionality and constraints are established and the problems are identified. The software and system requirements of this project are determined during this phase.

- **System design**

The system is structured into a number of principal sections or sub modules. The user interface is also determined in this stage. The data flow diagram is drafted so that overall view of the system can be seen.

- **Section design**

The design of each sub-module is involved in this stage. The functionalities and feasibility is also determined. The data flow diagram on every sub-module is drafted out to give an idea on the functions in every sub-module.

- **Coding**

The selected programming languages and software will be applied and each programming code will be developed separately. The process of debugging will then be carried out to identify and correct the bugs in every code. Every sub-module will be developed in this stage.

- **Unit and Integration Testing**

Every sub-module that has been developed in the coding phase will be tested as a unit to validate its functionality. Then all the units that have been tested and bug free would be integrated.

- **System and Delivery Testing**

The integrated units are tested as a system application to ensure that the system meets the user specification and requirements. The system is tested together with the user after the delivery process. Then the system is implemented.

- **Operation and Maintenance**

The discovered errors will be corrected. Necessary changes will be made in order to improve the system's functionality and processing efficiency.

3.4 Requirements Analysis

It is not easy to establish exactly what the system should do. Requirements for the system are the descriptions of both services and constraints including the process of identifying, analyzing, documenting and checking them which is known as requirements engineering. The purposes of requirement analysis are as follows:

- To discover the requirements for the system as a whole.
- Establish a set of overall objectives which the system should meet.

3.4.1 Functional Requirements

Functional requirements are what the system should offer. It describes the functionality or services the system is expected to provide. The functional requirements for the famous Malaysian Indians web portal are:-

- Maintenance

The system allows authorized people to edit, delete and upload information in the web portal and database. Administrators have a login account to access into the backend system to upload information. The administrators will be able to update information via forms.

- Authentication/ Security features

Only authorized people are allowed access into specific functions in the systems. The administrators would have a user name and password. The system should allow the administrator to change the password from time to time.

- Search

Search provides an easy way to search and retrieve information, image and collection by keyword, location, name and other relevant features.

- Feed back

The system would have a feed back section where a feed back form would be provided. Users should be able to ask questions, give comments and input

information. The information given would be verified and then uploaded on the web portal. The users can give their feed back to the administrator through the e-mail address which is provided.

- Voting poll

The voting poll would enable users to give their view on the Famous Malaysian Indians web portal. They can vote to say whether the web portal is good, average or needs improvement. Then they can submit their vote. They would be able to see the overall votes of other users.

3.4.2 Non-functional requirements

Non-functional requirements are requirements that are directly concerned with the specific function delivered by the system (Sommerville, 2001). It is also known as constraints on the services or functions offered by the system. Listed below are the non- functional requirements that have been considered for the portal.

- User-friendliness

The user interface of the portal must be user-friendly. It should not be too difficult to navigate and its operations are easy to understand even for non-technical users.

- Security

The administrator module should not be available for access by unauthorized people.

- Reliability

The portal meets the expectations to perform its intended functions accurately and keeping minimal failures.

- Maintainability

The ease, with which the portal can be understood, corrected or enhanced.

- Portability

The system should be designed in such a way that the application is able to work on various platform and hardware. It should have the capability where migration of component in the system does not require minimum or even no modification, recompiling, reconfiguration or redesign.

- Usability

The system will provide high level of usability to users through its communicativeness and operability such as easy-to understand user interface, user menu and prompt responses.

3.5 Feasibility Studies

Feasibility is the measure of how beneficial or practical the development of information system will be. The scope and complexity of an apparently feasible project can change after the initial problems and opportunities are fully analyzed or after the system has been designed. There are four categories of feasibility tests. Operational feasibility is a

measure of how the user feels about the system/ project. Technical feasibility is a measure of the practicality of a specific technical solution and the availability of technical resources and expertise. Schedule feasibility is a measure of how reasonable the project timetable is. The system should be able to be developed in the given time frame. To measure the cost-effectiveness of a project, economic feasibility is measured. Similar existing applications were checked. Most of the features in this application already exist in other similar application. Discussions with seniors who have done similar applications are carried out in order to know whether the system can be completed in the given time. Based on all this factors, it is concluded that this web portal is feasible enough to be developed. It is also the first of its kind being done by the students in the Faculty of Computer Science and Information Technology.

3.6 System Requirements

3.6.1 Software Requirements

- Operating system: Microsoft XP Professional.
- Web technology: Active Server Pages.
- Web server: Internet Information Server 6.0.
- Database Management System: Microsoft Access 2000.
- Web development tools: Microsoft Front Page 2000, Adobe Photoshop 7.0.
- Preferred web browser: Microsoft Internet Explorer 6.0.
- Programming language: VB Script, Java Script and HTML

3.6.2 Hardware requirements

- Compile Processor : 8.66 MHz
- Hard disk space: 19.0 GB
- Drive: CD-ROM drive
- Memory: 64 MB RAM
- Display: VGA, Super VGA or higher.
- Peripherals: Mouse, keyboard or compatible pointing devices, speaker, monitor.

3.7 Development Analysis

This section covers the analysis on the tools and technologies that will be used to develop Famous Malaysian Indians web portal. There are various tools and technologies that can be used to build this portal available in the market today but after much consideration, the tools below would be used for the realization of this project.

3.7.1 Operating System

3.7.1.1Microsoft XP Professional

Microsoft Windows XP is the latest version of the Windows desktop operating system for the personal computer. Microsoft and trade publication writers view Windows XP as the most important version of Windows since Windows 95. Windows XP is built on the Windows 2000 kernel but brings a new, more personalized look to the desktop that will also make it easier for users to scan or

import images. The Start Menu has been redesigned to make the most-used programs Windows XP comes in a Professional version and a Home Edition version. By safeguarding system files, Windows XP Professional mitigates many of the most common system failures encountered in earlier versions of Windows. A cleaner work environment allows the user to be more efficient. Users can find the crucial data and applications they need quickly and easily. All of these settings can be controlled using Group Policy, so IT administrators can decide what features are most appropriate for their environments

3.7.2 Web Server Software

3.7.2.1 Microsoft Internet Information Server (IIS)

Microsoft IIS is the core Windows Me services that provide Internet services. It is also the underpinning that provides information-publishing capabilities in the Internet. IIS comes bundled (free) with Microsoft Windows Me operating system. IIS serves equally well as an Internet web server or a public web server program. IIS uses Windows Me's User Manager to maintain users and groups, saving the trouble of maintaining multiple sets of network and web site users.

IIS includes an integrated search engine that allows users to create custom search forms with a variety of tools, including ASP, Active X Data Objects and SQL database queries. The IIS web server software also includes Microsoft Front Page HTML development tool. IIS supports File Transfer Protocol (FTP), allowing users to download files and data from the IIS server site with the FTP protocol.

IIS also provides additional levels of security and a built-in certificate server that allows organizations to issue and manage digital certificates verifying identities. Access control can limit use by groups or individuals and can be applied to directories and files. Part of documents can be hidden from users who do not have clearance to access them.

3.7.3 Web Development Software

3.7.3.1 Adobe Photoshop 7.0

Adobe Photoshop 7.0 has been chosen as the graphic editor for designing the interface of the Famous Malaysian Indians web portal. Apart from a host of information, an attractive interface design is essential to woo visitors to the portal. Proper organization of information is the key to a good user interface design. The reasons of choosing the Photoshop 7.0 is Photoshop's abundance of exquisite bitmap manipulation tools (from brushes to colour correction) make it the reigning monarch of image editing. A user can not only group and roll them up, but can also dock them to the Palette Well of the improved context-sensitive toolbar (which displays different tools based on what you're doing). Click a palette in the Well, and it drops down like a menu. Click away from the palette and it snaps back up into the Well.

The enhanced feature set is impressive. Users can draw objects and text that remain editable and that print at the resolution of the output device, producing crisp edges no matter how much the user enlarges the image. Photoshop also sports substantial text-handling improvements. Instead of entering text into a dialog box, a user can now type text directly onto the page and change settings via the toolbar. The styles palette will

make it easier for the user where they can drop preset special effects (such as gradients, drop shadows and glows) onto any layer.

3.7.3.2 Microsoft Front Page 2000

Users can simply create a web page using Microsoft Front Page 2000. Users can set preferences on how they want the code to appear-nested or flat text, uppercase or lowercase on tags and parameters. In the past, users could only count on support for the latest versions of Internet Explorer, but now they can design for Netscape specific features and maintain pages compatible with older browsers.

Among Front Page's strongest points are it's collaborative capabilities pages on a file or web server can be checked in or out, leaving notes about who has done what work to individual pages, and what remains to be done. Users can easily incorporate several features normally requiring CGI-bin access or Perl programming, such as discussion groups, web contents or search forms. To use these features, the server that hosts user's web site must provide support for Front Page extensions, which is becoming increasingly common among commercial hosts.

3.7.4 Server-side Scripting Language

3.7.4.1 Active Server Pages (ASP)

ASP is a web server technology from Microsoft that allows for the creation of dynamic, interactive sessions with the user. An ASP is a web page that contains HTML and embedded programming codes written in VB Script or Jscript. It was introduced with version 3.0 of Microsoft Internet Information Server (IIS). When IIS encounters an ASP

page requested by the browser, it executes the embedded program. ASP's are Microsoft alternatives to CGI scripts and Java Server Pages, which allows web pages to interact with databases and other programs. Third party products add ASP capability to non-Microsoft web servers. The ASP technology is an ISAPI program and ASP documents use an .ASP extension.

ASP is based on the Active X scripting engine and enable developers to include server side executable script directly into a HTML document. Developers can create ASP using any of the popular scripting languages, including VB script, Java script, Perl and so on.

3.7.5 Client-side Scripting Language

3.7.5.1 Javascript

Java Script is an interpreted programming or script language from Netscape. It is similar in capability to Microsoft Visual Basic, Sun Tool Command Language, the Unix – derived Practical Extraction and Reporting Languages are easier and faster to code in than the most structured, compiled languages such as C and C++ are ideal for smaller programs or limited capability. Java Script is used in website development to do such things as automatically change a formatted date on a web page cause a linked to page to appear in a popup windows and cause text or graphic image to change during a mouse rollover. Java Script gives developers the ability to do things such as check form contents, communicate with user based on their actions and modify the web page dynamically without the web page being reloaded and without the use of Java, plug-ins or Active X contols.

3.7.6 Database Software

3.7.6.1 Microsoft Access 2000

Microsoft Access is available with the Microsoft Office Professional suite of products therefore no additional software is required to start working with it. Microsoft Access is likely to be available and supported for years to come because Microsoft is the premier software company in the world. It is also significantly cheaper to implement and maintain compared to larger database systems such as Oracle or SQL Server. Fairly complex databases can be setup and running in 1/2 the time and cost of other large database systems (the simpler the database the greater the cost advantage).

Besides that, Microsoft Access integrates well with the other Office suite of products (Excel, Word, Outlook, etc.). When designed correctly, Access databases can be ported to SQL Server or Oracle easily. This is important if a person wants to start small or develop a pilot database system and then migrate to the larger database management systems. An Access database can be easily placed on a website for wide access. Simple screens can be developed within Access, Data Access Pages or full control and functionality can be implemented using Active Server Page (ASP) programming.

3.8 Statement of Expected Outcome

The Famous Malaysian Indians web portal is a system that will serve as an informative and educational centre. This web portal can be used by the public in general especially teachers and students. The information available here would be reliable and useful for viewing. The administrator would be responsible in updating and editing the information on this site. The users will be able to give their feedback, vote, search and view the information on this web portal. Hopefully, this web site would serve its purpose of being an informative site.

CHAPTER 4

SYSTEM DESIGN

4.1 Introduction

System design describes all the design processes involved in developing the Famous Malaysian Indians Web Portal. These processes will be described in system architecture, database design and user interface design. System design enhances the understanding of the developer in building the system, thus reducing the risks that might occur in the implementation stage.

4.2 System Architecture

Process design describes the process in the form of system structure design. In Famous Malaysian Indians web portal, two modules are involved that is the user module and administrator module.

