Design Web Based Ticketing System, for Menara Alor Star

A thesis submitted to the College of Arts and Sciences in Partial Fulfillment of the requirement for the degree Master of Science (Information Technology)

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By

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ABSTRACT

Web based is the most famous portable technology, the WEB solution services can be obtained easily at any time in anywhere. That provides the crowed with the ticket for visit the Menara without losing time and effort. Web based allows to the users to use the Information Technology without being bound to a single location; it provides the users with the flexibility. In this study focused only to the development of a prototype for the Menara Alor Star e-ticketing.

Reservation system comprises of a database that is built using MySQL database application software, Apache server as the web server and JSP as its application server. The methodology used is General Methodology using the Unified Modeling Language—UA Approach.

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"In the Name of Allah the Most Gracious and Most Merciful"

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CHAPTER 1

INTRODUCTION

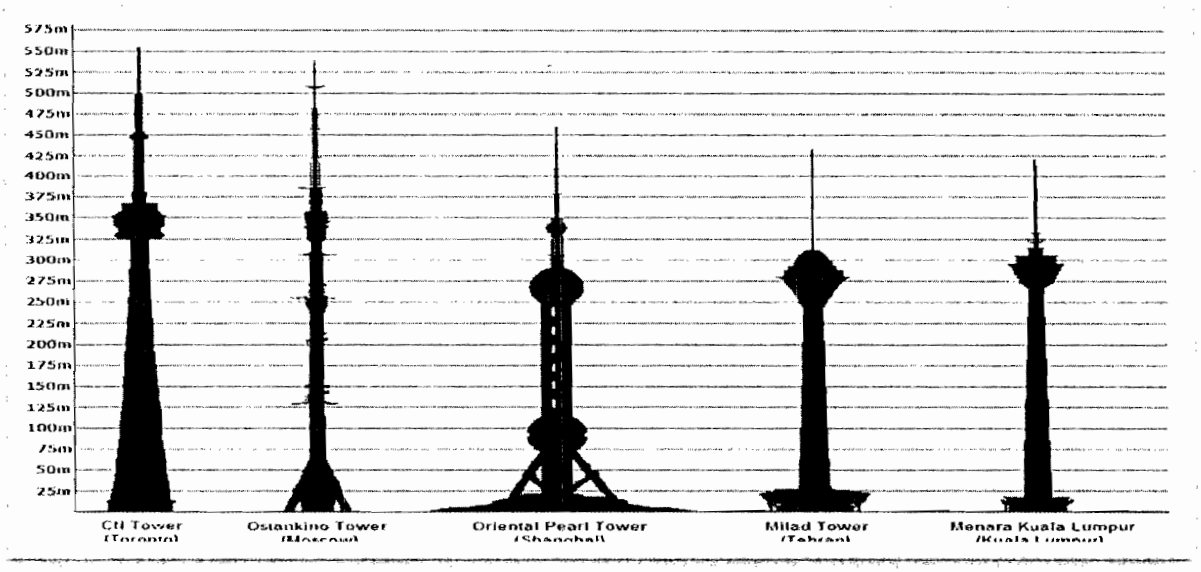
This chapter gives a background of organization and further discussion about the problem statement, requirements, objectives, significant, scope and research outcome.

1.1 Introduction

Tower is a normal building built by human that are almost taller than normal building. Towers are normally can be stand-alone or as part of a larger structure or built to take advantage of their height. Since prehistoric times the tower have been used by human, in walls of Neolithic before (800 BC), from the best example on the oldest tower one the brooch structure in north Scotland. This tower has conical shape and roman, Phoenician, in the last cultures uses the tower to sentinel role and fortification (Hogan, 2007).

One of modern type to use less ground space. Strategic advantages, the tower throughout history has provided it is obtaining a better view of the surrounding areas, the users with an advantage in surveying defensive positions and including battlefields. Strategic-use towers can be found at military camps or prisons. Communication enhancement, the simple towers like bell towers, lighthouse and clock towers, used to communicate information over greater than distances for example the Menara Alor Star. Now some towers are in cell phone and radio towers and can use the tower to support bridges (Thomas, 2003).

In Fig 1.1 shown Tallest Five Towers in the World



Wikimedia Commons

Fig 1.1: Tallest Five Towers in the World

Menara Alor Star has officially launched by Dr. Mahathir Bin Muhammad. From that time, Menara Alor Star has become popular tourist attraction for local and foreign visitors. Menara Alor Star is the second tower in Malaysia. The number one in Malaysia is a Kuala Lumpur tower that is also the number 19 in the world. Menara Alor Star is in Alor Star city which in the state of Kedah, Malaysia as shown in fig 1.2

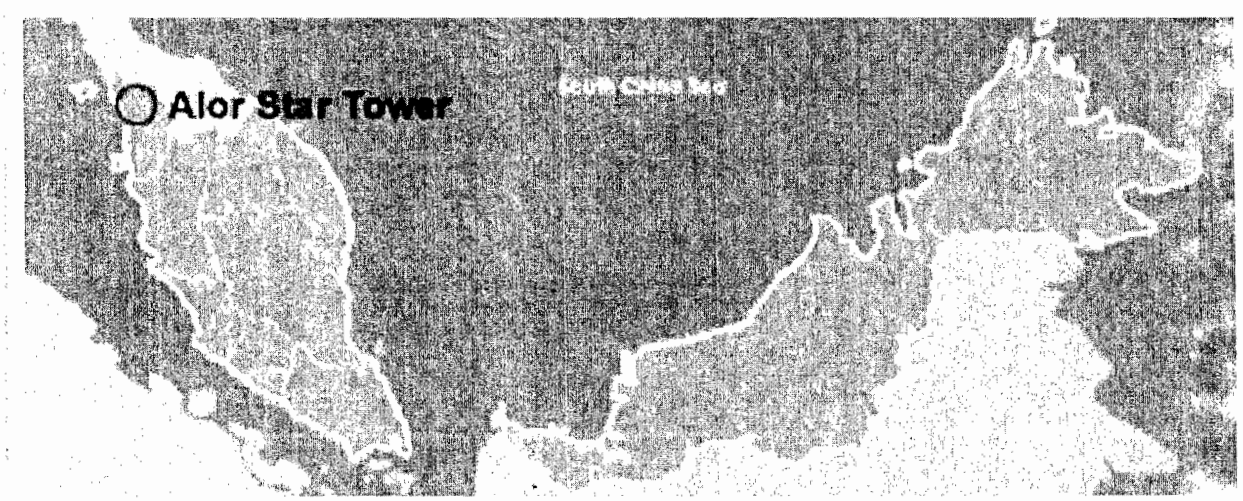


Fig 1.2: Location of Menara Alor Star

This tower is a 165.5 meter and was builds for Telekom Malaysia (TM) and it is cost of RM 40 million to cater as tourist destination, and to serve the role of telecommunication tower. This tower also including the souvenir shop, restaurant, and the tower observation which function as a places to look the crescent moon to know about the Muslim month such as Syawal and Zulhijjah, which the Muslim want to know the starting of month of Ramadhan and the starting of month of Syawal. (wikipedia.org/Menara_Alor_Setar).

The observation room is state at height of 88 meter from the floor. From observation room the visitors can see the Alor Star city and can see the sundown, sunset and take pictures from this place.

Menara Alor Star have a smooth telecommunication, ensuring the improvement and broadcast transmissions besides offering amenities which include a café, an amphitheater located at the podium level, a souvenirs shop and the meeting rooms at the top of a height of 100 meters, revolving restaurant at 94meters above sea level and well equipped seminar (MenaraAlorstar.com.my).

The electronic ticketing systems represent a rare opportunity to make an investment that improves convenience in the travel field. It is help the visitors to go to the Menara Alor Star from losing time and efforts, provide a solid and measurable financial return, and reduce the administration costs.

Basic systems reduce the administrative burden from ticketing operations without requiring users to undergo extensive training even they are less of computer skills. Eliminating most of the labor for ticket processing, tickets are prepared more

accurately, data is available more quickly and collection can be managed more effectively.

1.2 Problem Statement

The current systems have only one-way transaction to buy ticket if the visitors want to go to Menara Alor Star. The visitors go through the traditional way and buy their tickets from the Menara counters, which are available. Many bookings problems occur such as spending long time to wait before having the ticket or the ticket is not available.

The problem for booking the ticket to enter the Menara Alor Star is such as below:

1 The visitors need to wait in line after they pay for ticket.

2 The visitors wasted time and efforts when they are waiting in a line or when the place is not available or when the visitors cannot buy the ticket.

3 The system of ticketing is using the manual system when the visitors want to buy the ticket when they want to enter the Menara and always cause probable to error.

1.3 Objective

The main objective is to propose a web based ticketing for Menara Alor Star.

The sub objectives are:

1. To design a web-based ticketing system for the Menara Alor Star to be use by the visitors to plan, for buy tickets and booking online in order to overcome the current problems of using the purchasing procedures available.
2. To develop the web-based ticketing system prototype.

3. To evaluate web-based ticketing system prototype by using interview and purpose of test case.

1.4 Scope

The scope of this project is such as below:

1 This study is focusing on the visitor of Menara Alor Star and the web-based ticketing system prototype,and the manager can control all the process such as add, insert, update, delete.

2 The project does not include payment process.

1.5 Research Question

The research questions in this study are:

1 What is the current process of ticketing for Menara Alor Star?

2 How Web- based can help the visitors to Menara Alor Star?

1.6 Research Outcome

The research expected outcome is end-user requirements and design a prototype web-based ticketing system for Menara Alor Star.

1.7 Significant of the Study

In general, the task of this project is to produce systematic approach in the follow-up reminder that has uses the Internet Technology is more appropriate. The sale of tickets on the Internet can improve the system. The efficiency and effectiveness of the organization's functions can be increase. System is capable of Register and provides

accurate information at the time of the right of a person in any place and any time. Provide more support that is effective, content, security and justice because of a working paper which is more time-consuming, inefficient, where records may be lost or damaged.

The other benefits for this project are:

a. Reduce customer-booking problems.
b. Increase the awareness in the Menara process booking.
c. Expanded help provide service to customer.
d. Ensure speed and trusted in finding solutions through mobile anywhere anytime.

1.8 Organization

- Chapter 1: This chapter is to gives a background, necessary for the understanding of concept used in later chapters and overview of the research.
- Chapter 2: This chapter discusses about literature reviews, previous related work and challenges, and more information to understanding the research.
- Chapter 3: This chapter discusses the methodology that has been use in this research.
- Chapter 4: This chapter is discusses on findings of the proposed system.
- Chapter 5: This chapter is discusses of recommendations and conclusion.

CHAPTER 2

LITERATURE REVIEW

This chapter discusses about e-ticketing, e-commerce, e-application, web architecture and others web service technologies, history of the web application and implement web-based ticketing system for Menara Alor Star.

2.1 Introduction

The Internet is the most important and potentially most effective communication and as a marketing medium, the world has ever seen. The Internet servers act as a mass medium that has the potential to reach a very large audience. It offers a whole range of new ways to breach new and existing customer, as a marketing and advertising medium. The small companies that are geographically isolated can actually realize even more benefits than large companies can. That is because large companies generally have established international officers and sales channels. With success stories of companies capturing market share together with the rapidly increasing adoption of the Internet by consumers and business buyer, there has come a fast-growing realization that all organizations must have an effective Internet presence for proper, or possibly even survive (Segev, Wan & Beam, 1995).

The Internet also very important, the Internet is really changes the economic, media and society. All this development is just beginning, now days the Internet is crucial element of the economy and the Internet is the way to make connection between people by social network project something like Face Book, Tagged and Friendster or Messenger programming like Yahoo, MSN and Gmail.

The Internets have challenge in values it serves and terms of cultures. For example, the Internet is powerful force for informing citizens and enhancing transparency, connectivity and openness end to end, authentication and security have become issues of great concern for public administrators, businesses and citizen (Viviane Reding, 2008).

Nowadays more than one billion users world-wide, the Internet become providing any time any place, the expected to be around 4 billion in a few year (www.future-Internet.eu).

The number of network device will increase in next few year more people will be connected and more devices be directly connection on Internet the people word concert accessible on any way anywhere, home, work, the people need to use Internet from any place and this is will be in a few year in European country.

2.2 History of the Web and Its Application

In 20 years ago, while at Conseil Européenne pour la Recherche Nucleaire (CERN).Tim Bearners-Lee wrote a memo proposing a method of sharing information then nothing happened. The following year Tim Bearners-Lee got a Next Cube and wrote the first web server and client, there really is no web 2.0 – were still implementing the original spec, the original web was read-write, one web and device independence people, things, concepts and data (TOM Scott, derivadow.com).

Tim Berners-Lee is credited with having created the World Wide Web while he was a Researcher in European High-Energy Particle Physics lab, (CERN) in Geneva, Switzerland.

1989 - Tim Berners-Lee proposes CERN and obtain some system to organize their information, and he wrote the hypertext in proposal and CERN, The proposal suggests

to find solution technologies, the make collaboration in high energy physics community.

It has been three new technologies, the HTML use to write web documentation and to interpret data and display result.

1990 - HTML designed to be semantics with structural but without presentation. Style Sheets given as possible way of sprucing up documents.

1991 - User interface: the first time the information shown system using HTTP, HTML and client software program.

Aug 1991 - First time the availability of the file was announce to the people, was announced in the UseNet newsgroup.

1992 - Line Mode web browser released, all the Html code stored in one computer (web server).

1993 - NCSA Mosaic takes the Internet by storm; WWW proliferates at a 341,634% annual growth rate of service traffic.

1993 - Date on the statement by CERN's director that WWW technology would be Without restraint usable by anyone, Free being payable to CERN.

1994 - Marc Andreessen and generation leave NCSA and found Netscape.

1994 - Start W3 Organization, WWW Consortium (W3C) founded

1995 - Netscape 1.0 browser on the rampage, tools CENTER, FONT and other tags completely oppose to the unique idea of HTML.

1995 - Yahoo started by David Filo and Robert Bina.

1996 - Microsoft release Mosaic source based on Internet Explorer.

1997 - HTML4 released.