4.2.1 System Structure Chart

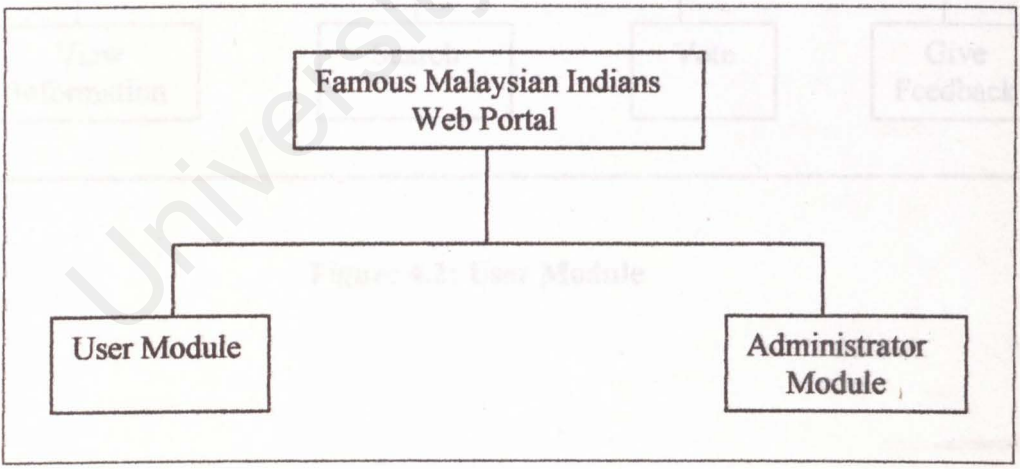


Figure 4.1: System structure

The figure above shows the system structure of the Famous Malaysian Indians web portal. It consists of the user module and the administrator module. The figures below shows what each module consists of. The user module has sub- modules like voting poll, feedback section, search function and viewing function. The administrator module has the functions of data management, feedback management, login function, change password and forget password function. The administrator is responsible for editing, uploading and replying to the feedback.

4.2.1.1 Structure Chart of the User Module

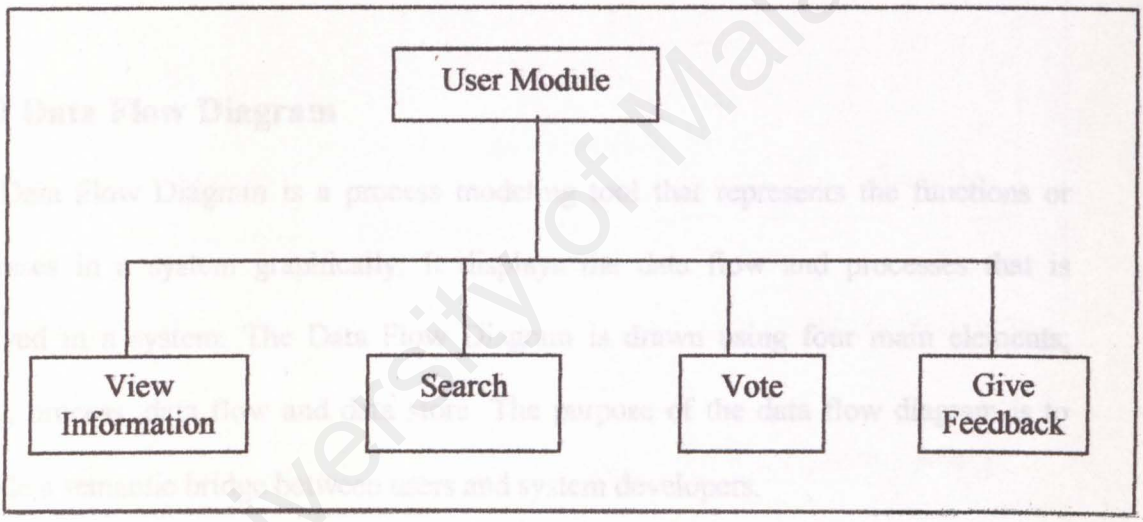


Figure 4.2: User Module

4.2.1.2 Structure Chart of the Administrator Module

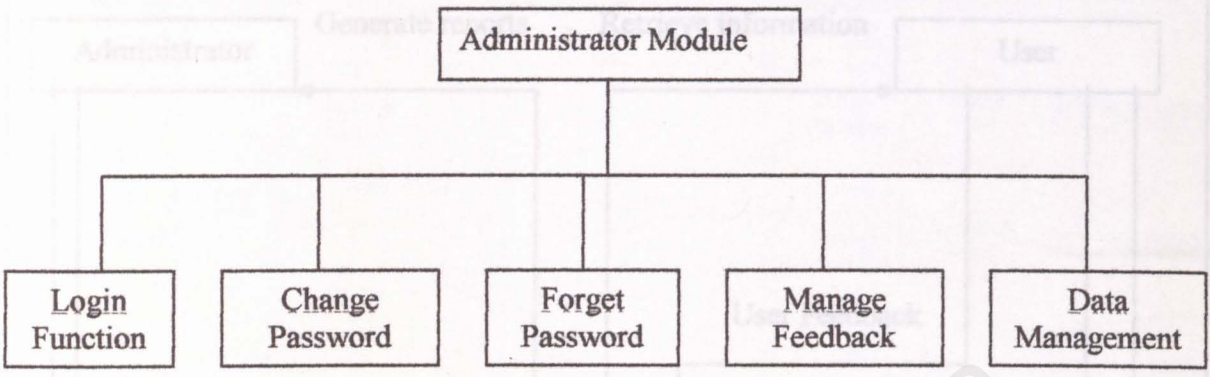


Figure 4.3: Administrator Module

4.2.2 Data Flow Diagram

The Data Flow Diagram is a process modeling tool that represents the functions or processes in a system graphically. It displays the data flow and processes that is involved in a system. The Data Flow Diagram is drawn using four main elements; entity, process, data flow and data store. The purpose of the data flow diagram is to provide a semantic bridge between users and system developers.

4.2.2.1 Context Level Diagram

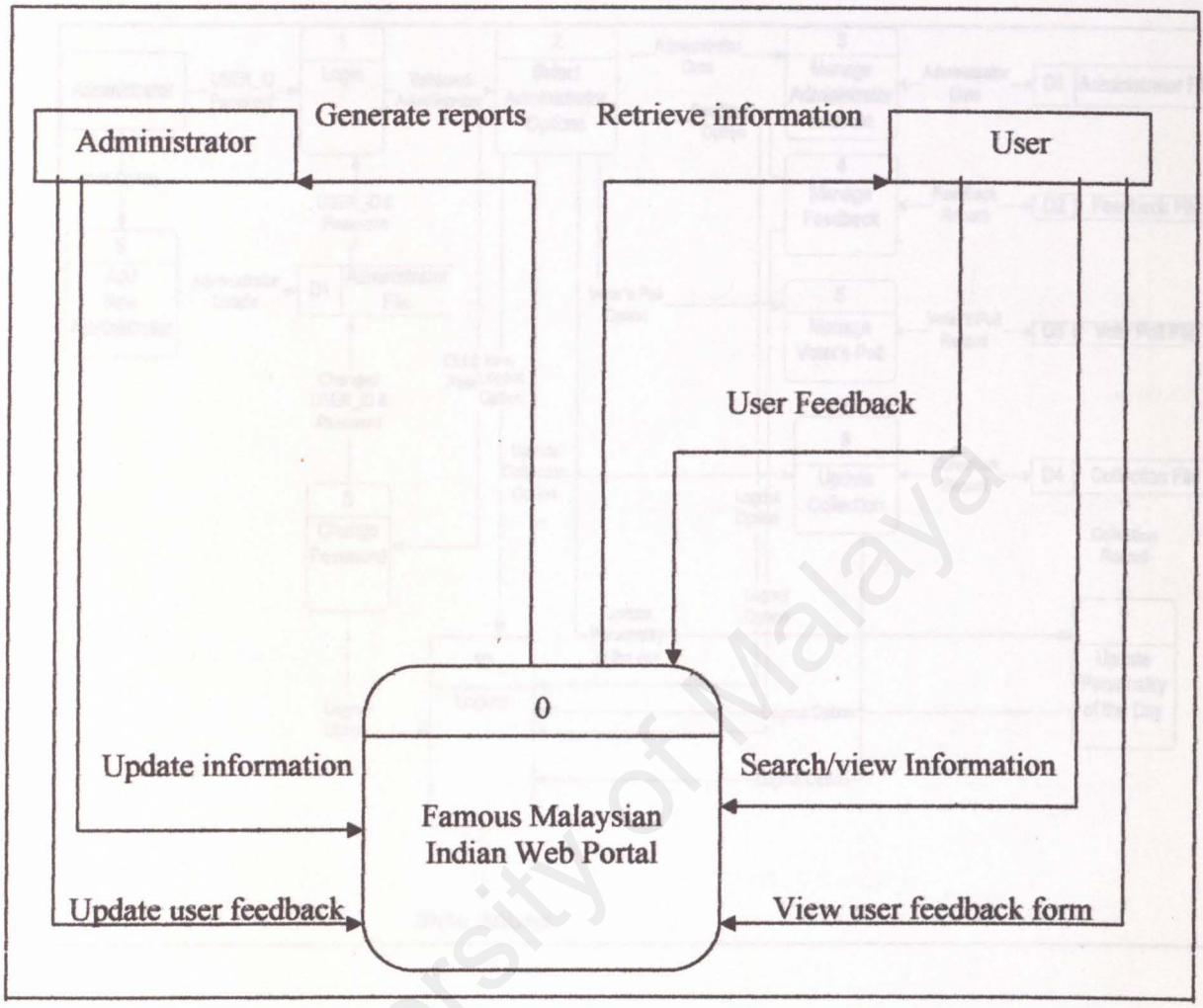


Figure 4.4: Context diagram for Famous Malaysian Indians Web Portal

4.2.2.2 Data Flow Diagram for the Administrator Module

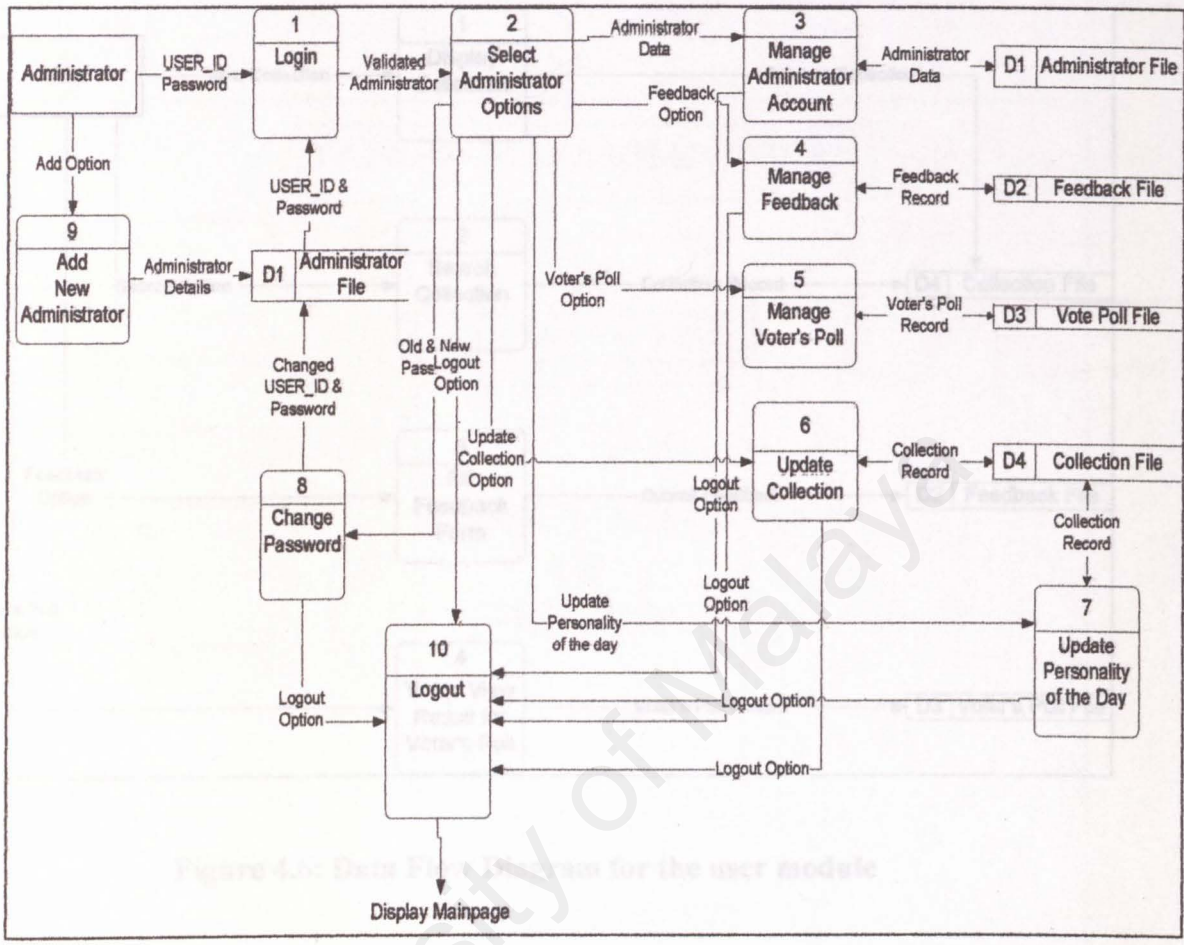


Figure 4.5: Data Flow Diagram for the administrator module

4.2.2.3 Data Flow Diagram for the User module

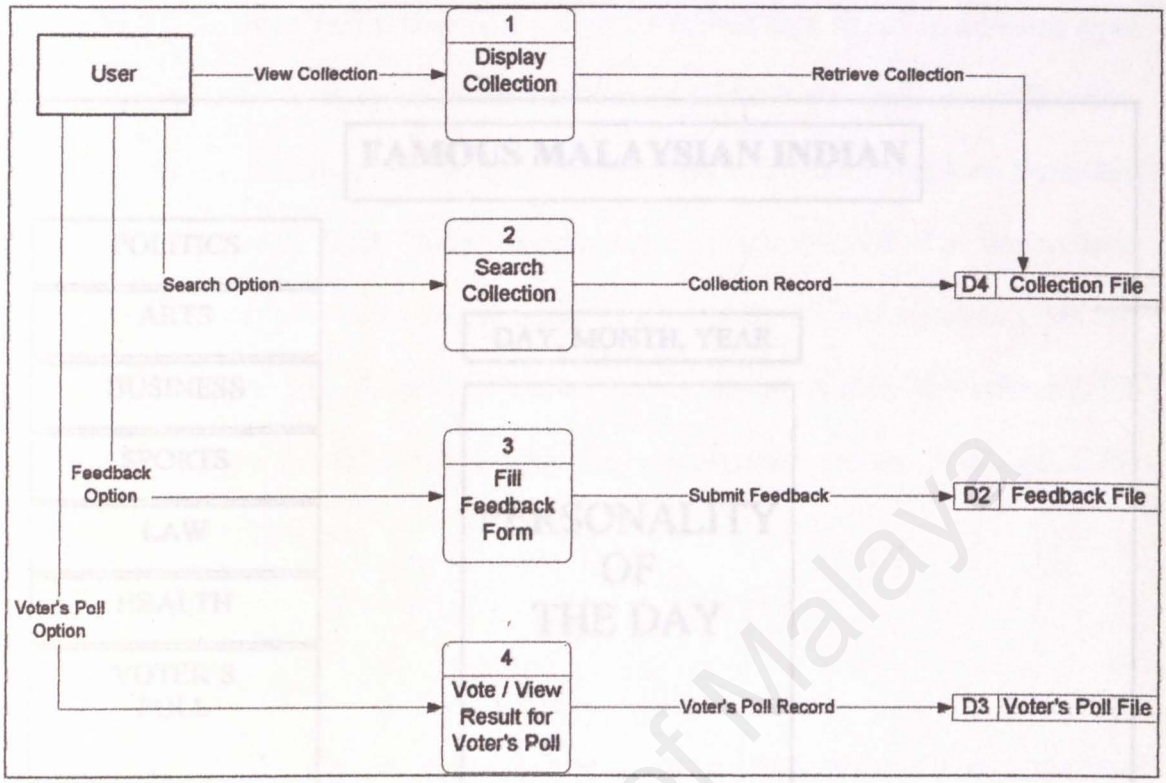


Figure 4.6: Data Flow Diagram for the user module

4.2.3 Layout of the System

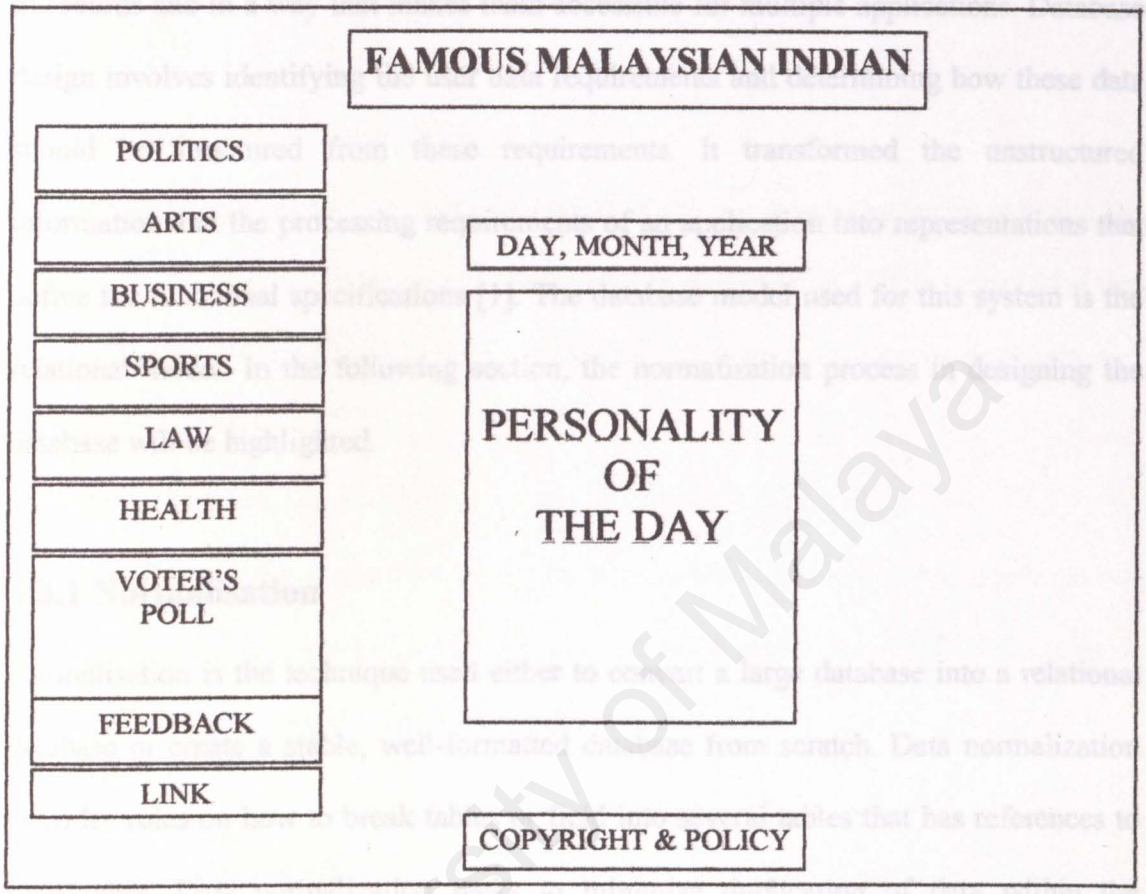


Figure 4.7: Layout of the system

The figure above is the layout of the system. On the left side is the main menu where the user can click on one of the fields. They will then be transported to whichever field the have chose. The administrator will first have to log in using their username and password if they want to edit or add information. The personality of the day section will change from time to time. The voter's poll and feedback section is also on the right side. Users can vote to say what they think about the web site. The feedback section will make it easier for the user to give suggestions and new information. Links to related sites would be available.

4.3 DATABASE DESIGN

A database is an integrated collection of logically related data stored in different types of records and in a way that makes them accessible for multiple applications. Database design involves identifying the user data requirements and determining how these data should be structured from these requirements. It transformed the unstructured information and the processing requirements of an application into representations that define the functional specifications [1]. The database model used for this system is the relational model. In the following section, the normalization process in designing the database will be highlighted.

4.3.1 Normalisation

Normalisation is the technique used either to convert a large database into a relational database or create a stable, well-formatted database from scratch. Data normalization provides rules on how to break tables or field into several tables that has references to each other. Data normalization seeks to minimize duplication of data within the database by logically dividing a large table into several small tables. This process of normalization makes information more differentiated and usable. The main purpose of normalization is to reduce data redundancy and to eliminate data inconsistency. A properly normalized database will not only save storage but also minimize the need to modify data relations if the system is later expended or upgraded. The steps below describe the basic normalization process.

Step 1: First Normal Form (1NF)

This step involves removing the entire repeating group and identifying the primary key(s).

Step 2: Second Normal Form (2NF)

The second step involves removing all partial functional dependencies by splitting the original relation into more relations. The relation is said to be in 2NF is the relation that is in 1NF and every non-key attribute is fully functional dependant on the primary key.

Step 3: Third Normal Form (3NF)

The third involves removing any transitive dependencies where non-key attributes are dependent on another non-key attributes. The relation is said to be in 3NF if the relation is in 2NF and there is no transitive dependency.

4.3.2 Data Dictionary

As most of us know, the volume of data in most of applications in substantial (more than a single analysts can easily keep track of). When teams of analysts work on a system, the task of coordinating data definition becomes more complex. Therefore, a data dictionary has to be developed in order to let system analysts and programmers to keep track of data definition used in the system. Individuals depend on the definitions other established and the assumption they made about data specification. A data dictionary is a repository of elements in a system. As the name suggest, these elements centre on data and the way they are structured to meet user requirements and

organizational needs. In a data dictionary, a list of all the elements composing the data following a system can be found. The major elements are data flows, data stores and process. The data dictionary stores details and descriptions of these elements [2]. There are 5 reasons why data dictionary is important

i) To manage the details in a large system.

ii) To communicate a common meaning for all system elements.

iii) To document the features of the system.

iv) To facilitate analysis of the details, in order to evaluate characteristic and determine where system changes should be made.

v) To locate errors and omission in the system.

Below are the lists of tables used for the database:

Table Name: Admin

Description: This table is used to store the administrator's profile

Table 4.1: Input type in the Admin table

Field Name	Data Type	Field Size	Description
AdminUserName	Text	50	A primary key used to identify each record uniquely.
AdminPassword	Text	50	A text to verify the administrator.
AdminQuestion	Text	50	A secret question asked to retrieve the forgotten password.
AdminAnswer	Text	50	A text to answer the admin question.

Table Name: BiographyLaw

Description: The table is used to store the data of the people in the law section.

Table 4.2: Input type in the BiographyLaw table

Field Name	Data Type	Field Size	Description
LawID	AutoNumber	Long Integer	A primary key used to identify each record uniquely.
LawName	Text	50	A text to name each person in this category.
LawCategory	Text	50	A text to name each category.
LawData	Memo	-	A section to insert data about the people involved in the sports section.

Table Name: BiographySports

Description: This table is used to store data of the people involved in sports.

Table 4.3: Input type in the BiographySports table

Field Name	Data Type	Field Size	Description
BioID	AutoNumber	Long Integer	A primary key used to identify each record uniquely.
BioName	Text	50	Insert a text to name each person in this category.
BioSport	Text	50	Insert a text to name the field

			of sports for each person.
BioData	Memo	-	A section to insert data about the people involved in sports.
BioCaption	Text	250	Insert a caption for each picture or article.