2.2.1 History of the dynamic web

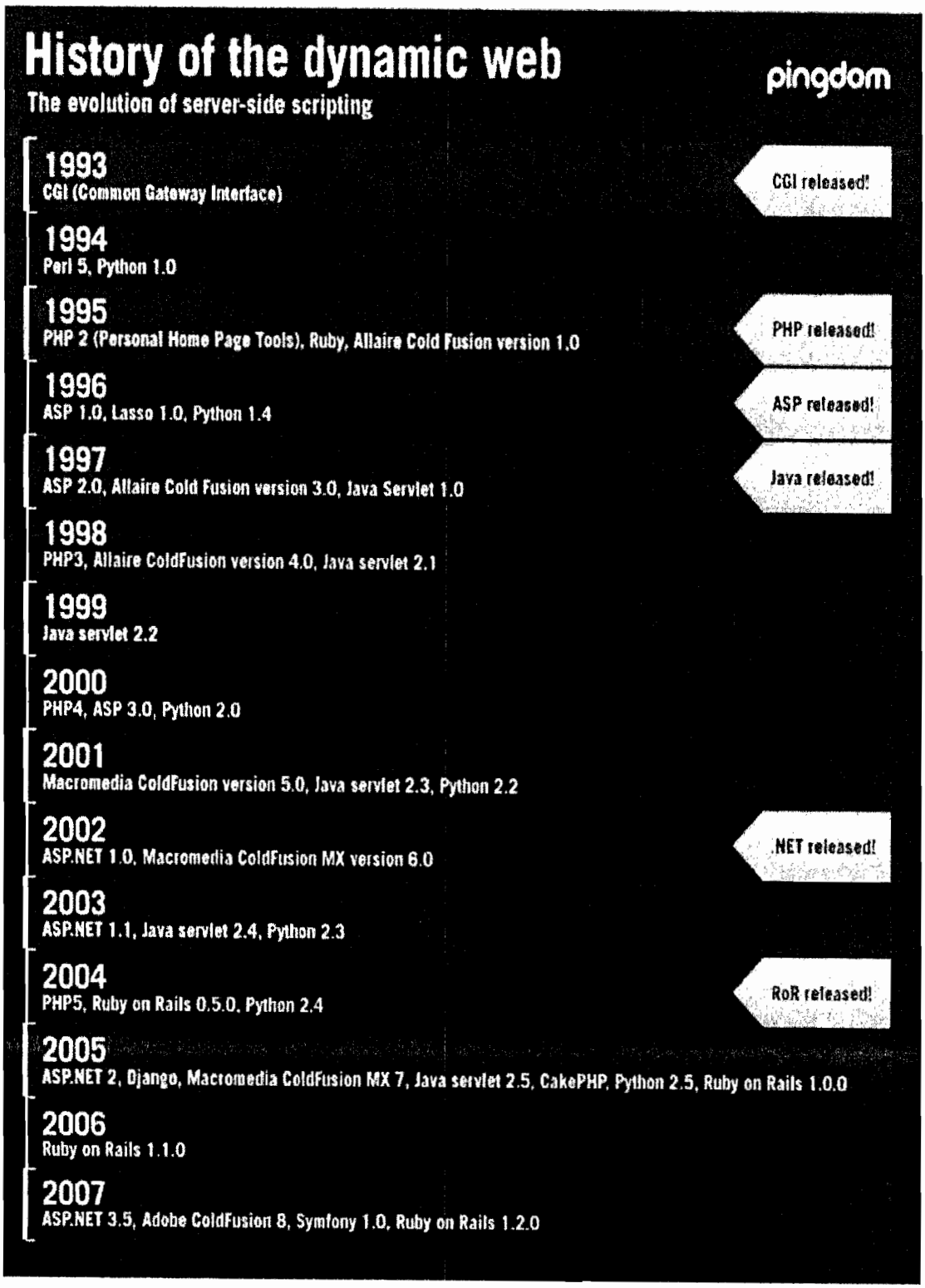
In these days, the sites that is full of content and services that allow us to be careful on the Internet than anything imaginable. Nevertheless, around our "Web 2.0" today's world took a long time. Has a propos 14 years since the first Web page with dynamic content was form.

The history of dynamic web, see Fig 2.1 especially server-side programming languages and frameworks that make it possible (Pingdom, 2007).

2.3 Web Application

Web application is an application that is access via web browser more than a network such as the intranet or Internet. It is also a computer software application because the coded supported language such as JavaScript, HTML, Java and dependent on a common web browser to make the application executable.

This sometimes called a thin client so the convenience of using a web browser as client. The web applications are popular due to the ubiquity of web browsers the maintain web applications and ability to update without installing software and distributing on potentially more than thousands of client computers, the web application include online retail sales, webmail, online auctions, and Others function(Alex Chaffee, 2000).



(http://royal.pingdom.com/2007/12/07/a-history-of-the-dynamic-web/)

Fig 2.1: The History of Dynamic Web

Interface in web application very limited on client functionality through DHTML, JavaScript, Java, Flash and many other technologies such as make playing audio, and access to the mouse and keyboard, drag and drop, all that possible. Now dais the technology creates a more interactive experience, this example to development technique using a combination of various technologies.

The web applications to hold up standard browser facial appearance is that they should carry out as specified regardless of what the system does or Operating System version installed on a given client. More willingly than creating clients for Mac OS X, MS Windows, Linux, and other OS, the application can be deployed and written anywhere. However, inconsistent implementations of the CSS, HTML, DOM and other browser specifications can cause problems in web application hold up and development. As well, the ability of users to customize a lot of the display settings of their browser, can interfere with reliable implementation of a web application.

Another approach is to use Java applets or Adobe Flash to give some or the entire user interface in web application. Since most web browsers include support for these technologies, Java-based applications or flash can be implementing more easily. Because the Java-based applications or flash allow the programmer greater control over the interface, they go around many browser-conFiguration issue, though incompatibilities between Flash or Java implementations on the client can introduce the different.

2.3.1 Modeling Process in Web Applications

The web application development are using to ubiquities, or enterprise wide. They features new requirements, such as interconnecting software by different organization, capability of managing complex process spanning organization and multiuser the management and dedicated to ecommerce it's been from the first

generation of web application allow to the users to do the simple operation as download, research and navigation of large volumes of data.

Recently the Internet become popular implementation, web application developed support a well-defied process, their execution constraints and consisting of activity (Marco Brambilla et al, 2006).

2.3.1.1 Model-Driven Design of Web Applications

The first production of conceptual models for the Web fundamentally considered Web applications as a alternative of traditional hypermedia applications, with the particularity that the published contents are extracted from user interaction with the application takes place and database.

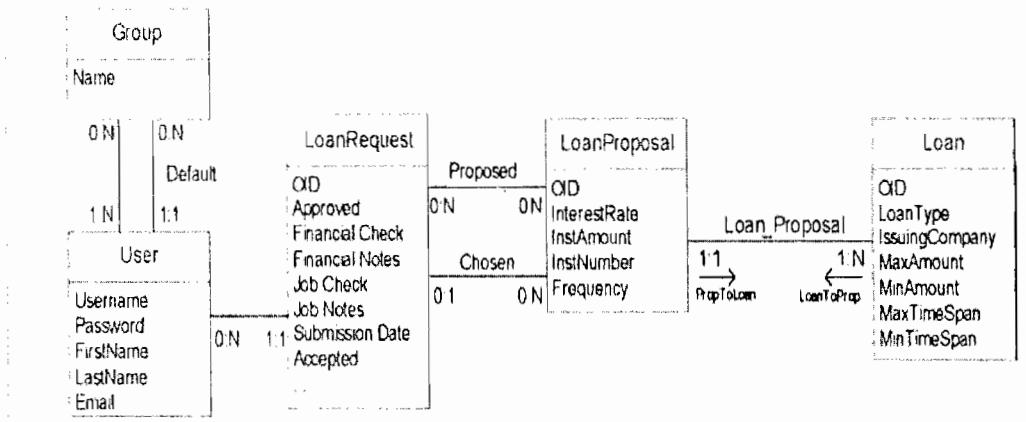
For that reason, these modeling approaches have focused on capturing the structure of the application contents, for example: entities connected by associations, as a set of object classes or relationships, and the represented by such concepts as pages, navigation primitives, A conceptual model contain from describing application data, a data schema, and Hypertexts, expressing the Web interface used to manipulate and publish such data.

2.3.1.2 Data Model

Data model is relationship model as is the standard entity, widely used in the design data. We use a relationship- simplified entity notation in which the entities are represent by rectangles (including the list of attributes and the name of the entity) and are linked by binary relations, is represent as a right lines bearing the name of relationship. Relations requirement includes the maximum and minimum cardinality

of the participation of relationship, each entity, denoted by the cardinality of principles (0, 1 or N) attached to the relationship.

For example, In Fig 2.2 shows the relationship diagram between the entities in the local database of the loan broker site, containing the entity lending describing the types of loans that may be issued by different companies.



The data model for the loan requests application.

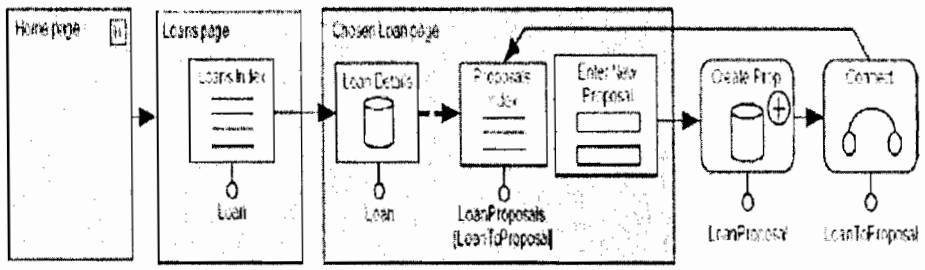
Fig 2.2: The Data Model for the Loan Requests Application

2.3.1.3 Hypertext Model

The most important ingredient of the WebMD hypertext model areas, site views, units, operations, pages, links and session / application variables. A site view is a chart of page, perhaps grouped into zone, which allows users of a given group to do their specific activities such as travel information for users, while managers update. Page is units connected by links from the content of represent atomic pieces of information to be available.

For example: Where they can navigate to a page showing an index of loan products after the users do browse to the homage. After choosing an advance users are directed

to a page with the list and loan details proposals for the choice of advance. The requirement describes the WebMD hypertext is represented in Fig 2.3.

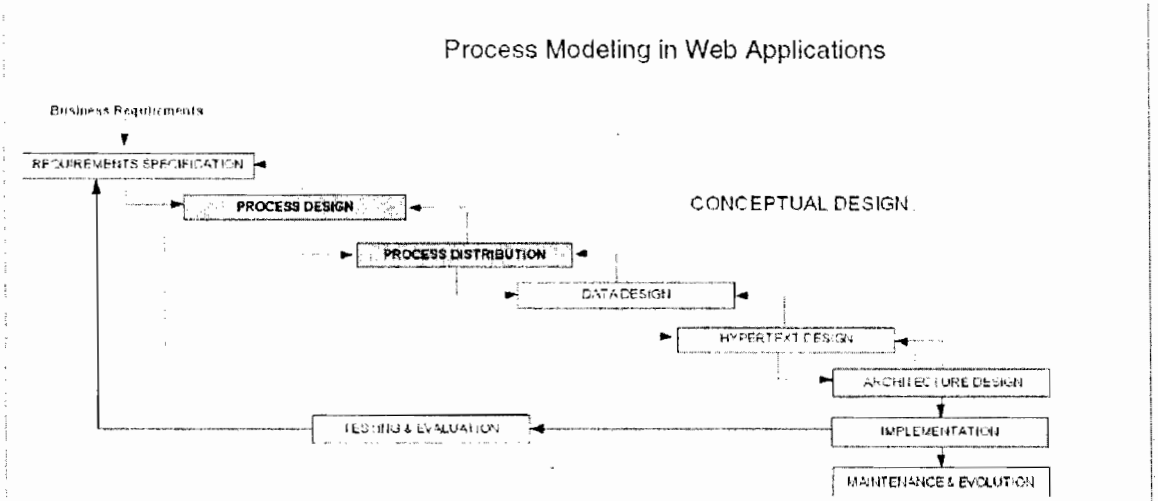


WebML specification of a simple hypertext for browsing loan information.

Fig 2.3: WebML Specificationfor Browsing Loan Information

3.1.4 The Data model is the Relationship Model in Standard Entity

The process life cycle development-centric web application in Fig 2.4 shows the process of web application center development in data and process, the development phase must be applied in incremental manner and integrative.



Phases in the development process of data- and process-intensive Web applications.