Table Name: Random Info

Description: This table is used to store data and images for the homepage.

Table 4.4: Input Type in the RandomInfo table

Field Name	Data Type	Field Size	Description
No_ID	Number	Long Integer	A primary key used to identify each record uniquely.
Name	Text	50	A text to name each person.
ImgURL	Text	50	A text to locate the images.
BriefInfo	Memo	-	A section to insert brief information about the famous people.
See URL	Text	50	A text to locate further information about the famous Indians.
Category	Text	10	A text to name each profile according to their categories.

Table Name: Title

Description: The table is used to store the information about the voter's poll.

Table 4.5: Input type for Title table

Field Name	Data Type	Field Size	Description
No	AutoNumber	Long Integer	A primary key used to identify each record uniquely.
ID	Number	Long Integer	A text to relate to the selection of answers for the voter's poll according to the titles.
Title	Text	200	A text to name the titles for the voter's poll.
Active	Text	1	A text to sets only one poll to active.

Table Name: Usr

Description: The table is used to store information about the administrator of the voter's poll.

Table 4.6: Input type for Usr table

Field Name	Data Type	Field Size	Description
ID	AutoNumber	Long Integer	A primary key used to identify each record uniquely.
Username	Text	100	A text for the administrator of the

			voter's poll.
Password	Text	100	A text to verify the administrator.

Table Name: Vote

Description: The table is used to store information about the results of the voter's poll.

Table 4.7: Input type for Vote table

Field Name	Data Type	Field Size	Description
No	AutoNumber	Long Integer	A primary key used to identify each record uniquely.
ID	Number	Long Integer	A text to relate to the selection of answers for the voter's poll according to the titles.
Answer	Text	200	A text to input the selection of answers.
No_vote	Number	Long Integer	To see the number of voters.
Picture	Text	50	To see the results of the voter's poll.

4.4 User Interface Design

The user interface is one of the most important features in a system because it is the first thing the user interacts with when entering a system. Therefore, to ensure high level of usability among users, the characteristics like it must be easy to understand, learn and fun to use should be followed. It should allow a user to accomplish a task faster and efficiently. The interface includes screens, windows, control, menu and others. Anything that user sees and interacts with is part of the interface.

So, the goal of interface design is to help users get information they need in and out of the system by addressing the following objectives:

i) Effectiveness as achieved through design interfaces that allow users to access the system in a way that is congruent with their individual needs.

ii) Efficiency as demonstrated through interfaces that increase speed of data entry and reduce errors.

iii) User consideration as demonstrated in designing suitable interfaces and providing appropriate feedback to users from the system.

There are two categories of the user interface design guidelines that can be followed. They are general interaction and information display.

4.4.1 General Interaction

i) Consistency

A consistent format for menu selection, command input, data display and the myriad other functions that occur in a user interface should be used.

ii) Offers a meaningful feedback

The users are provided with visual feedback to ensure that two-way communication (between the user and interface) is established. For instance, the mouse pointer will change its shape to an hourglass shape to visually inform the user that the system is now busy in process.

4.4.2 Information Display

i) Only information that is relevant to the current context is displayed.

The user should not have to wade through extraneous data, menu and graphics to obtain information to a specific system function. For example, only needed user information is displayed in the user list screen.

ii) Consistent labels, standard abbreviation and predictable colours should be used. The meaning of a display should be obvious without reference to some outside source of information. In Famous Malaysian Indians web site, there are six sections which are politics, arts, business, health, sports and law. In the sports section, there are two sections which is the biography and article section. The biography section is where the biography of the famous sportspeople is available. The article section consists of pictures or articles. The background colour for all the pages are the same. The layout is also the same.

iii) Inactivated commands that are inappropriate will appear.

This is to prevent the user from attempting some action that could result in error. If the user does not have access rights to some commands or buttons, the system will hide it from their view.

4.4.3 Menu Design

A menu interface provides the user with an on-screen list of available selections. In responding to the menu, user is limited to the options displayed. The user need not know the system but does need to know what task should be accomplished. The screen shot below shows the options available for the users to choose from. They can either choose politics, arts, business, health, sports or law from the left bar. The sports button is linked to the sports section. This is where the user can search for the sportspeople according to the five categories which are athletics, hockey, football, martial arts and others. The law button is linked to the law search. The user can search by looking through three categories which are judge, lawyer and magistrate. There is also a voter's poll where the users can vote from and let the administrators know what they think about the web site. The users can then view the results. They can also view the results of the previous voter's poll which had a survey about the sportspeople whom they admire.

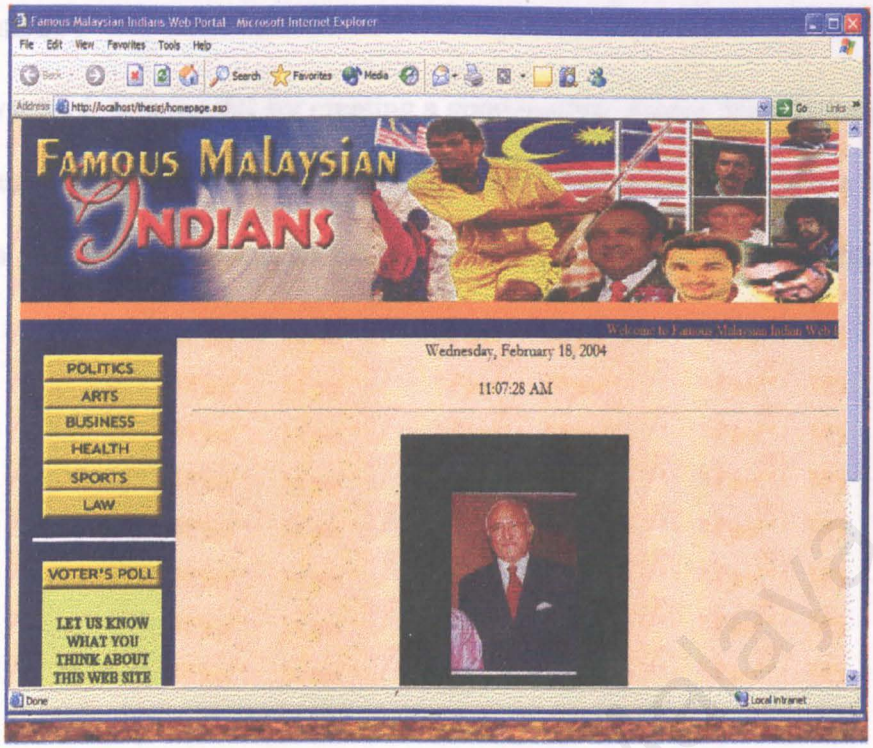


Figure 4.8: Screen shot of the home page

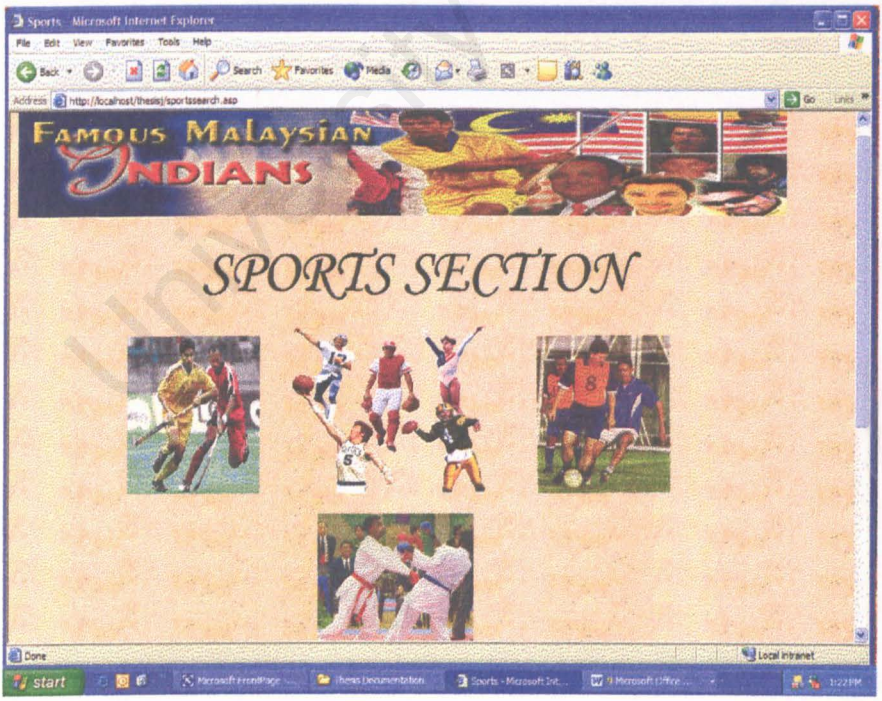


Figure 4.9: Screen shot of the sports section

4.5 Summary

A good system design is vital for creating a good system. A user friendly interface with a few other factors like the colour, the information display and etc. plays a key role in ensuring a good system design. In the next chapter, the system implementation will be discussed.

CHAPTER 5

SYSTEM

IMPLEMENTATION

5.1 Introduction

System implementation is a process of developing a system based on the given requirements. The process of coding is started in this phase where it took most of the time for developing this system. On completion of the design stages, here comes the stages where the database and the application have to be improved.

5.2 Development Environment

Development environment has a certain impact on the development of a system. Procuring suitable hardware and software will help to speed up the development.

5.2.1 Hardware Used

- Compile Processor : 8.66 MHz
- Hard disk space: 19.0 GB
- Drive: CD-ROM drive
- Memory: 64 MB RAM
- Display: VGA, Super VGA or higher.
- Peripherals: Mouse, keyboard or compatible pointing devices, speaker, monitor.

5.2.2 Software Used

Table 5.1: Software Requirements for System Implementation

Software	Purpose	Description
Microsoft XP Professional	System Requirement	Operating System
Internet Information Server 5.0	System Requirement	Web Server Host
Microsoft Front Page 2000	System Development	Web Page Designing Coding the Active Server Pages and HTML
Microsoft Internet Explorer	System Development	Web Browser
Microsoft Access	System Requirement	Database Development
Active Server Pages (ASP)	Application Programming	Server Side Scripting Language
Javascript and VB Script	Application Programming	Server Side Scripting Language

5.3 Application Development

Famous Malaysian Indians web page was developed accordingly following a few phases. Firstly, the interface was implemented. Second, the database and coding was developed.

5.3.1 Interface Development

The interface of the Famous Malaysian Indians web site was created using Adobe Photoshop 6.0 and Microsoft Front Page. The background colour was chosen from the website called http://www.achievement.org/galleryachieve.html. Besides that, these softwares were used to create and design buttons, banners and menus. Mostly, Microsoft Front Page was used for the text formatting, layout design and linking of the pages. The development and implementation of the interface can be divided into three categories. The categories are as below: -

- Colour

  Colours can improve user interfaces by helping users understand and manage complexity [3]. However, it is easy to go off the track in choosing a suitable colour scheme. The main colours that are used in the Famous Malaysian Indians home page site is blue, yellow, brown and orange. The main thing that catches the eye of the user is the Famous Malaysian Indians web page banner. This banner has a mixture of colours with attractive pictures of the famous Indians in various fields. The left bar has a blue background with yellow buttons. The wordings are in black. The web component called marquee was used to create the moving effect for words on top of the web page after the banner. The picture

of the famous Indians dominates the centre of the page. A black border emphasizes the pictures and also plays the role to make the home page look not too bare. For the subsequent pages the colours chosen are almost similar. The background colour is as same as the home page and so is the banner. Below is the layout of the sports section and the law section. The colours used are limited. This is in line with the key guidelines for the effective use of colour in user interfaces.

- **Frames**

Three frames were created in the home page of the Famous Malaysian Indians Web Portal. The frames are named as the top frame, bottom frame, and left frame. This creates four portions on the main page. These frames were developed in Microsoft Front Page.

- **Images**

The images used for this web site are mostly in the format of Joint Photograph Expert Group (JPEG). All the images for the biography in the sports and law section were in the JPEG format. The pictures in the article were also in the JPEG format. Some extra pictures for decorating the user interface was in the Graphical InterChange Format (GIF). These formats are also known to have better scalable compression and optimization for faster web hosting. The pictures were scanned from a scanner. They were then edited using Adobe Photoshop.

5.3.2 Database Development

The database for this system was developed based on the logical data model created in the System Design chapter. Microsoft Access was chosen as the software to

develop all the tables required in this system. All the tables created are listed in System Design in Chapter 4. The Admin table, BiographyLaw table, Biography Sports table and RandomInfo table in the "Famous" database were created using the wizard incorporated in Microsoft Access. The primary key for every table was identified selectively. The tables in the "engglas" database such as the Title table, Usr table and Vote table were also created using Microsoft Access.

Firstly, Data Link files must be created. This is the method for connecting the data store which then avoids the need to type all the code into a connection string by hand. In Active Server Pages (ASP) code, to connect to the database, the connection from the Data Link file will copy and include in the Active Server Pages code. This is needed so that it is connected to the Microsoft.Jet.OLEDB.4.0 server database. The data source name is defined by selecting the appropriate driver.

5.4 Coding Approach

Program written must be able to implement the design. This task can be rather daunting. Firstly, the designers might not have addressed all of the idiosyncrasies of the platform and programming environment; structure and relationship that are easy to describe with charts and tables are not always straightforward to write as a code. Second, a programmer must write out the code in a way that is understandable. Third, the programmer must take advantage of the characteristics of the designs organization, the data structure and the programming language's constructs which still creates code that is easily reusable.

The coding methodology used in the development of this system is the top-down

and bottom-up approach. By combining both approaches at different stages of coding, testing could be done on those completed modules while others are still being coded. Examples of the coding can be found in Appendix B.

5.4.1 Top-down approach

This approach allows the higher level modules to be coded first before the lower level modules. The codes in the lower modules contain only an entry and an exit. A module with such characteristic is called a shell. The higher-level modules will refer to the lower ones if they are coded and available. Reference to a shell will result in an empty action. This approach will ensure that the most important modules will be developed and tested first. It also gives a preliminary version of the system sooner.

5.4.2 Bottom-up approach

As opposed to the top-down approach, the bottom-up approach begins with the coding of the lower level modules first before the higher level modules. However, the higher modules are just skeletons that call the lower modules. This approach is used if the criticality of lower level modules is high and needs to be completed first.

5.5 Coding Methodology

i) Coding to connect to Famous database

```
<%
        Dim conn, rst
        Set conn = Server.CreateObject ("ADODB.Connection")
        Set rst = Server.CreateObject ("ADODB.Recordset")

conn.Open "Provider=Microsoft.Jet.OLEDB.4.0; Data Source=" &
Server.MapPath ("famous.mdb")
        Set rst.ActiveConnection = conn
%>
```

Figure 5.1: Partial coding for lawsearch.asp

In the code above, a connection to the database called "famous" will be made. CreateObject is used to instantiate a server component. In the code, a Connection object is created in Active Server Pages (ASP). This uses the CreateObject method of the server object to create an instance of the Connection object. It is then given a name, Conn. Then the connection is open. The MapPath maps the specified virtual path into a physical path.

ii) Coding to Open a Table in a Database and Query

After connecting to the database, the data store from the database tables needs to be kept some place where we can refer to it. This time, the Recordset object is used to store

the data captured from the data store. The open method is used to create a Recordset. The source here can be a table name or query. Active Connection refers to the data store connection (As below, Active Connection here is conn).The syntax for the open method is as below:

```
<%
        Dim conn, rst, strSQL (4), loopCount
        Set conn = Server.CreateObject ("ADODB.Connection")
        Set rst = Server.CreateObject ("ADODB.Recordset")

        conn.Open "Provider=Microsoft.Jet.OLEDB.4.0;
Data Source=" & Server.MapPath ("famous.mdb")
        Set rst.ActiveConnection = conn

        strSQL (0) = "'ATHLETICS'"
        strSQL (1) = "'HOCKEY'"
        strSQL (2) = "'FOOTBALL'"
        strSQL (3) = "'MARTIAL ARTS'"
        strSQL (4) = "'OTHERS'"
%>
```

Figure 5.2: Partial coding for the sportssearch.asp

iii) Coding to Get Results from the Form

After the user has submitted the form, the data must be processed and inserted in to the database. Request. Form is used to extract the data from the form field, txtName,

optCategory and txtBiography. This is inserted into the field (in the database) LawName, LawCategory and LawData. The method to extract the data from the form is as below:

```
<%
        If Session ("ValidLogin") <> "Valid" Then
                Response.Redirect "adminlogin.asp"
        End If

        Dim conn, rst
        Set conn = Server.CreateObject ("ADODB.Connection")
        Set rst = Server.CreateObject ("ADODB.Recordset")
conn.Open "Provider=Microsoft.Jet.OLEDB.4.0; Data Source=" & Server.MapPath
("famous.mdb")
Dim add, del
        add = Request.QueryString ("add")
        del = Request.QueryString ("del")

        If (add <> "") Then
        rst.Open "SELECT * FROM BiographyLaw WHERE LawID = 0", conn, 1, 3
                rst.AddNew
                rst.Fields ("LawName") = Request.Form ("txtName")
```

```
            rst.Fields ("LawCategory") = Request.Form ("optCategory")
            rst.Fields ("LawData") = Request.Form ("txtBiography")
            rst.Update
Response.Redirect "adminlaw.asp"
        End If

        If (del <> "") Then
            conn.Execute ("DELETE * FROM BiographyLaw WHERE LawID= "&
del)
            Response.Redirect "adminlaw.asp"
        End If

        rst.Open "SELECT LawID, LawName FROM BiographyLaw ORDER BY
LawName", conn
%>
```

Figure 5.3: Partial coding for adminlaw.asp

iv) Coding on Using Session object

Session object are used to store information that can be accessed by the client. Session can track users- to make sure that users are allowed to certain web pages only.

```
<%
        Session.Abandon
        Response.Redirect "adminlogin.asp"
%><body background="EXTRA%20PICTURES/spotile.jpg"
```

Figure 5.4 : Coding for adminlogout.asp

5.6 Coding Style

i) Indent Code

Easier to read and detect error if codes indented.

ii) Comment Code

Commenting the code will make it easier for other people to understand the coding. Sometimes, it also helps ourselves to understand what we wrote a few weeks ago. In Active Server Pages (ASP), the single quotation mark is used to add comment.

5.6.1 Client -side Coding

Table 5.2: A few examples of the files

FILE NAME	DESCRIPTION
adminforgot.asp	-Allows the administrator to retrieve the password if forgotten by answering secret question.
adminlaw.asp	-Allows the administrator to add new person in the law section or to edit or delete information.
adminlogin.asp	-Allows the administrator to log in using a

	username and password to manage the admin section.
adminsports.asp	-Allows the administrator to add new person in the sports section or to edit or delete information.
lawsearch.asp	-Allows users to search for information from the law section. -Displays results searched.
sportssearch.asp	-Allows users to search for information from the sports section. -Displays results searched.
poll.asp	-Allows users to vote. -Displays results of current and previous polls.
updateeng.asp	-Informs the user that they have voted. -Leads back to the voter's poll.
vote.asp	-Allows users to view the results.

5.7 Summary

This chapter explains the system implementation. It is regarding the transformation of the designed modules and algorithms into the executable instructions by using the appropriate programming language. It also involves connection to the database. In the next chapter, system testing will be discussed.

CHAPTER 6

SYSTEM

TESTING

6.1 Introduction

System testing is required to ensure the system runs accordingly to its specifications and in line with the user's requirement and expectations. Test data are being input into the system for processing and the results examined. A number of users especially the frequent Internet users are given the opportunity to try out the system so as to trace anything unforeseen error or misunderstandings before the system is implemented.

6.2 Testing Technique

The component of a system will be allowed to manipulate the data and the output will be observed. Thus, a wide range of inputs and conditions are chosen in order to test that particular component. A test point or test case is a particular choice of an input data to be used in testing program. Different test cases are needed on different types of testing strategies. These are two types of testing technique applied in the testing stage of the system is white box testing and black box testing.

6.2.1 White box testing

White box testing is a testing case design method that uses the control structure of the procedural design to derive test cases. By using white box testing methods, the test cases with the following characteristics can be derived:

- Exercise all logical decision on their true or false side.
- Exercise all loops at their boundaries and within their operational bounds.
- Exercise internal data structure to ensure their validity.

- Guarantee that all independent paths within a module have been exercised at least once.

6.2.2 Black box testing

Black box testing focuses on the functionality requirements of the system. It enables the developer to derive sets of input conditions that with fully exercise all functional requirements from an application. Black box testing was not used as an alternative to white box testing technique. Rather, this technique is used as a complementary approach that is likely to uncover a different class of errors. It also tests the functionality of the system in a ad hoc basis without knowing the logic structure of the code. Input is provided and output is verified manually to check for accuracy.

Black box testing attempts to find errors in the following categories:

- Incorrect or missing functions.
- Interface errors.
- Errors in data structures or external data access.
- Performance error.
- Initialization and termination errors.

6.3 Testing Strategy

Testing strategy is a series of steps that are implemented sequentially. Testing involves testing the components, group of components, subsystems and the whole system. The following are the testing steps taken:

- Unit testing

- Integration testing
- Module testing
- Interface testing
- System Testing

6.3.1 Unit testing

Unit testing verifies that component functions properly with the types of input expected from studying the components design. Unit testing is done in a controlled environment whenever possible, so a predetermined set of data is fed to the component being tested and output actions and data produced are observed. Each component is treated as a standalone entity and tested individually to ensure that they operate correctly. The unit test is usually white box oriented and the step can be conducted in parallel for multiple components:

6.3.1.1 Testing Examples

Unit testing was carried out on each trigger program once it was completed. Each table in the database has some problems associated with trigger problems. The table below shows the test case for unit testing in the sports section. This includes adding, deleting and searching information about the sportspeople.

Table 6.1: Example of Unit Testing in the Sports Section

Test	Test Procedures	Output	Test Result Analysis
1	Add new information to the system.	The new information is inserted permanently in the database.	The new information is inserted successfully.
2	Select a category and search for a personality.	The information for the person is selected and shown to the user.	The biography record is shown successfully.
3	Press delete to remove the selected record from the database.	Record deleted permanently.	The record is removed permanently from the table.

6.3.2 Integration Testing

Testing a specific feature together with other newly developed features is known as integration testing. In other words, when the individual components are working correctly and meet the objectives, these components are combined into a working system. Testing the interface of two components explores how components interact with each other.

Incremental integration approach was applied. The system was constructed and tested in small arguments, where errors were easier to isolate and correct. Error will be corrected before processing to the next integration.

6.3.3 Module testing

Module testing is performed after completion of each back-end processing system module such as Admin Login Module, Sports Search Module, Law Search Module and Voter's Poll Login Module and so on. This process is to ensure that all units in the module will function accordingly when integrated.

In module testing, each of the modules is tested as an independent component. In this case, black box testing approach has been used. The system can be treated as a "black box" where its characteristics is determined through a study of the collection between the inputs and outputs.

6.3.4 Interface Testing

Interface testing was conducted to detect faults because of interface errors. The interface in Famous Malaysian Indians Web Portal has the integration of a few frames. All this frames create a partition on the main page so that it is easier to navigate. These frames were made to maintain its position throughout the interaction with the system. Before the frames can be used on the main pages, a testing was conducted to ensure that Microsoft Internet Explorer supports frames. This is important to ensure that all portions of the pages can be viewed. A testing was done to ensure that all of the pages open at the right portion of the main page.

The pages were linked according to the menu. The sports button is linked to the sports search page. Meanwhile, the law button is linked to the law search page. The administration link will lead the administrator to the section where the administrator will be required to insert their username and password. All the links were double

checked to ensure that they point to the right page. Besides that, error messages will also appear at the correct time if a wrong input is made. The opinion's of course mates and family members were asked on the aspect of user friendliness and the design of the interface.