Fig 2.4: Phase in the Development Process of Data

In Fig 2.5 shown the process modeling in web application

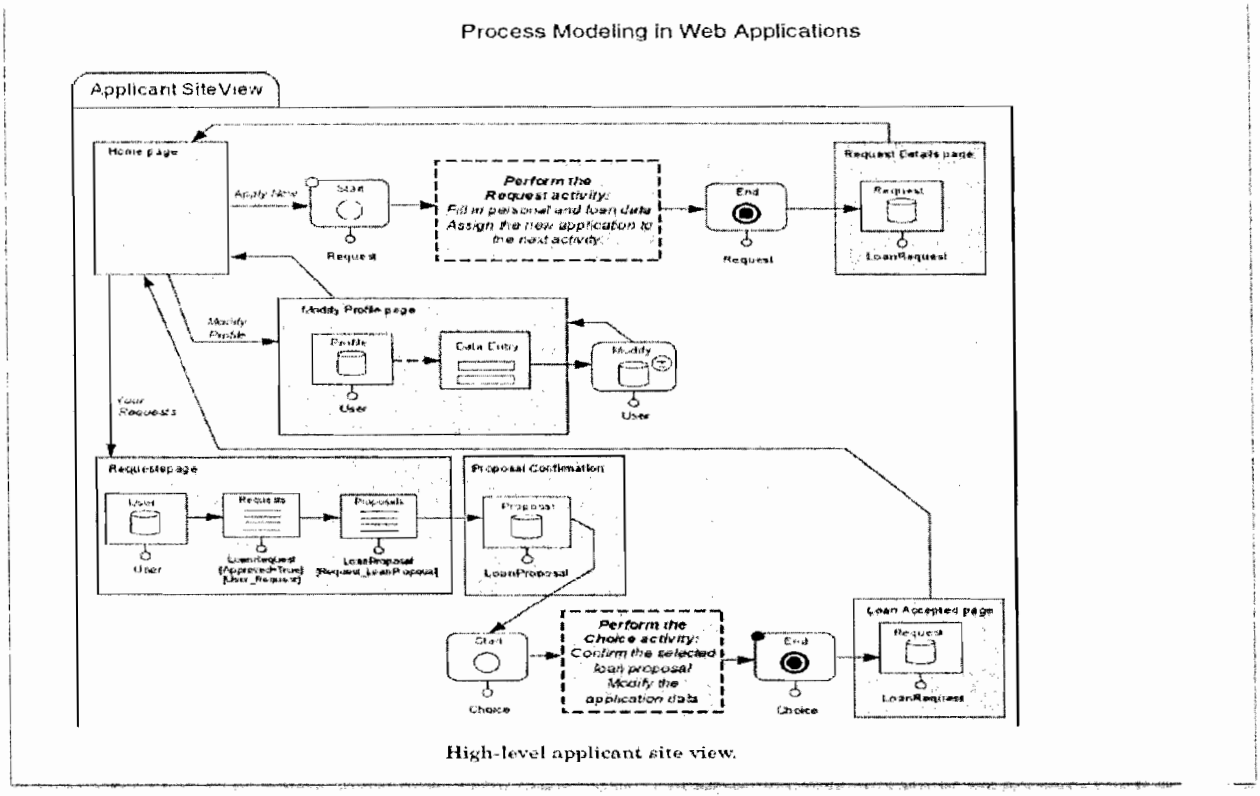


Fig 2.5: High-level Applicant Site View

2.4 Web Application Security

In the last a few years ago the web security esoteric terms discovering vulnerability research and industry has adopted dozens of confusing, for example terms parameter tampering, Cross Site Scripting and Cookie Poisoning have all been given inconsistent name. The website is mission for much organization, the value for the web site need to be evaluated on every situation to web site.

The vulnerability to website every time affect the risk of website, so when the vulnerability happen to web security is identified performing the attack requires by using server application attack technique. This technique using up to class of attack(how the vulnerability of web security is taken advantage of).

From the type of attack: SQL Injection, Buffer Over Flows and Cross-Site Scripting

(Web Application Security Consortium: Threat Classification, 2004).

Authentication in the website: to make the web site more secure must put some roll to know who will use the web site and which information the user can see because impossible to allow for all users to get same information from the system such as the manger can access the information more than the normal user to the system.

The web site have authentication in web site follow this question:

What you know?

Every user has user name and password this is what you know.

What you have?

The security device, which the user has or token that authenticate the user by having the suitable permission entrenched into the token itself.

What you are?

The user of system or web site have unique characteristics to authenticate for example every user have deferent: Fingerprint, Face, Hand, Iris, Retina and Voice, so from all those can know who are you? Before you enter the system (Mark Merkow & Jim Breithaupt, 2006)

2.6 Tools Used To Build Web Application

The web is consists of several tools and applications such as Hypertext Markup Language (HTML), Hypertext Terminal Protocol, (HTTP), several protocols (TCP/IP), PHP, MySQL, Adobe Photoshop, Apache web server, Macromedia Flash MX, Dreamweaver etc.

2.6.1 Hypertext Markup Language (HTML)

The common symbol language is hypertext on the web. HTML had a first public release, The HTML 0.0 before 20 years ago in 1990, Internet draft HTML 1.o in 1993 after that HTML 2.0 in 1994. Many HTML papers are the result of physical authoring

or word processing HTML converters, but now several WYSIWYG editors support HTML styles According to Tim Berners Lee (2002), HTML is major score language for web pages. It provide a means to describe the structure of text-based information in a document by denoting certain text as, paragraphs, headings, lists, and so on. HTML is to refer to content of the MIME type text/html.

2.6.2 Hypertext Transfer Protocol (HTTP)

HTTP is one of the layer network protocols for the WWW or Application(Lee , 2002). It as a "generic stateless object-oriented protocol." Statelessness is a scalability possessions but is not necessarily efficient, which is not desirable for transactions or situations requiring sessions. In HTTP, commands can be associated with particular types of network objects. Commands are provided for:

- Sending a request to the server.
- Establishing a TCP/IP connection to a WWW server.
- Returning a response from the server to the client.
- Closing the connection.

2.6.3 Database: MySQL

For help the visitor for Menara Alor Star to booking by using web base this project used MySQL Relation Database Management System (RDBMS) to put into practice the web-based database model for add new data or information and save it in the system , the MySQL robust structured query language (SQL) database server and MySQL is very fast multithreaded. MySQL has a well-deserve standing for being fast database server that is also quite as to use and set up, with its growing reputation as a back-end database for website, its visibility has be greater than before dramatically in

the year 2002. It non-interactive and supports interactive and use. Besides that, MySQL is free open source software and functions as a client/ server system that support different back ends, several different client programs, administrative tools, libraries and programming interface.

2.7 Design Web Application

The rapid growth of web-based applications as a service over the web has revealed a lack of effective guidelines for implementations and their design. The inadequacies of these existing guidelines necessitate the development of new web application-specific interface design main beliefs (Norman, 2000).

Bad design often screams aloud, Good design is virtually invisible, If web site is well designed and the explain of information helps the usability of the web site, visitors will return. A significant issue to consider in chooses a color of scheme is to remember to design for those with color sightlessness; this usually helps make web site usable for each person (jessett.com).

2.8 Advantages of Web-Based Application

- Browser Applications typically require little or no disk space, upgrade automatically with new features.
- Integrate easily into other web procedures, such as email and searching.
- They also provide cross-platform compatibility because they operate within a web browser window.

  In addition, the Web based important for Business Continuity/Disaster Recovery By using web site Cross-platform compatibility, Updating, Immediacy of access, Ease of trying, Less memory requirements, Less Bugs. Or less prone to crashing and creating technical problems, do not require the

distribution, Data moves online too, Multiple concurrent users, Data is safer, Develop applications in the language you prefer.

2.9 Disadvantages of Web-Based Application

Compliance with standards is an issue with a non-paper, the creator of office type, causes problems when file sharing and collaboration is essential. In addition, the browser Applications rely on application files available on remote servers via the Internet. Therefore, when the connection is interrupted, the application is no longer usable. Google Gears is a platform beta in the Fight against this problem and improve the usability of the browser Applications.

2.10 E Commerce

E-Commerce is describes to how the Internet is widely today is being used e-business word nevertheless E-Commerce can be shown as more complex clarification encompassing distinct classification and three divide pure ecommerce, traditional E-Commerce and secondary E-Commerce(Munnich & Douma, 2002).

Internet today has become one of the most important dispatch, business and marketing. Show a range of new ways to reach out to customers as required. Commerce is buying and selling the thinks by Internet without paper work is involved or any physical contact necessary.

The development of the World Wide Web, recently accelerates the E-commerce development too and make it expands its Scope to cover many different type of application. E commerce in generally speaking about the sale and purchase of best or services by electronic means. It has two types of commerce, electronic commerce and physical or traditional commerce. Today the company cannot ignore E- commerce because the E-commerce is become part of core business function such as marketing, accounting, etc. (Zwass, 1998).

History of e-commerce: e-commerce is change at the last 30 year special in using technology like electronic data interchange(EDI),the acceptance and growth or credit cards, ATM, and telephone banking in the 1980 in airline reservation system typified. (Kevin Kelly, 2005).

In 1992 Terra Ziporyan & J.H Snider publishes about how the using new technology can change the way, what we buy and how we shop.

In 1994 – the first browser Internet Netscape under the name: Mozilla and the first online Bank open, attempts to magazine subscription online.

In 1995 – Amazon.com the more famous website in e-commerce (B2C) by Jeff Bazos Launches and the first commerce 24 hours free.

In 1998 – electronic postal stamps can be downloaded for printing and purchased from the web.

In 1999 – business.com to do business by Internet.

In 2000 – Dot-com bust.

In 2002 – eBay acquires for 1.5 billion In 2003 – The first yearly profit by Amazone.com.

In 2007 – R.H Donnelly acquired busness.com for 345 million.

In 2008 – 204 billion the Retail Sales Projected increases of 17 % in 2007.

Have different types of E-commerce:

- Business to Consumer (B2C) such as Amazone.com.
- Business to Business (B2B) such as Trading Process Network.
- Consumer to Consumer (C2C) such as eBay.com.
- Consumer to Business (C2B) such as Priceline.

Some people think the E-commerce is about developing web page but E-commerce is about building an integrated system (ZDNet, 2007).

2.10.1 Concepts and Definition: Electronic Commerce

Under the e-ticket, that is exactly what is a ticket. It is no different than the general concept of tickets that people clearly know and accept. May ticket associated with a number of conditions (e.g, price, validity period, travel dates, quality of service, destination).

Fujimura and Nakajima (1998) defines that the note is a certificate that guarantees that the ticket owner has the right to claim the services written on the ticket . According to Shirley (2001) to meet the diverse needs of e-business, e-ticket should have the following characteristics.

1: Transferable: if the server target is permitted or any mouse by the owner ship, is sure of the e-ticket must change to anther users on Internet.

2: portable: portable for user to access both offline and online service at anytime from any place.

3: state changeable:- the reflect of thc status must change able the stats.

4: secure the owner and to protect the rights of issuer, the e-ticket should be secure in terms.

5: Decomposable:- the ticket can be transferred to another user after agreement so if an e ticket is logically decomposable it should allowed to decompose into two or more at the same time.

2.11 Electronic Booking

E ticketing is one of the most significant services in electronic commerce (Zwass, 1998). Are usually the sales of tickets and services transactions that do not support

that. This type of ticket is the use of paper and phone or fax. After the revolution of the Internet must have to change the traditional way to E ticketing.

The Electronic Ticketing is have all information been before on paper ticketing in an electronic format, the paper now read to confirm the details of the ticket and to itinerary respect that. For example: department time, flight number, destination, airport information and ticket number. In Electronic Ticketing must keep the itinerary receipt when trivially coz need to show it in airport staff.

2.11.1 Why the People Move to Electronic Ticketing?

Because it is more convenient and more efficient for passengers. The passengers cant lost his/her Electronic Ticketing because all information will story in the computer system from company.

No need to access Internet to use Electronic Ticketing by online way is easier to do booking and manage the travel plans, for example: from at home can check in online and print the ticket.

By Electronic Ticketing can make change to itinerary easier than normal way for booking. with Electronic Ticketing no need to go to the same place or to the office to take the new ticket, this change will be in computer system.

Electronic Ticketing more environmentally friendly, the human can save the equivalent of 50,000 when eliminating paper mature trees per year or can save 2 square miles of forest about 5 square kilometer (Electronic Ticketing For Passengers, 2008).

E-ticketing is one of the most significant opportunities to improve ease of use, and to reduce costs and eliminates the effort and time losing paper the need for flexibility and allows the crowd allow them to do everything in the easiest way.

The Features of E-ticketing:

- Real-time capacity control.
- Multi – venue capable for multi attraction clients.
- Memberships/passes, sell admissions, and muster from integrate platform.
- Fully-featured preview code engine.
- Timed payment option for credit card purchase.
- For the best cash flow the process go direct to client bank account.
- Included web-based ticket scanning.
- Add-on products for wristband-style sale and Supports e-Cash.
- Content Management for direct changes.
- Integrated online ticket load.

2.12 Summary

This chapter discussed concept and definition of E-commerce, E-ticketing, web & web application, previous related works, history of the web, Basic service trading architecture. The next chapter will be discussed research methodology by using Unified Modeling Language (UML).

CHAPTER 3

RESEARCH METHODOLOGY

This chapter discussed the methodology of designing Web Based System for Menara Alor Star in Alor Star city, the methodology will be general methodology

3.1 Introduction

Research methodology is not only a collection of methods to make a research in a special sector; but it is a methodical way to solve the research problems (Kothari, 1985). The rescarch methods refer to the techniques and methods used by the researcher to perform the research, such as data processing techniques, data collection techniques and instruments.

The research methodology which used in this study is an agreeable method, excellently

chosen, described and accepted among many researchers in Information System Research Design (Vaishnavi & Kuechler, 2004).

According to Vaishnavi & Kuechler (2004), the design of research methodology includes the major steps as shown in Fig.3.1 the phases are:

3.2 Awareness of Problem

The importance of the methodology is to understand the scope and objective to of the project, and this happen through the meeting with the person who is manager of the Menara Alor Star, and also which could solve this problem, so the perception of the problem rises that, the need to reserve Menara Alor Star using web based devices any

time anywhere, the scope and objective will be more specific. After finish this proposal its been the output.