6.4 Summary

A lot of technical effort is consumed in the system testing phase. All this effort is worthwhile because testing is a critical part for quality assurance. The objective of system testing is to detect any faults and make amends to them.

CHAPTER 7

SYSTEM

EVALUATION

7.1 Introduction

In the process of developing a system, various problems have been encountered. Some have been solved and some are still yet to be discovered and overcome. System evaluation is a review after the system implementation to determine strengths and limitations or constraints of the system. In order to provide feasible information to enhance the project and improve system performance, all problems faced during every phase of the system development is highlighted. Other than that, proposals and recommendations are made for future enhancements of the system.

7.2 Problems Encountered and Solutions

7.2.1 Determining the scope of the system.

Earlier in the development part, it was hard to determine the actual users who would use the system and the task they would be able to perform when using the system. This is due to the insufficient knowledge and experience on developing web based systems. To solve this matter, research was done on existing systems which provide similar functions as expected of Famous Malaysian Indians Web Portal.

7.2.2 Scheduling the tasks to be performed.

This is also due to the insufficient knowledge and inexperience in developing web based systems. Project schedule should be carefully planned to achieve a systematic progress and ensure on time delivery of the system. Prior to no experience in web based systems, this proved to be a tedious task especially when estimating the suitable period for every phase.

7.2.3 Problems in designing the database.

Database was built using Microsoft Access and not as to what was proposed earlier which is Microsoft SQL Server 7.0. Microsoft Access proved to be an easier tool to learn and it also makes creation of tables and relationship much more efficient. Microsoft SQL Server is a difficult tool to learn and there were not many who knew how to use it effectively. After some attempts, and yet still unsuccessful to grasp the knowledge, the decision to use Microsoft Access was made.

7.2.4 Lack of knowledge in Active Server Pages (ASP)

Since there was no prior knowledge of programming in Active Server Pages (ASP), there was an uncertainty in how to organize the codes. These new programming language and concepts were never studied before and to implement such an application requires a good grasp of the languages used. A lot of references and studies had to be done. Internet was used to find out more about the codes. Books were also used. Friends who have knowledge in using the Active Server Pages (ASP) was a great help.

7.2.5 Information Gathering

The Famous Malaysian Indian web portal is among the very few sites that has information about Indians in Malaysia in various fields. For the sports section, a few visits to National Sports Council in Bukit Jalil proved to be useful. Besides that, not much information could be found as there are no compilations in books of the famous Indians in Malaysia. Newspaper articles were browsed through and the data was taken

from there. This was rather tiresome. Some information was also found from the Internet.

7.3 System Weakness and Limitations

i) Search Feature

The search feature in the sports and law section is limited. Search can only be done by the category and name. There is no keyword searching. The user can only choose from the list of names given but they cannot key in any keyword to search for data.

ii) Administration Section

As an administrator, I can only manage the information for my sections which is sports and law. Access to the administration part of other sections is not available. Each administrator can only edit, update or delete data for their own sections.

iii) Lack of Information

Due to the constraints in time, not all the data provided is true. Some dummy data was used. To gather accurate information about the famous Indians, a lot of time is needed. A lot of research needs to be done.

7.4 System Strengths

i) Simple, user-friendly and easy to use interface.

As with most web sites, the interface is one of the most important characteristic in ensuring that the user would actually like to use the system. The interface is easy to understand as all of the information is arranged in a way to enhance readability. No practice is needed as all the control objects on the interface are fairly well understood. Users will find that they can perform any task with ease. Each page is consistent; this will avoid the users from becoming confused when navigating from one page to the other.

ii) Good security features

The administrator is required to have a username and a password in order to access to administration page. The administrator can change the password anytime they like, for safety reasons. There is also a "forgot password" feature where if the administrator forgets the password or username they will be directed to a different page. Here, they will have to answer a secret question which requires a correct answer. The answer will only be known to the administrator. Once this is done, the administrators profile will appear with the username and password. The users are not allowed to edit, add or delete information.

iii) Maintainability

The administration is built in such a way that it is easy to maintain it. Whether the administrator wants to add, delete or update the information, the administrator can do it easily. The administration page for the sports and law section offers this function. All

the forms must be filled. If any of the form is left unfilled, a message like "Please fill in the name" or "Please fill in the caption" will appear.

7.5 Future Enhancements

i) Chat

In future, a chat function can be incorporated to enhance the system. This function will allow users to chat with those online. Since chatting is very popular these days, the target users like students would be more attracted to come and visit this web site. This would also enable the users to discuss among themselves and exchange information. Chatting would also attract users from all over the world to know more about successful Indians in Malaysia.

ii) Multimedia Effects

Multimedia features can be featured to make this web site more interesting. Short video clips of the sportspeople in action can be featured in the sports section. Besides that, interview sessions of the famous people can be featured. These added capabilities will enhance the number of users and provide more information on one site.

7.6 Knowledge and Experience Gained

i) Improved Time Management

By doing this project, a better sense of time management was learned. Since there were

assignments for other papers too, time was an important factor. A lot of deadlines had to be met. This project was developed well with only a few glitches within the time frame given.

ii) Programming Knowledge

By doing this project, I have learned more about Active Server Pages (ASP), Javascript and VB Script. This has widened my knowledge about the coding. The syntax and structure in these languages can be identified now.

iii) Knowledge on software

The development of this project has also increased my knowledge on how to use Microsoft Front Page 2000, Adobe Photoshop and also Microsoft Access. This knowledge can be used in future for other projects.

7.7 Conclusion

As a conclusion, this project has fulfilled its objectives and requirements. Though there were a few glitches here and there, this project was completed on time. The project has information that proves to be valuable for students, teachers and the public in general. The articles and pictures are an added advantage for the target users.

Along the way, this project has widened my knowledge on computers. I have learned more about softwares, programming languages and programming structures. Besides

that, it has also enhanced my communication skills. During the information gathering of this project, I had to meet some people at the National Sports Council to ask them about the availability of information about the sportspeople.

The problems and experience gained can be used in the future. Hopefully, this project will be a catalyst for future projects regarding this topic. Added capabilities can be incorporated to make it more attractive to the users.

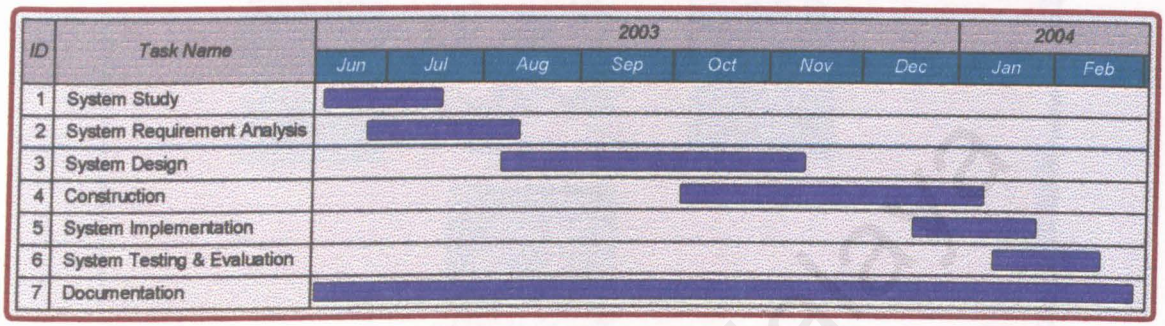
APPENDIX

APPENDIX A

Project Schedule

The Gantt chart is a project planning tool that that can be used to represent the timing tasks required in completing a project. Below is the Gantt chart.

Table showing the project schedule



APPENDIX B

User Manual

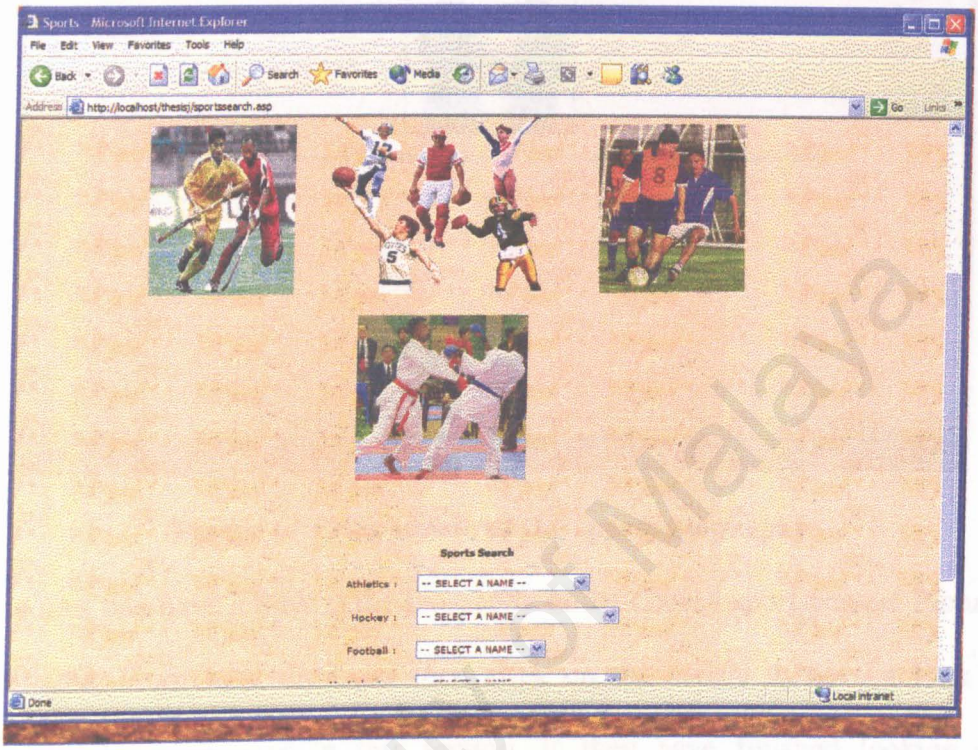


Figure a: Print screen of the sports section

The print screen above will appear when the user clicks on the sports button in the home page. Here, the user can choose from five sports categories which are athletics, hockey, football, martial arts and others. Others include a variety of other sports like badminton, tennis, mountaineering, etc. The user can select from a selection of names which are available here. Once the user clicks on one of the names in the drop down menu, the user will be taken to the biography section as shown below in Figure b.

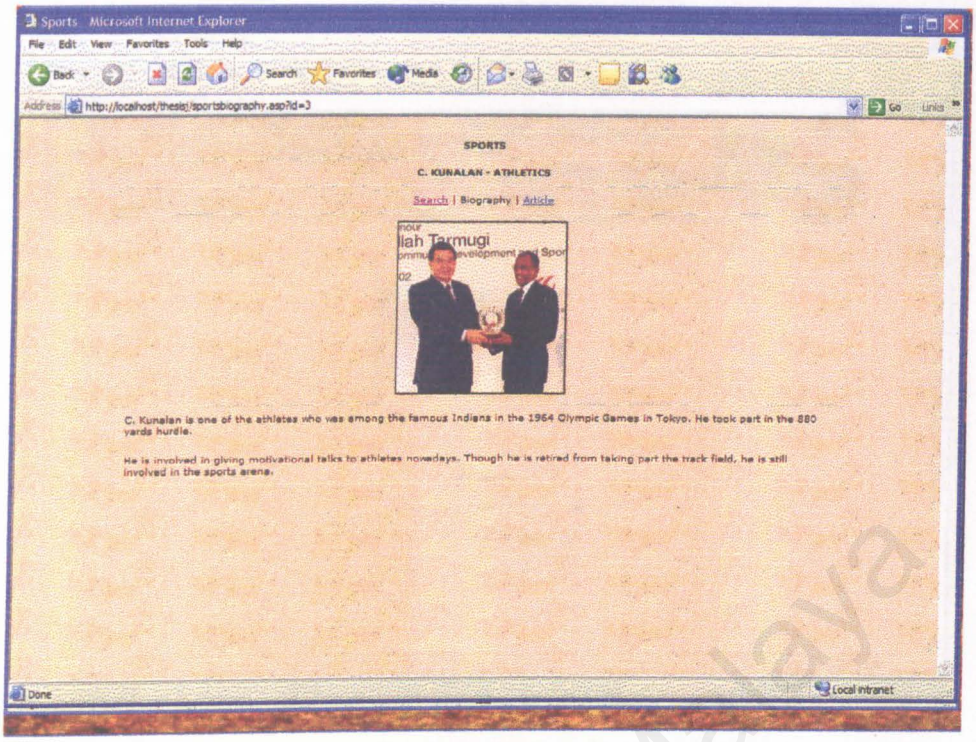


Figure b: Print screen of the sports biography

Here the user can have a look at the biography of the chosen sportsperson. Pictures are also available. From here they can then click on the article to have a look at the available article or pictures in this section. If they have finished looking at this sportsperson's profile and would like to proceed to look for another person, the user can then click on the search link. They will then be taken back to the main sports section. The user can also go back to the home page or other section of the home page by clicking on the link at the bottom of the sports page.