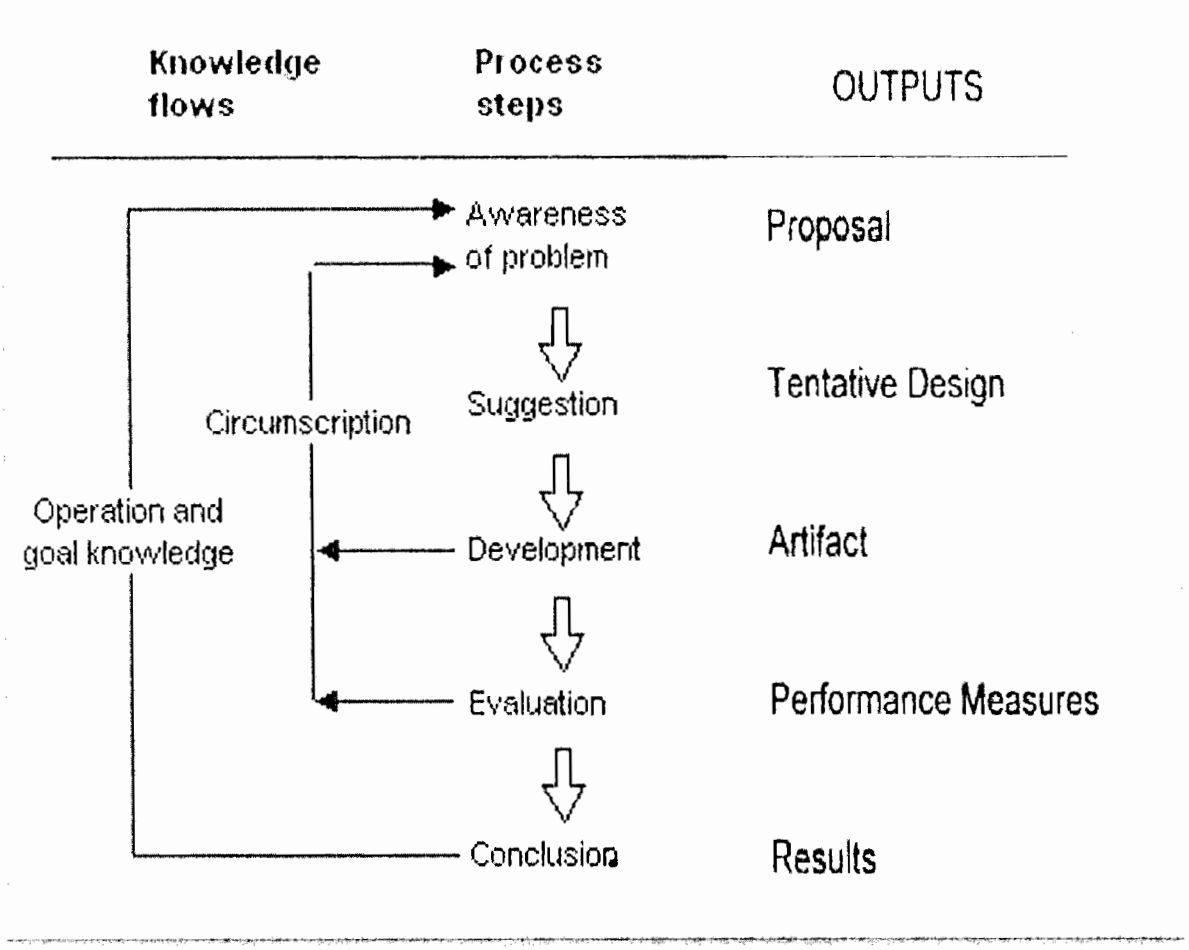


Fig 3.1 : Research Design Methodologies (Source: Vaishnavi & Kuechler, 2004) .

This phase methodology is generally done through a focused series of discussion and analysis with business users and business management.

These analyses start the process of development by establishing a mutual understanding of the scope, objectives, user needs and assess the feasibility of developing the project.

3.2.1 Data collection

A multi method approach used in the data collection from many ways such as s observed the current system, interviews, and questionnaire.

3.2.1.1 Interview

The research had a meeting with Mr. Mazlan Mahmud(General Manager) and Mr. Abd Razak Hj Din (Assistant Manager) and discus. Some of the main points about Menara Alor Star and the visitors.

3.2.1.1.1 The current process for the ticket booking.

It is only one way to book a ticket for enter to Menara Alor Star which it is the manual process., on the main gate

Menara Alor Star Details

- Location: Jalan lebuhraya Darul Aman, Alor Star Kedah Darul Aman, Malaysia..
- Year : 14th August 1997
- High : 165.5 meter
- Cost : RM 40 Million

3.2.1.1.4 Result of the interview.

The idea about the project researchable and needs to be developed because the system now is manually in Menara and in the system precede it as effective system, and appointment to present the system because the employees who working in Menara want to purchase it after its done.

3.3 Suggestion

This study suggests using website to make booking for Menara Alor Star, so the customers can easily get the tickets information to the Menara. The design of this system includes UML diagrams. The UML diagrams are detailed sequence diagrams for each use case, general use case diagrams, and class diagrams.

In this system development, researcher used a combination of regular scheme and object-oriented approach. As the requirements of the information system become increasingly complex, the mutual approach is more suitable to be conducted . Object-

oriented offers a theoretical framework that supports the unit of the system. It is also aims to provide a mechanism to support the analysis of design and reuse of code design. Even though the scheme of providing easy-to-use approach is easy to understand explanation of the processes involved in the system.

3.4 Development

In the Development level the booking for Menara Alor Star, prototype developed. The prototype used like method. The prototype process includes three steps: first one is the users, the second one is interacting between the prototypes, the last one users can have a good idea of their information requirements. The users can approved the application if can use it as final system. As showed in (Fig 3.2) the purpose that approved by the users can be as template to creat a final application (Laudon & Laudon, 2000).

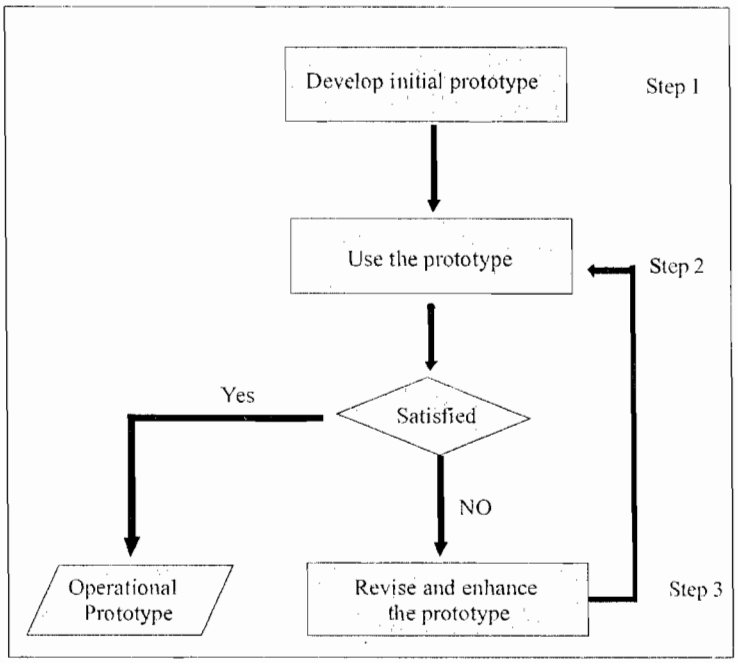


Fig 3.2: the Prototyping Processes Adapted (Laudon & Laudon, 2000).

Step 1. Develop Initial Prototype

Based on the requirements that had been identified in the awareness of problem, the visitors lost time and efforts, and the system now is manually for Menara Alor Star Through website built.

Step 2. Use the Prototype

Users are encouraged to use the site to book for Menara in order to identify errors and measure the efficiency of the functionalities provided.

Step 3. Evaluate as Operational Prototype

The tickets acceptance through Website is evaluated, 10 students are interviewed and asked some relative question about the proposed prototype in order.

3.5 Evaluation

The system evaluated after development phase. The result from the selling range shown if it is good or not after the people used the system to buy ticketing to Menara Alor Star.

3.5.1 Questionnaire and Expect Review

The questionnaire was distributed to 30 respondands among different people (Menara management, students, and visitors).

The System been tested by two lecturers at UUM and three staff of Menara Alor Star and the system fulfills all the requirement needed and shown all the functionality of the system.

3.6 Usability

Make the prototype easy to use in the design for the people who wants to visit Menara Alor Star to make anyone who wants to use the system able to use it. The prototype is effective in the easiest way and can be updated in the future so after finishing this step the final results will be the Outputs of the project.

In this project after the customer booking, he will receive the information of his ticket on his email after he press activate button.

3.7 Summary

This chapter discusses the methodology which used in this project, where the methodologies are grouped under four phase were based on the outline objectives as Awareness of the problem Phase, problems related to this research,ideas, information and issues. Suggestion Phase, development of elements implemented in software then, the main focus of requirements analysis. Development Phase, the system Functionalities were identified and the interactions among system components. Evaluation Phase, System testing and the problem encountered analyzed to ensure it provide correct services.

CHAPTER 4

System Designer

4.0 Introduction

This chapter coveres the design and implementation of the Web site e-Ticketing Reservation for Menara Alor Star prototype. The chapter created with the system. requirements and design collected during the first phase and the second phase of the methodology respectively, Then this chapter handled on the system structural design followed by the design of flow of the adaptation process. Finally the designing the user interface.

4.1 List of Requirement

4.1.1 Hardware Requirements

This project is to make operation faster and effective the company required to have Server with high quality (RAM, CPU, Hard Disk) for the Menara Alor Star.

4.1.2 Software Requirements:

Chang from manually to software requirements.

- Operating System such as:

  Microsoft Windows XP Professional, SP2, SP3.

- Database server :

This component used to store the information about the visitors to Menara Alor Star such as name, mobile, email.

- Net Beans program by using program language Java.

- Internet this component is essential to open the page of website.

4.2 System Design

The design of the system includes UML diagrams, and a sketch of the system's architecture. The UML diagrams involved use case diagram, class diagram and sequence diagrams. The following section illustrates the design of the prototype. Rational Rose 2000 Enterprise Edition is used to draw necessary diagrams that help in the development stage. Use case diagram, as displayed in Fig 4.1, Fig 4.2 describes the overall interaction between the prototype and its visitors as how the visitors start the steps for ticket booking for go inside the Menara Alor Star to use the reservation room or restaurant or meeting room inside Menara.