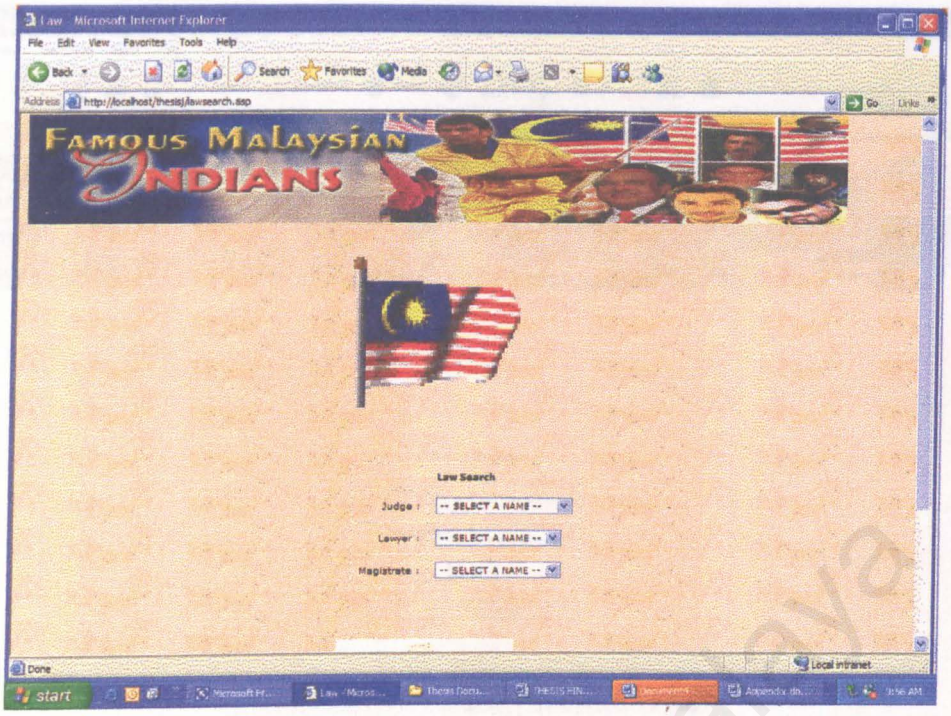


Figure c: Print screen of the law section

This print screen shows the law section. The users can choose from three categories which are judge, lawyer or magistrate. When the user clicks on the select a name for any of the categories, a drop down menu will appear. Here is where the user can choose any name which is available from there. The user don't need to key in anything. They just have to choose. Once they have done this, they will be taken to the law biography section where they can read about the people in the law field and view their picture.

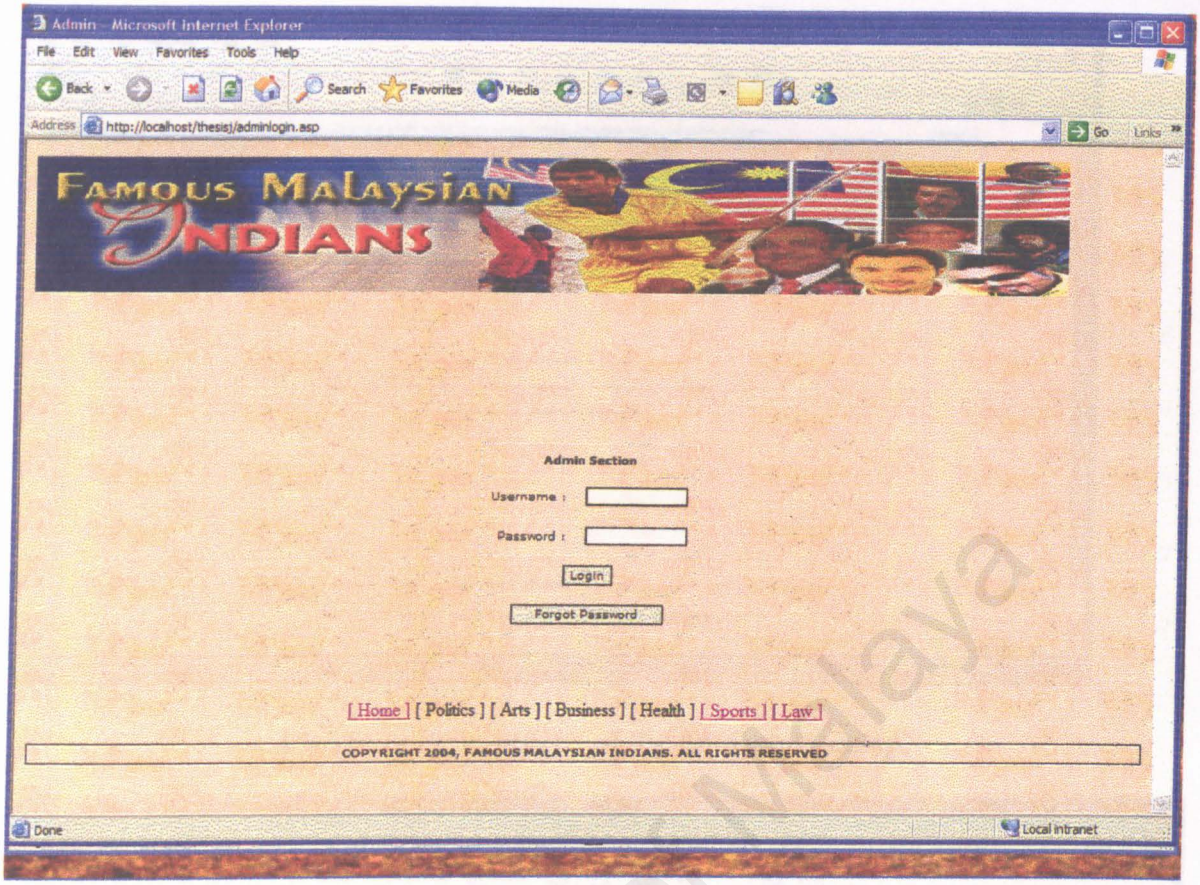


Figure d: Print screen of the adminlogin.asp

The print screen above is the administration login section. The administrator has to fill in the username and password to proceed to the next section. The next section is where the administrator can manage profile; manage the sports section and also the law section. The voter's poll can also be managed by the administrator once he or she has given the correct name and password in this section. It is shown in Figure e below.

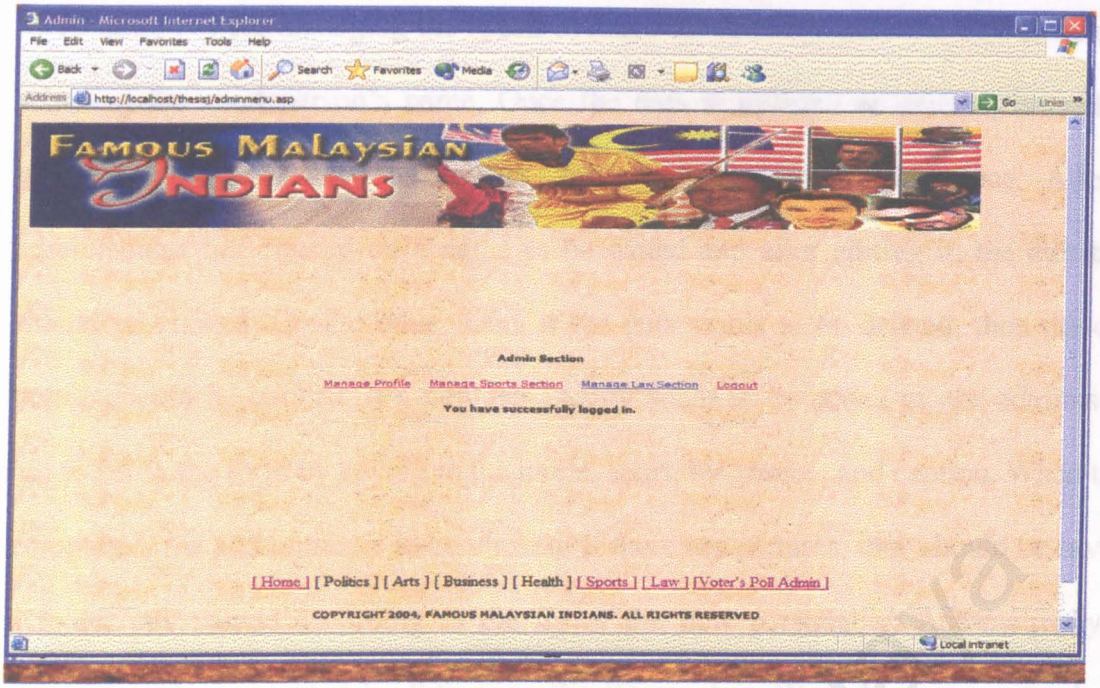


Figure e: Print screen of the adminmenu.asp

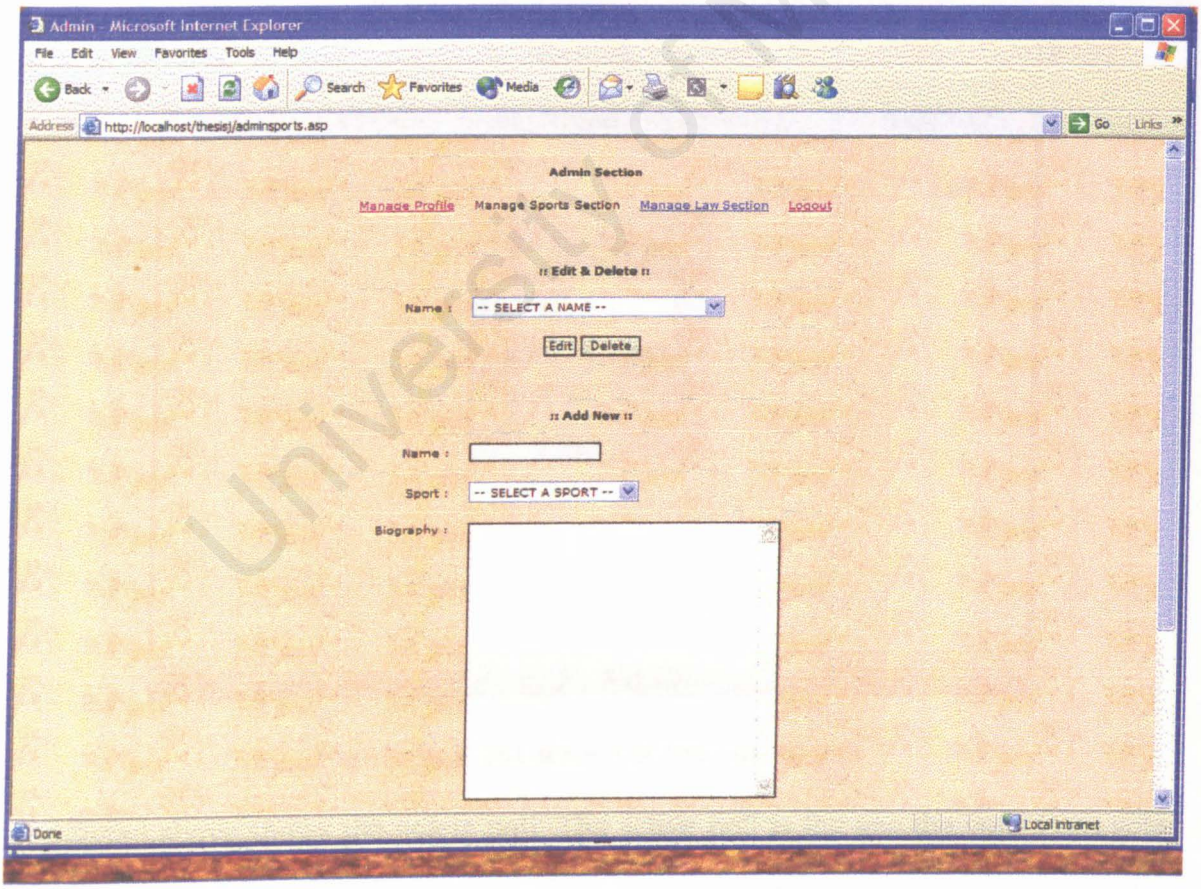


Figure f: Print screen of the adminsports.asp

The Figure f is for managing the sports section. An administrator can edit or delete by selecting the sportsperson's name. Once the data is updated or deleted, immediately when it is viewed from a browser, the new effects will take place. After the administrator has clicked on a name to be edited and after editing it, the edit button should be clicked. On the other hand, if the data wants to be deleted, then the delete button should be clicked. If a new personality needs to be added in, the administrator has to fill in the form by keying in the name, sport, biography, and caption. When this is completed, the add button is to be clicked. If there are pictures, they should be saved in a folder and named according to the ID of the new personality. Automatically, the picture will be generated by following the ID number. With the same way, the law section is managed.