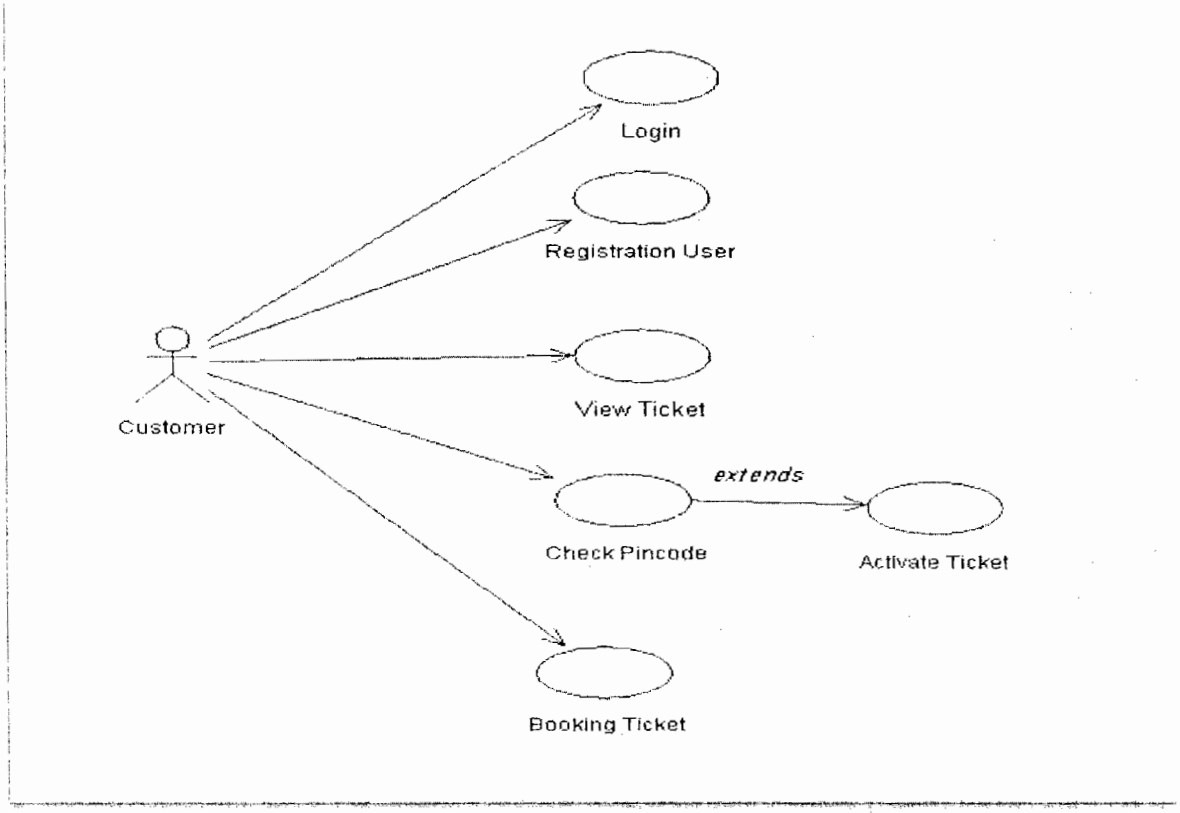


Fig 4.1: Use Case for Visitor

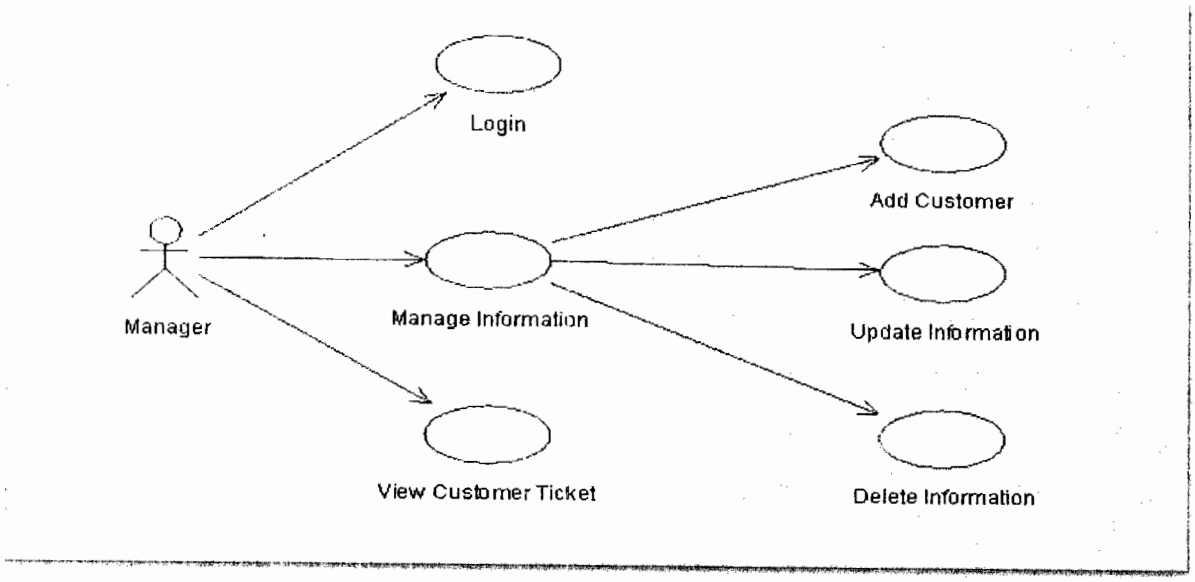


Fig 4.2: Use Case for Manager

4.3 Class Diagram of Web Base Ticketing for Menara Alor Star

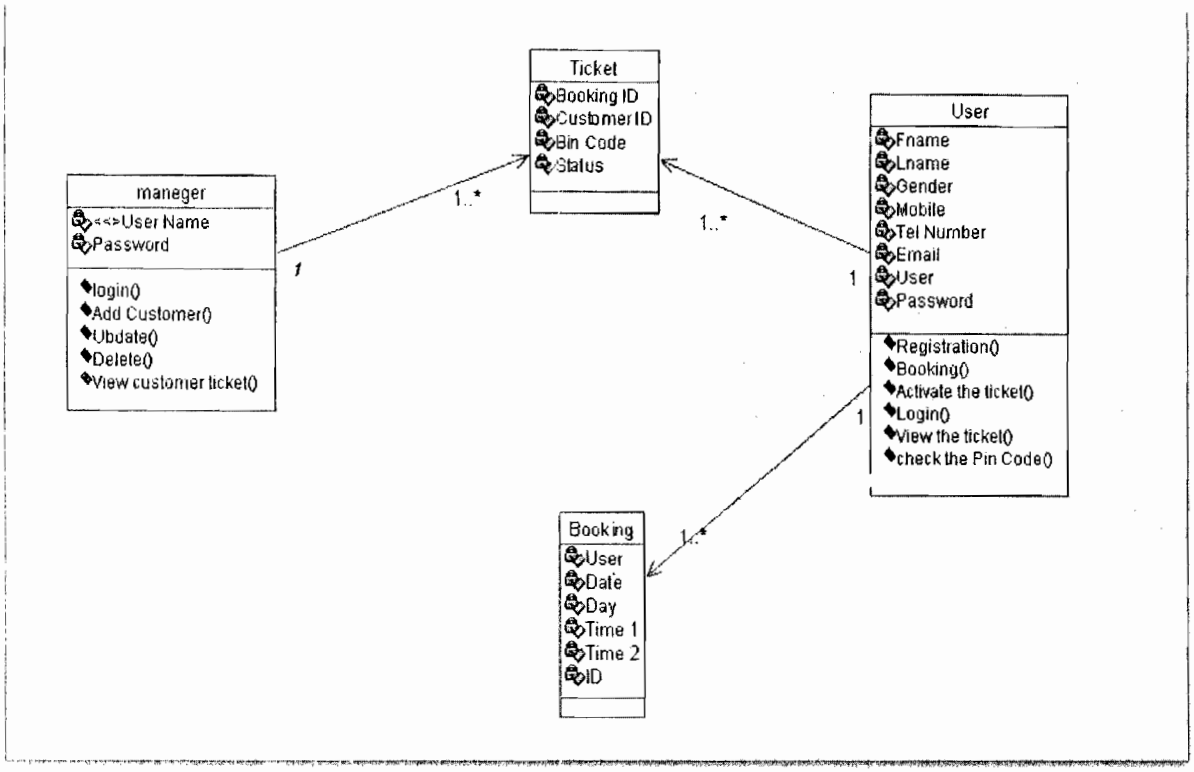


Fig 4.3: Web Base Ticketing for Menara Alor Star Class Diagram

The class diagram will show the main classes in the prototype as the manager, User/customer, ticket and booking and the relation, which it is one to one or one to many.

The attribute for the class designer can be referee in the Appendix D.

4.4 Design Interfaces for (DWBT) Prototype

This website designed with computer through Internet, this website designed by Net Beans and programming by JSP language

4.4.1 Interface Page

The customer web base display the home page , and the home page contain: login for customers, manager, customer, registration as shown in Fig 4.4

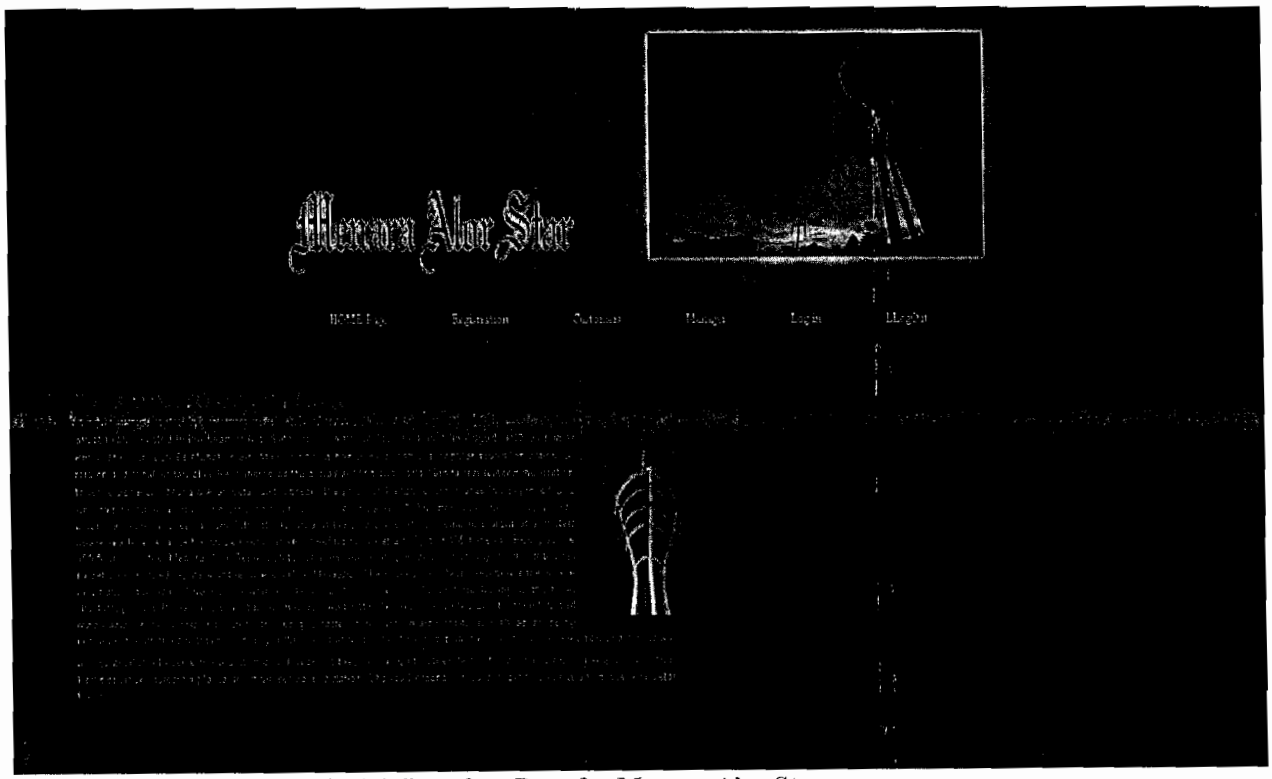


Fig 4.4: Interface Page for Menara Alor Star

4.4.2 Registration for Customer

The customer can't booking before registration the Fig 4.5 shown the registration page, in this page the customer fill data and create new user and password if he want booking

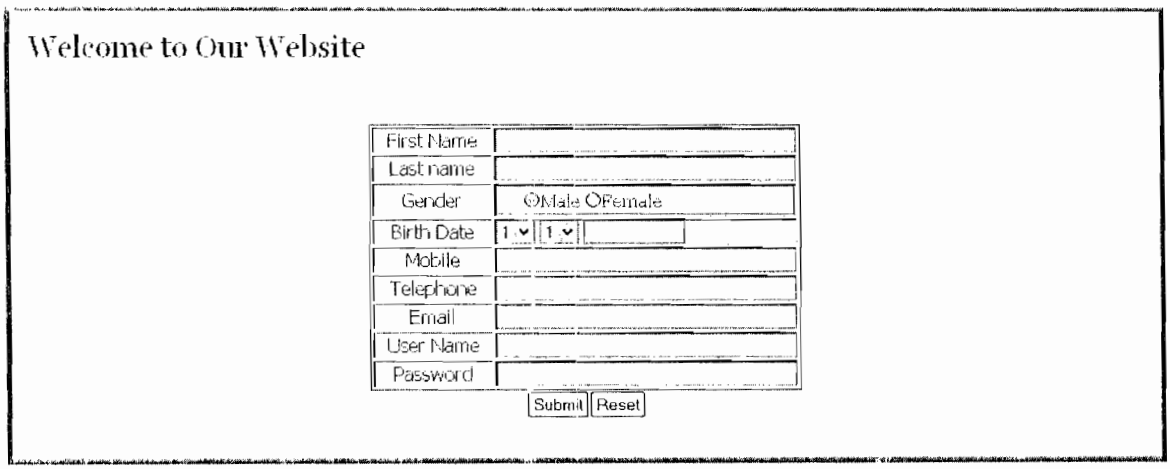


Fig 4.5: Registration Page

4.4.3 Customer Page

After the customer create user he use his user name and password to login, after login the page in Fig 4.6 will shown

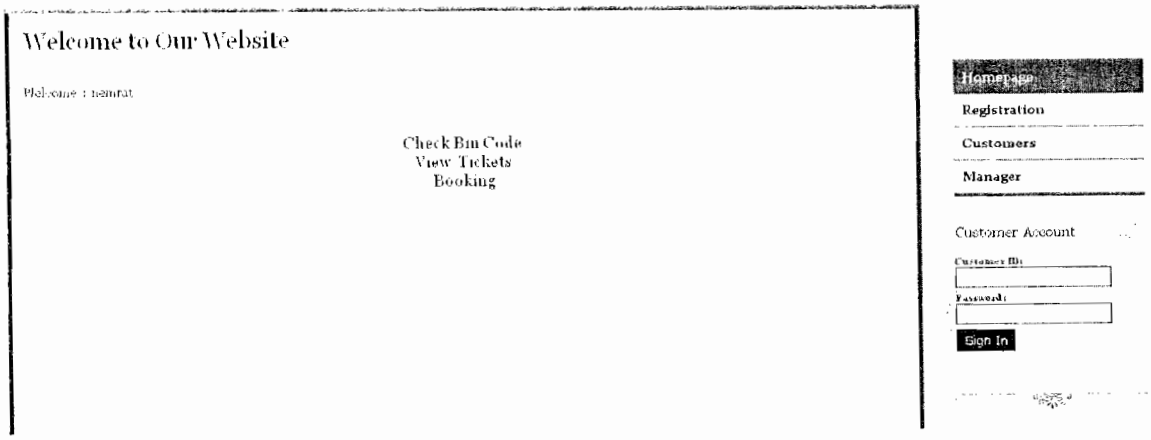


Fig 4.6: Customer Page

4.4.4 Booking Page

After the customer open his page he can booking by fill the information about the ticket he want as shown in Fig 4.7

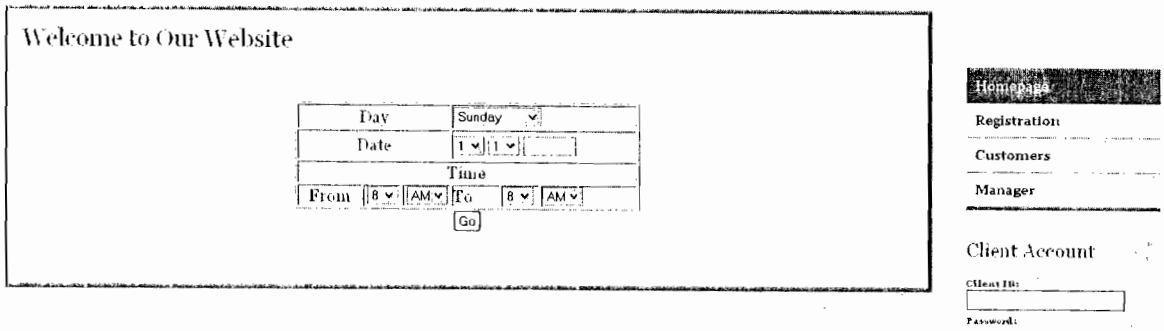


Fig 4.7: Booking Page

4.4.5 View ticket

The customer can show the information about his ticket as shown in Fig 4.8

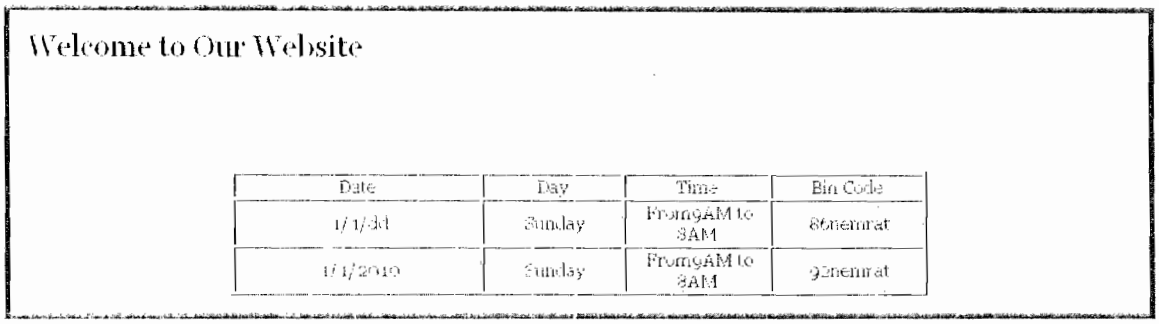


Fig4.8: View Ticket by Customer

4.4.6 Check Pin Code:

The customer must Check Pin Code to do activate to their ticket to receive the information of his ticket to his email after that the manager can know who activate or not so he will allow to person who do activate as shown in Fig 4.9

Note: the activate point something like continue the process for payment

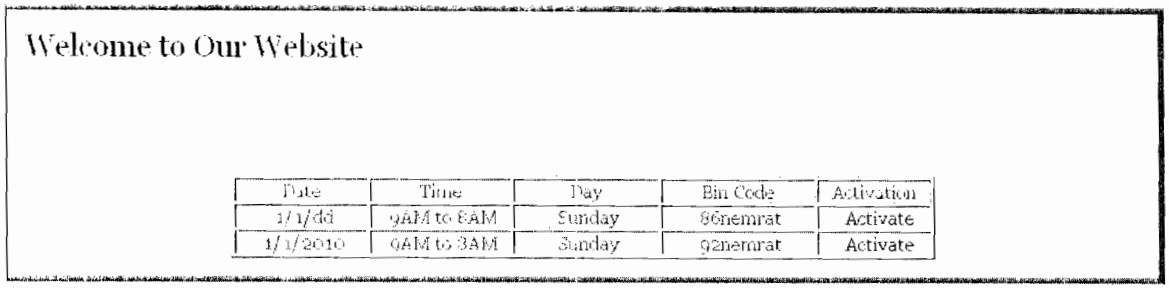


Fig 4.9: Check Pin Code:

4.4.7 Manager Login Page

The manager press manager button to open login page as shown in Fig 4.10 the manager must enter correct user name and password.