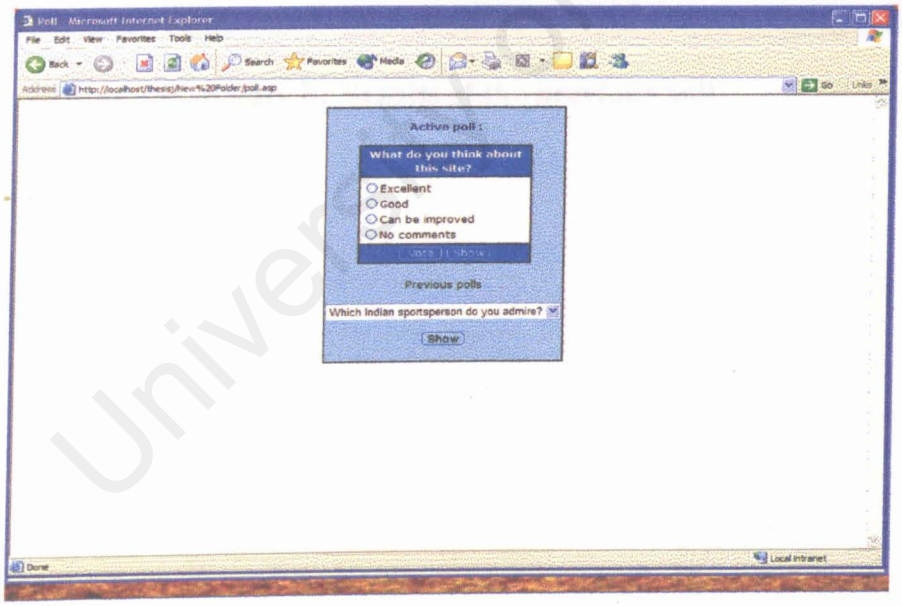


Figure g: Print screen of the voters poll

The figure above shows the voters poll. The active poll is the one the voters can vote from . The previous poll is the poll done before this. The users must first vote by

selecting either one of the choices from the active poll. They can then view the results. The results for both the active poll and previous poll can be viewed. Figure h below shows the results of the previous poll.

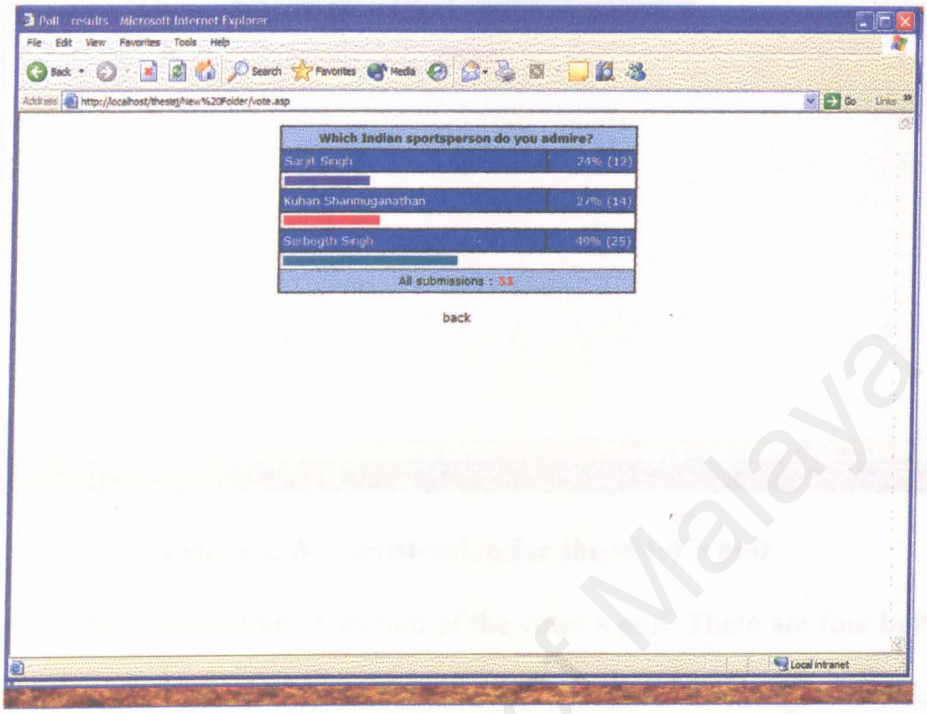


Figure h: Results of the previous poll

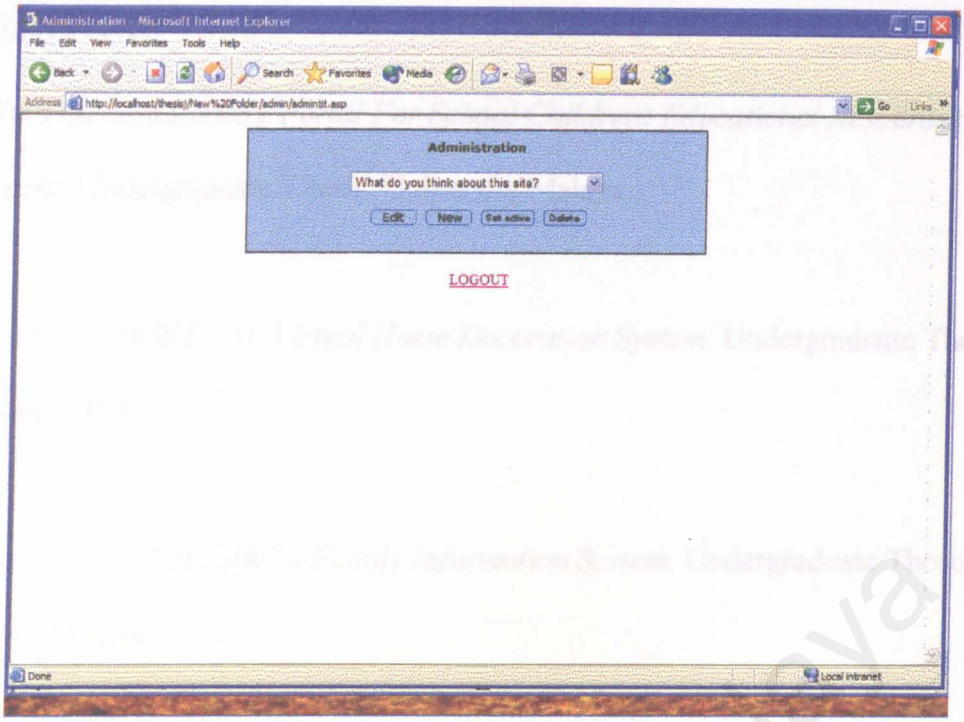


Figure i: Administration for the voter's poll

Figure i shows the administration section of the voter's poll. There are four buttons edit, new, set active and delete. The edit button can be used to change the selection of answers and also the number of answers the voters can choose from. The new button is for the administrator to put in new information for a new poll. Set active is for the administrator to choose either one of the polls to be voted from. The user can only vote for the active poll. The delete button has the function of deleting the poll which is no longer wanted.

REFERENCE

Chan Tai Poh.(2002/2003). *Portal For School Children: Educational Resources Portal Component.* Undergraduate Thesis. University Malaya.

Cha Yen Nee.(2002/2003). *Virtual Home Decoration System.* Undergraduate Thesis. University Malaya.

Che Choong Lee.(2001/2002). *Family Information System.* Undergraduate Thesis. University Malaya.

Forouzan, Behrouz A.(2000). *Data communication and networking,* (2nd ed.). Mc Graw-Hill.

Galitz, Wilbert O. (1997). *The Essential guide to user interface design.* Wiler Computer Publishing.

Jong Ee Mei, Emmy (2002/2003). *Information Portal for Women's Organization.* Degree Thesis. University Malaya.

Kendall, K.E. & Kendall, J.E. (1999). *Systems analysis and design.* (4th ed.). New Jersey: Prentice-Hall.

Matthews, M.S., & Poulsen, E. B., (2001). *Frontpage 2002: The Complete Reference.* California: Osborne/ Mc Graw- Hill.

Mitchell, S., & Atkinson, J., (2000). *Sams Teach Yourself Active Server Pages 3.0 in 21 Days.* Indiana: Sams Publishing.

Pfleeger, Shari Lawrence (2001), *Software Engineering-theory and practice.* (2nd ed.).New Jersey: Prentice Hall Inc.

Sommerville, Ian (2001). *Software Engineering*, 6th ed, Addison-Wesley.

A brief history of the Internet (Microsoft.com). (2001). Available at: http://www.microsoft.com/insider/internet/articles.htm (Accesed:2003, August 8)

Features- Microsoft SQL Server 2000. (2002). Available at http://www.microsoft.com/sql/evaluation/features/default.asp (Accesed: 2003, August 8)

[URL:http://www.mykedah.com] [Date visited: 7 August 2003]

[URL:http://www.greatwomen.org] [Date visited: 6 August 2003]

[URL:http://www.jewishsports.net.home.html] [Date visited: 8 August 2003]

[URL:http://www.achievements.org/galleryarchive.html] [Date visited: 11 August 2003]

[URL: http://www.nba.com/players/internationalplayer.html] [Date visited: 12 August 2003]

[URL: http://www.duhaime.org/Law_museum/hall/fame.htm] [Date visited: 14 August 2003]

BIBLIOGRAPHY

[1] Kroenke, David M., (1998) Database Processing Fundamentals, Design and Implementation. (6th ed.). Mc Graw-Hill.

[2] Connolly, Thomas M, Begg, Carolyn E., Strachan, Anee D., (1996) Database System. England : Harlow.

Mortensen,L., & Sawtell, R., (1999). *MCSE: SQL Server 7 Administration Study Guide*.California : SYBEX, Network Press.

Sonnenreich, W. ,& Macinta, T., (1998). *Web Developer.Com Guide to Search Engines.* New York: John Wiley & sons, Inc.

Whitten Jeffrey L.(2002). *Systems analysis and design methods.* (5th ed.).Mc Graw-Hill.

Macromedia-Dreamweaver (macromedia.com).(2001). Available at: http://www.macromedia.com/software/dreamweaver/ (Accessed: 2003, August 14)

[URL: www.dictionary.com] [Date visited: 3 August 2003]

[URL: http://www.hetco.com/faciliti.com] [Date visited: 7 December 2003]