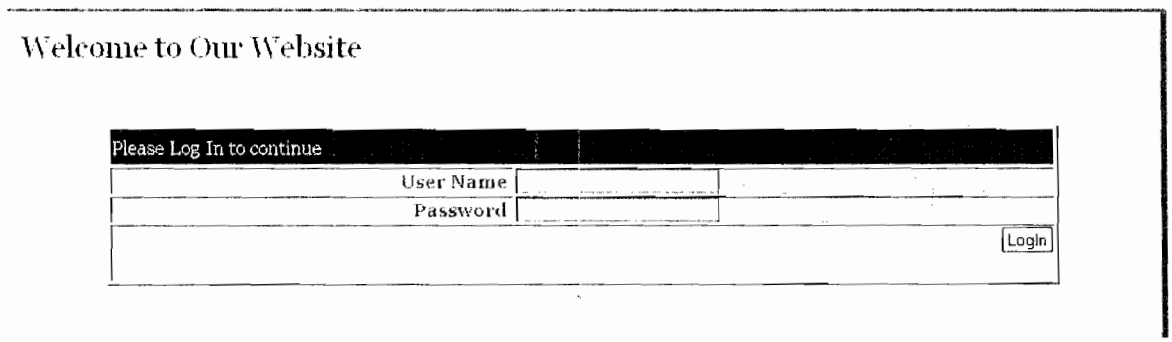


Fig 4.10: Manager Login Page

4.4.8 Manager Page (View)

The manager can show all information about the customer who do booking to the Menara Alor Star as shown in Fig 4.11

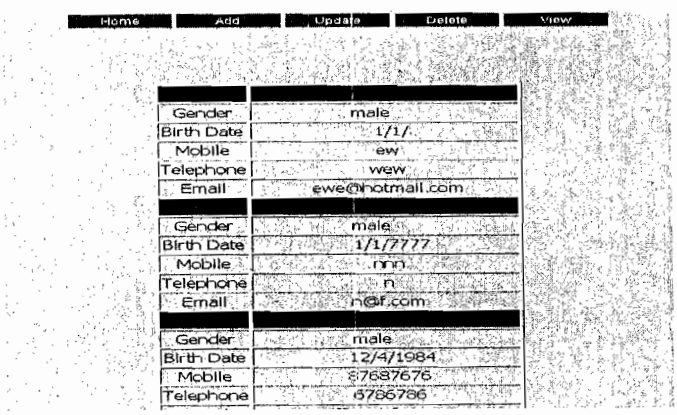


Fig 4.11: Manager Page (View)

4.4.9 Manager Page (Delete)

The manager can delete the customer who do booking to the Menara Alor Star after he write User ID as shown in Fig 4.12

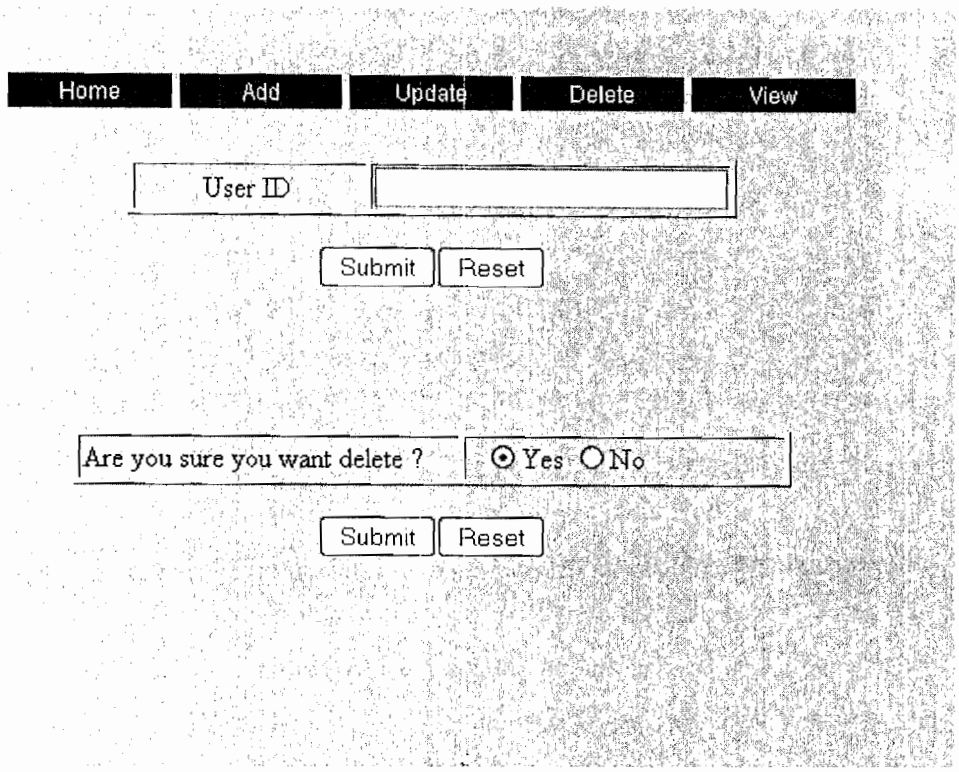


Fig 4.12: Manager Page (Delete)

4.4.10 Manager Page (ADD)

The manager can add customer to Menara Alor Star after he fill all information about the customer as shown in Fig 4.13

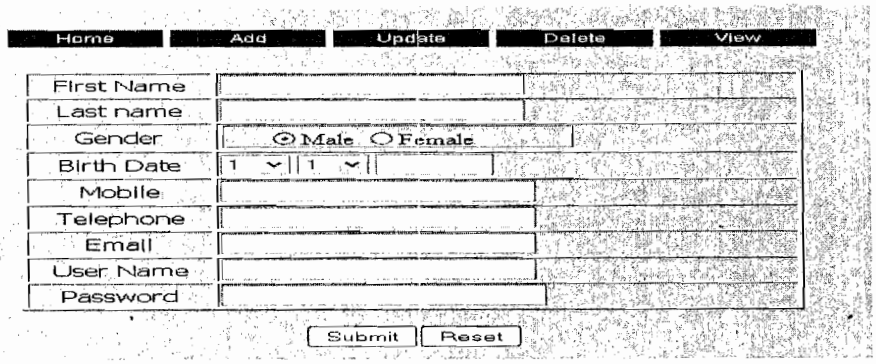


Fig 4.13: Manager Page (ADD)

4.4.11 Manager Page (Update)

The manager can update the information about the customer to Menara Alor Star as shown in Fig 4.14

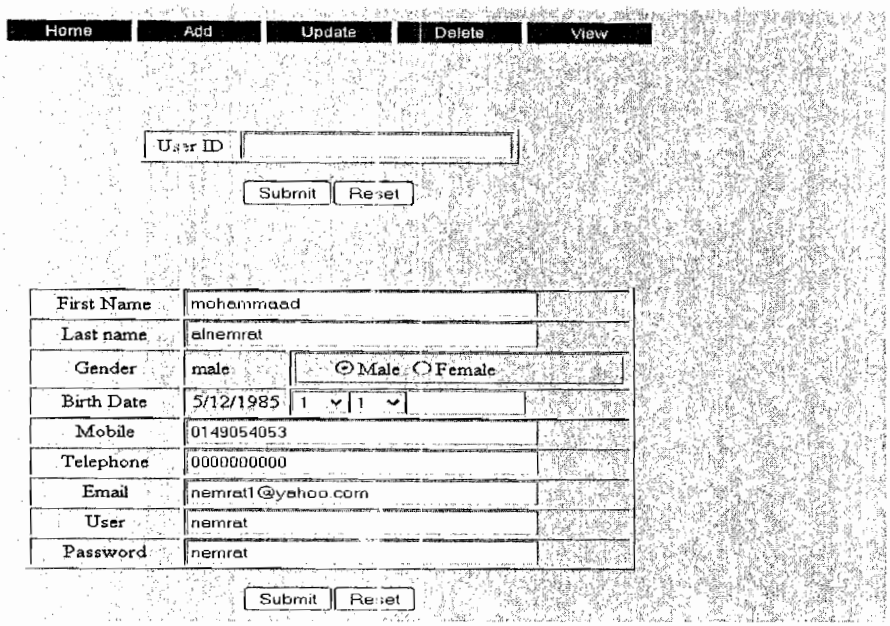


Fig4.14: Manager Page (Update)

4.5 Summary

This chapter covers the development and implementation of web-based for Menara Alor Star. After finish this chapter achieve the first objective (To design a web-based ticketing system for the Menara Alor Star to be used by the visitors to plan, book and buy tickets from online in order to overcome the current problems of using the purchasing procedures available)

CHAPTER 5

Result and Finding

5.1 Introduction

This chapter focuses on the testing of Menara Alor Star booking by using Questionnaire and test case system for test the requirements and use case function. The evaluation uses usability-testing base on the standard tests followed by interview in a closed location with video paraphernalia. Testing with potential users can obtain as efficient feedback as possible in a short time frame and with the available resources. It is also beside the point to ask people in a focus group to predict would like something they have not tried, so the only way to get valid data is to let users experience the technology before opinion are sought (Nielson, 2006).

5.2 Purpose of Test Case

According to Cem Kaner (2003), the purpose of test case is:

- Test case helps us to discover information. Different test types are most effective for different categories of information.
- Test case may be "good" in the variety of ways. The test case cannot be good for all of them.
- People tend to create test cases based on proper control of some.

5.2.1 System Test for Menara System

A test case is the question that may be testing the system by users. The point of the performance test is to obtain information, for example whether the system maybe succeed or fail the test.

5.2.2 Test Case ID: DWBT-TC 01

Description of the test case: Table 5.1 shown the test case checks the Manager Login Functionality.

Table 5.1: Test Case Manager Login Functionality

SI.NO	Test Data Input	Expected Result	Defect (Y/N)	Severity (H-High, M-Medium, L-LOW)
DWB-TC 01-01	Login is clicked (login using user name and password).	Login page is displayed	N	H
DWB-TC 01-02	Enter User name and password, example of User type "a"	If the user is true and start with "d" then the general manager home page is displayed	N	H
DWB-TC 01-03	Wrong user name and password	Prompt notified message for the manager that user name and password is wrong	N	M

5.2.3 Test Case ID: DWBT-TC 02

Description of the test case: Table 5.2 shown the test case checks the Customer Login Functionality.

Table 5.2: Test Case Customer Login Functionality

SI.NO	Test Data Input	Expected Result	Defect (Y/N)	Severity (H-High, M-Medium, L-LOW)
DWB-TC 02-01	Login is clicked (login using user name and password).	Login page is displayed	N	H
DWB-TC 02-02	Enter User name and password, example of User type: nemrat	If the user is true and start with "d" then the customer page available to open	N	H
DWB-TC 02-03	Wrong user name and password	Prompt notified message for the customer that user name and password is wrong	N	M

5.2.4 Test Case ID: DWBT-TC 03

Description of the test case: Table 5.3 shown the test case checks the for the customer to create new user and password and fill the personal information in registration button

Table 5.3: Test Case Checks Customer to Create New User and Password and Fill Data

SI.NO	Test Data Input	Expected Result	Defect (Y/N)	Severity (H-High, M-Medium, L-LOW)
DWB-TC 03-01	Make Registration as click	Registration page is displayed	N	H
DWB-TC 03-02	Filled the form and submit button is click	The appointment page is displayed	N	H
DWB-TC 03-03	Submit button is click	The page to inform the customer about done is displayed	N	H
DWB-TC 03-04	Main menu is shown	Back to home page	N	M

5.2.5 Test Case ID: DWBT-TC 04

Description of the test case: Table 5.4 shown the test case checks the for the customer to use Booking.

Table 5.4: Test Case Checks Customer to Create Booking

SI.NO	Test Data Input	Expected Result	Defect (Y/N)	Severity (H-High, M-Medium, L-LOW)
DWB-TC 04-01	Make booking as click	booking page is displayed	N	H
DWB-TC 04-02	Filled the form and go button is click	The appointment page is displayed	N	H
DWB-TC 04-03	go button is click and click reserve	The page to inform the customer about done is displayed	N	M
DWB-TC 04-04	Main menu is shown after click back	Back to home page	N	M
DWB-TC 04-05	Fill the time and date	The massage wrong will shown After fill wrong Data or Time	N	H

5.2.6 Test Case ID: DWBT-TC 05

Description of the test case: Table 5.5 shown the test case checks the manager to add a new customer.

Table 5.5: Test Case Checks the Manager to Add a New Customer

Sl.NO	Test Data Input	Expected Result	Defect (Y/N)	Severity (H-High, M-Medium, L-LOW)
DWB-TC 05-01	Add customer as click	restoration page is displayed after click to mange customer data	N	H
DWB-TC 05-02	Filled the form and click submit	The appointment page is displayed	N	H
DWB-TC 05-03	submit button is click	The page of mange customer is displayed	N	H

5.2.7 Test Case ID: DWBT-TC 06

Description of the test case: Table 5.6 shown the test case checks the manager to delete customer

Table 5.6: Test Case Checks the Manager to Delete Customer

SI.NO	Test Data Input	Expected Result	Defect (Y/N)	Severity (H-High, M-Medium, L-LOW)
DWB-TC 06-01	Delete customer as click	The page to insert the ID is displayed	N	H
DWB-TC 06-02	Filled the ID user and click submit	The inform page "are you sure" is displayed	N	H
DWB-TC 06-03	submit button is click	The page of mange customer is displayed	N	H

5.2.8 Test Case ID: DWBT-TC 07

Description of the test case: Table 5.7 shown the test case checks the manager to update customer.

Table 5.7: Test Case Checks the Manager to Update Customer

SI.NO	Test Data Input	Expected Result	Defect (Y/N)	Severity (H-High, M-Medium, L-LOW)
DWB-TC 07-01	update customer as click	The page to insert the ID is displayed	N	H
DWB-TC 07-02	Filled the ID user and click submit	The inform page of customer is displayed	N	H
DWB-TC 07-03	submit button is click	The page of mange customer is displayed	N	H

5.2.9 Test Case ID: DWBT-TC 08

Description of the test case: Table 5.8 shown the test case the customer checks the pin code for activate

Table 5.8: Test Case Customer Check the Pin Code

SI.NO	Test Data Input	Expected Result	Defect (Y/N)	Severity (H-High, M-Medium, L-LOW)
DWB-TC 08-01	Click check pin code	Check pin code page is displayed after click it	N	**H**
DWB-TC 08-02	The pin code shown	The pin code is unique	N	**H**
DWB-TC 08-03	Manager can know who do activate or not	In page of manager displayed the activate booking	N	**M**

The System was tested by two lecturers at UUM and three staff of Menara Alor Star and the system fulfills all the requirement needed and shown all the functionality of the system. The second and third objective of the project have been achieved

The plan prepared by (name):

- Dr Nor Laily Binti Hashim
- Syahida Hassan
- Mazlan Mahmud (General Manager)

- Abd Razak Hj Din (Assistant Manager)
- Ahmad Muhaimin Jamil (Executive)

Those say the system is suitable for booking for Menara Alor Star and those say the system not have defect and all function work in this software After test it.

5.3 Result of interview

I have been met Mr. Mazlan Mahmud(General Manager) and Mr. Abd Razak Hj Din (Assistant Manager) and discus. Some of the main point about Menara Alor Star and the visitors for it. The current process for the ticket booking It is only one way to book a ticket for enter to Menara Alor Star which it is the manual process and after I seen The places where the people can buy a ticket There is only one place for selling the ticket, which it is in the same place (Menara Alor Star) in room tickets and the visitors lost time and efforts when they waiting in the line.

After met with the person who is manager to the Menara Alor Star, and also which must solve this is the problem, so the perception of the problem rises, the need to reserve Menara Alor Star using web based devices any time.

They suggest using website to make booking for Menara Alor Star, so the customers can easily get and access the ticket information to the Menara. The design in this system includes UML diagrams. The UML diagrams are detailed sequence diagrams for each use case, general use case diagrams, and class diagrams.

For Development level the booking for Menara Alor Star, prototype developed. The prototype used like method. Develop Initial Prototype Based on the requirements that had been identified in the awareness of problem (the visitors lost time and efforts, and the system now is manually for Menara Alor Star). Through website built, the system

evaluated after development phase. The result from the selling ranges shown if it is good or not after the people used the system to buy ticketing to Menara Alor Star.

They suggest to me to make the prototype easy to use in the design for the people who wants visit Menara Alor Star to make anyone who wants to use the system able to use it. The prototype is effective in the easiest way and can be updated in the future. After the customer booking, he will receive the information of his ticket on his email after he press activate button.

They say the idea about the project researchable and needs to developed because the system now is manually in Menara and in the system precede it as effective system, and appointment to present the system because the people whom work in Menara want to purchase after finish it.

5.4 Evaluation Techniques

After the system has been developed the evaluation was performed to determine the level of usefulness and operability of the system, it is tested through a questionnaire, which was distributed to the public. The sample size was 30 respondents (Nielsen, 2006); each member was given a brief description of the functionality of DWBT. Afterwards, they were allowed explore the prototype and practice, lastly were given a set of prepared questionnaire to obtain their perceptions. The aim was to see the level of satisfaction and perception of the developed prototype ease of use and operability of the prototype system.

5.5 Evaluation questionnaire

The questionnaire questions were prepared and adopted from different standard Questionnaire (Davis, 1989), it consisted of two main sections, firstly General information, which intended to gather demographic data about the sample and its distribution.

The second part included questions about the perceptions of the participant regarding different dimensions of usability (Usefulness, Ease of Use, and Over All satisfaction), the questions were close ended and scaled from "Strongly disagree" to "strongly agree". A form of the Questionnaire where attached in appendix A.

5.6 Data Analysis

The data collected through the questionnaire was analyzed using SPSS software, version 12.0 is the available. Two different techniques were used (Descriptive statistics), the following Figures and tables show the results obtained from the data analysis.

The following table will show the reliability statistics for this study and it is = 65.5 % which it is acceptable.

Hair (2006) stated that the retiability above 60% indicates to high reliability.

As shown bellow in Fig 5.1 Gender: The number of male =20 (66.7% of students) and the number of female =10 (33.3% of students).

Statistics

gender

N	Valid	30
	Missing	0

gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	10	33.3	33.3	33.3
	male	20	66.7	66.7	100.0
	Total	30	100.0	100.0	

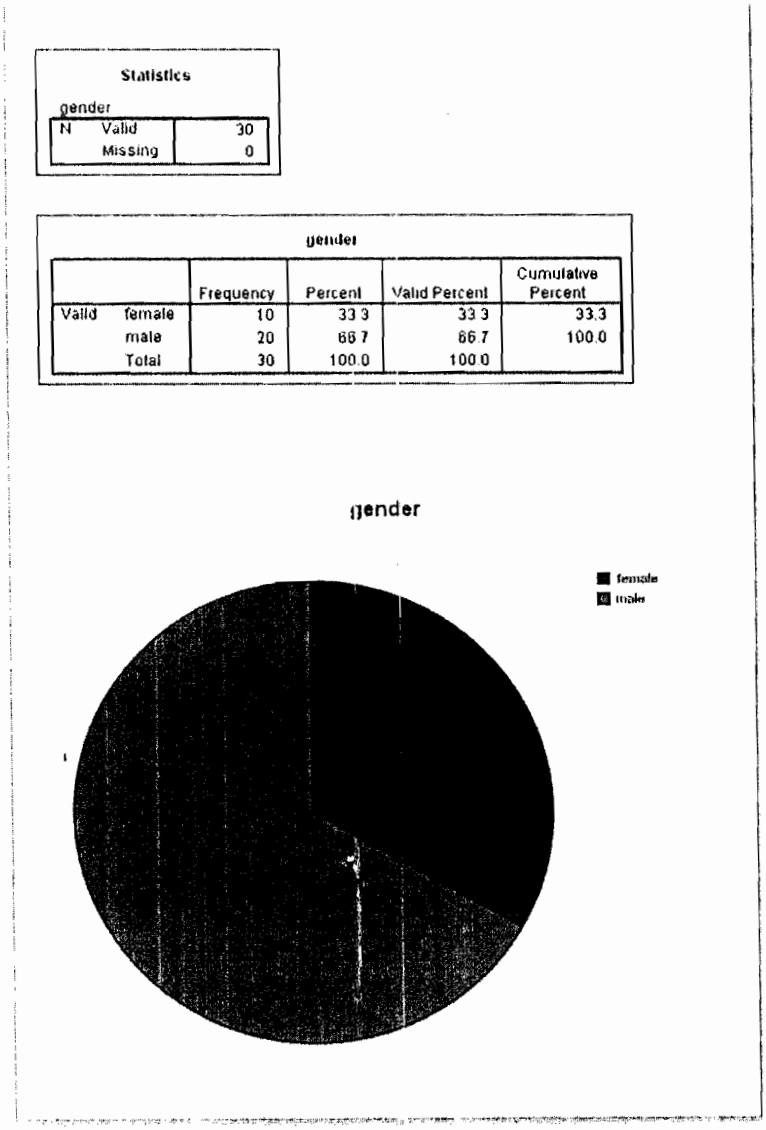


Fig 5.1: Gender

As shown bellow in Fig 5.2 the age of the respondents 17 (56.7 %) are between the ages of 20-25 years old, followed by 3 (10.0 %) are between aged >31 years old. And 7 (23.3%) are between the ages of 26-30. The remaining 3 (10.0 %) are those aged <20 year old.

Statistics

Age

N	Valid	30
	Missing	0

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-25 Year	17	56.7	50.0	50.0
	<20 Year	3	10.0	16.7	66.7
	26-30 Year	7	23.3	23.3	90.0
	<31 Year	3	10.0	10.0	100.0
	Total	30	100.0	100.0	

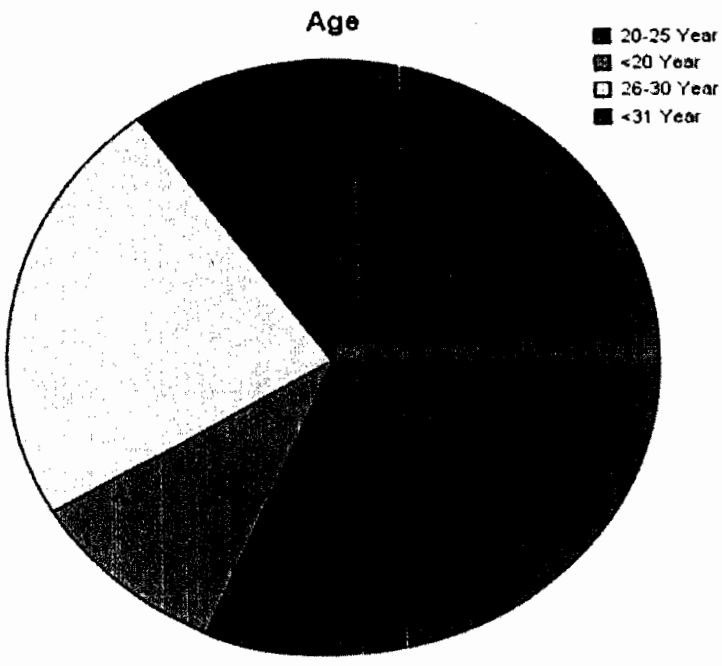


Fig 5.2: Age

As shown bellow in Fig 5.2

Education: Majorty of the respondent15 (50.0 %) are master, followed by 3 (10.0 %) are PHD, the remaining 12 (40.0 %) are degree.

Statistics

Education

N	Valid	30
	Missing	0

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Master	15	50.0	50.0	50.0
	PH,D	3	10.0	10.0	60.0
	Degree	12	40.0	40.0	100.0
	Total	30	100.0	100.0	

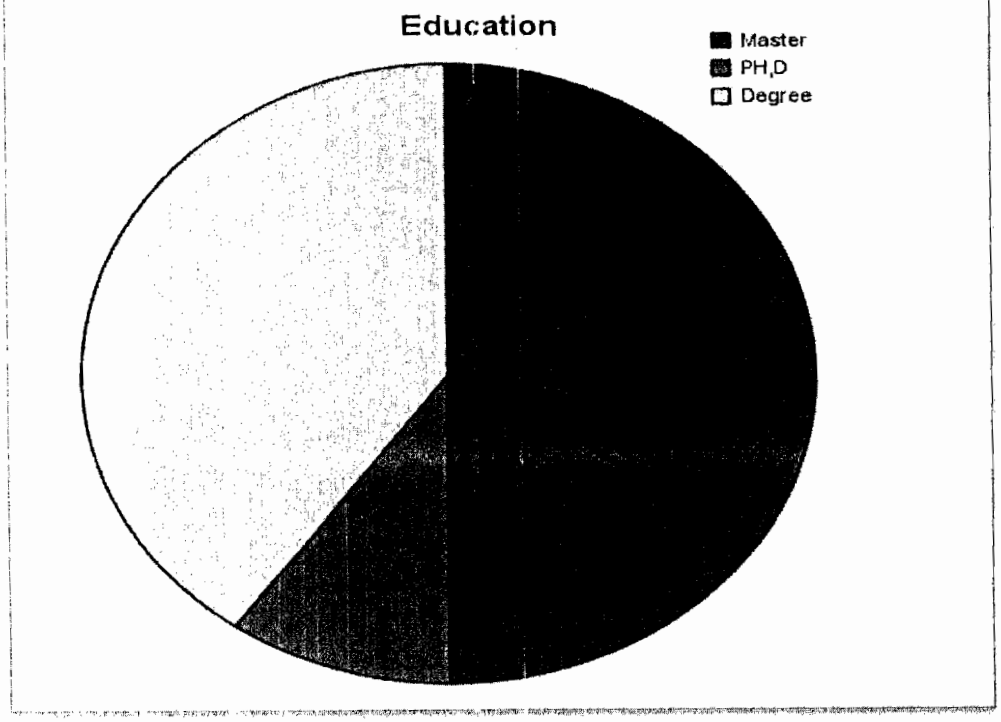


Fig 5.3: Education

As shown bellow in Fig 5.4

Year of study: First year: 7 (23.3%), Second year: 4 (13.3%), Third year: 6 (20.1%), and Final year: 13(43.3.0%).

Statistics

Year of study

N	Valid	30
	Missing	0

Year of study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First Year	7	23.3	23.3	23.3
	Second Year	4	13.3	13.3	36.7
	Third Year	6	20.0	20.1	56.7
	Final Year	13	43.3	43.3	100.0
	Total	30	100.0	100.0	

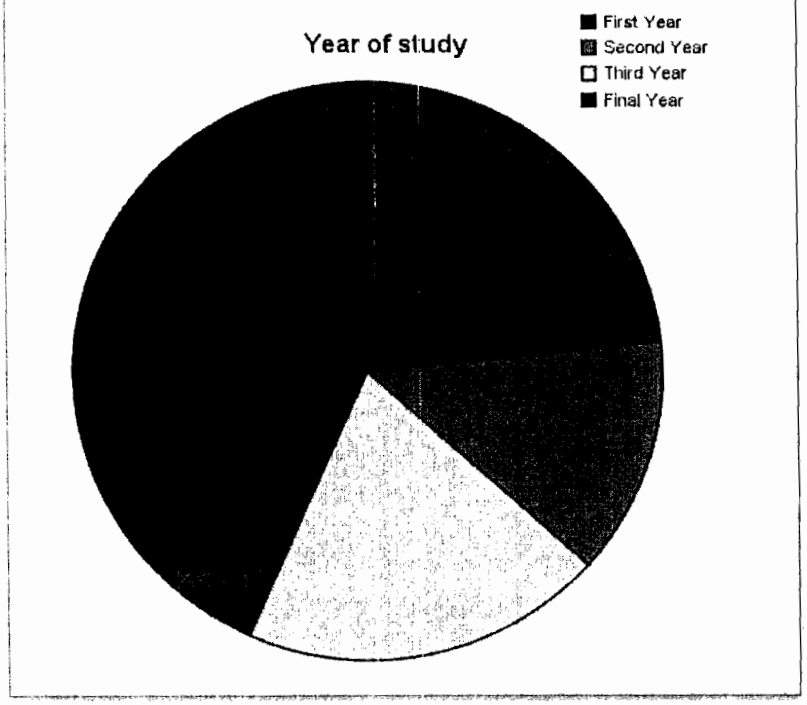


Fig 5.4: Year of Study

As shown bellow in Fig 5.5

Race: Malay: 10 (33.3%), Arab: 10 (33.3%), Indonesian: 5 (16.7%), Thailand 3(10.0%) and other 2(6.7%)

Statistics

race

N	Valid	30
	Missing	0

race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	arab	10	33.3	33.3	33.3
	indonesian	5	16.7	16.7	50.0
	malay	10	33.3	33.3	83.3
	other	2	6.7	6.7	90.0
	thai	3	10.0	10.0	100.0
	Total	30	100.0	100.0	

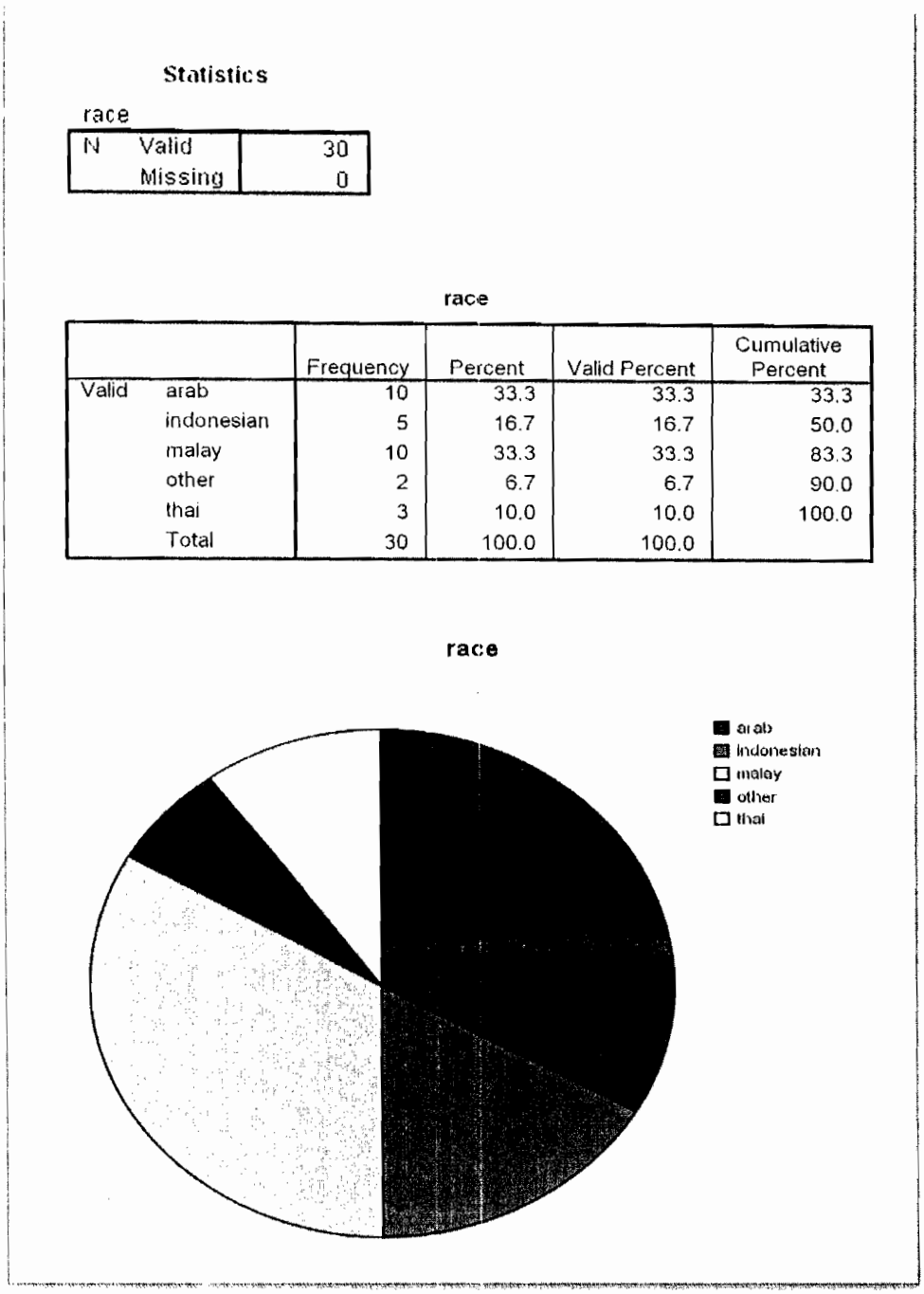


Fig 5.5: Race

Fig 5.6 describes the system aspect answers and elaborate the number of the respondent and mean and the DWBT deviation for each question.

	N	Mean	DWBT. Deviation
systemaspects1	30	4.17	.531
systemaspects2	30	3.83	D .950
systemaspects3	30	3.80	1.095
systemaspects4	30	4.17	.834
systemaspects5	30	4.13	.900
systemaspects6	30	3.93	1.015
systemaspects7	30	4.33	.959
systemaspects8	30	3.90	1.029
systemaspects9	30	4.10	.845
systemaspects10	30	3.97	.999
systemaspects11	30	3.87	1.358
systemaspects12	30	4.30	.794
Valid N (listwise)	30		

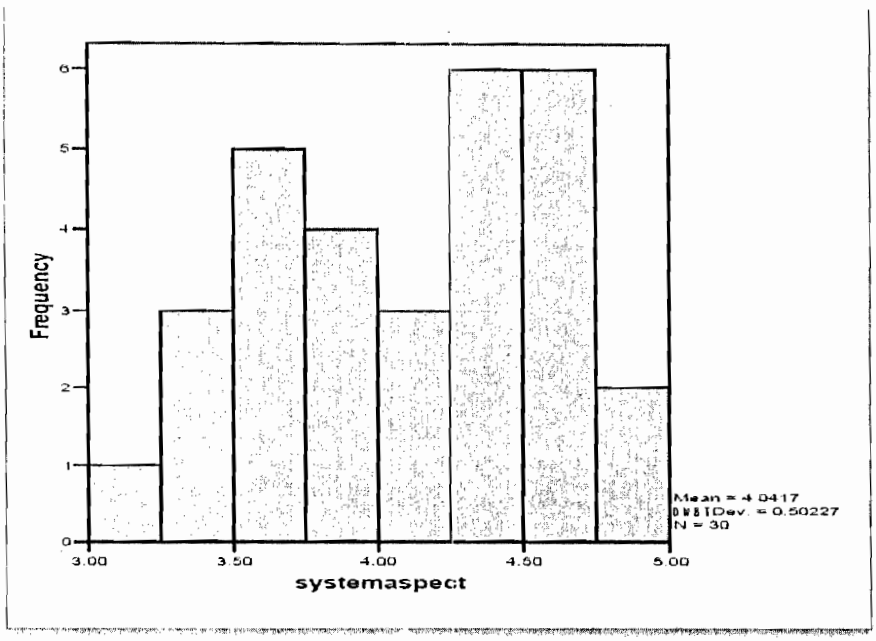


Fig 5.6: Descriptive Statistics (System Aspect)

Fig 5.7 describes the overall satisfaction answers and elaborate the number of the respondent mean and the DWBT deviation for each question.

	N	Mean	DWBT.Deviation
overallsatesfaction13	30	4.13	1.042
overallsatesfaction14	30	4.07	1.048
overallsatesfaction15	30	4.50	.820
overallsatesfaction16	30	2.93	1.311
overallsatesfaction17	30	2.37	1.326
overallsatesfaction18	30	3.83	1.177
Valid N (listwise)	30		

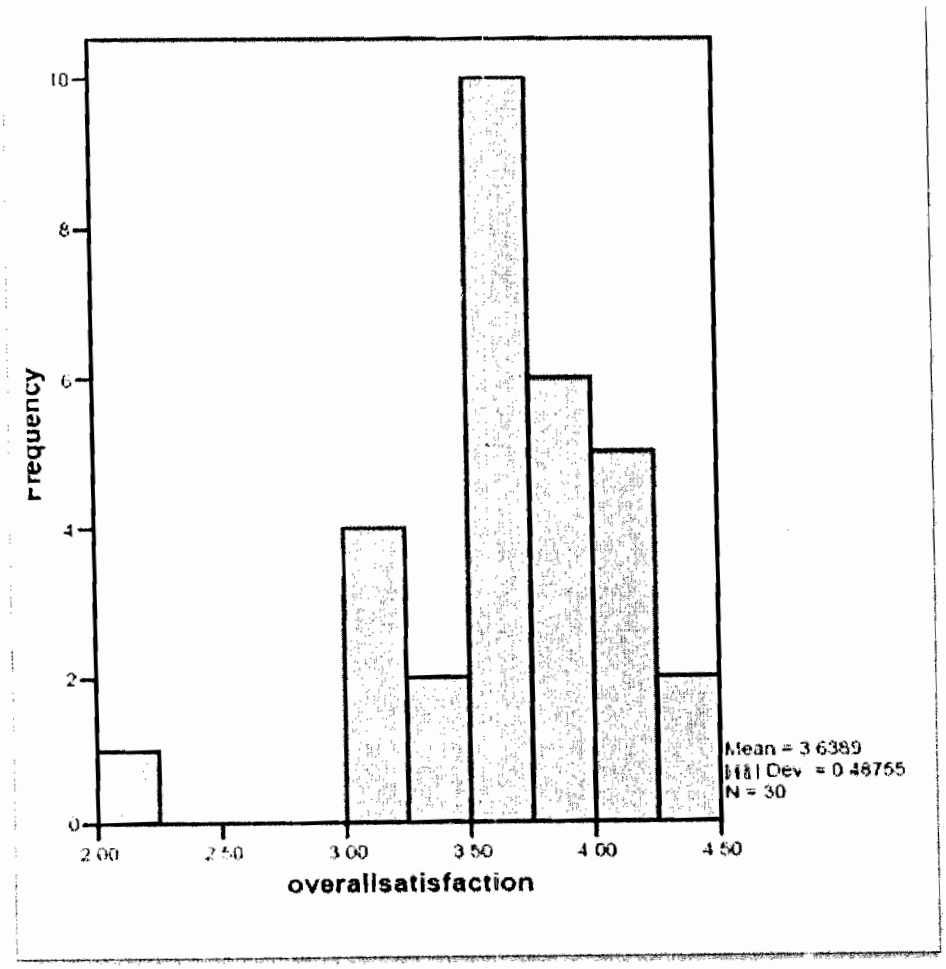


Fig 5.7: Descriptive Statistics (Overall Satisfaction)

5.5 Summary

From the testing and evaluation conducted, the prototype fulfils the requirements needed to the web site. However, improvements have to be made for the prototype to be more user friendly by adding some images and colors to the prototype which needs a graphics designer like some boatful pictures to Menara Alor Star to encourage the people to visit the place and booking from the website. The prototype still needs to publish on Internet for further testing and improvements and real usage.

By done all the test and evaluation second and third objectives been achieved

CHAPTER 6

CONCLUSION AND RECOMMENDEDS

This chapter summarize and review the findings that found from the study and presenting research contribution, problems and limitations, and the direction of the future works.

6.1 Conclusion of the Study

As explained in chapter one, the objectives of this study are to design a Web site Ticketing for Menara Alor Star in Alor Star city, and to develop the prototype and do usability testing. The prototype is to help the customers to do their booking for the tickets easily anywhere, any time by using web based and that comfort them from going to Menara Alor Star office in Alor Star city.

6.2 Study Contribution

Web base booking to Menara Alor Star help the public by gaining an easier way to make their reservation by providing them and allow them to make reservation booking for intering the Menara. The prototype was developed using JSP with Net Beans in the system completely developed using. The study shows how the users can make their booking and the results show how the users were satisfied about this system.

MySQL database used to make the database that stores the necessary ticketing information for the customer and the information about the customer such as email, phone number, user name and password, etc.

6.3 Problems and Limitations

Every study has its limitations and this study has no immunity.

The limitations of this project are as follows:

1. The project focuses only on the prototype. In addition, not put the payment way for ticketing, this system includes activate button to complete the process way.

2. The system cannot stop give ticketing if the place is full.

3. The system cannot inform the customer if he wants cancel his booking like send message to him.

4. If the customer insert wrong date the system will complete the booking anyway. Such as if he write the date in past.

6.4 Future works

The web based ticketing for Menara Alor Star Application is to enable the customers to reserve tickets they want as well as necessary information and speed. Further research is needed to be done on this application in the future such as the payment method, and sending messages from the administrator to the customer in case there are some changes that occur for the time of ticket, to inform him/her about the changes.

6.5 Recommendation

In my opinion and as see no one can deny the importance of the web based it is become as the backbone of our society, so must make the uses of the web based to be more wide in the all areas because it is make everything easy and fast and so it saves the time and money and also it will be bifocal for attracting the interval and extend tourists.

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APPENDIX A

QUESTIONNAIRE

Design Web Based Ticketing System for Menara Alor Star(DWBT)

Introduction:

This questionnaire consists of 23 questions in three parts

1. General information.
2. System aspects.
3. Overall satisfaction.

Please answer **ALL** questions in **ALL** parts.

Part 1: General information

1. Gender:

[ ] male [ ] female

2. Age:

_____ Years

3. Educational background:

[ ] Diploma [ ] Degree [ ] Master [ ] PhD

4. What is your race?

[ ] Malay [ ] Indonesian [ ] Arab [ ] Thai [ ]Other

5. What is your religion?

[ ] Muslim [ ] Christian [ ] Hindu [ ] Buddha

Part 2: System aspects

This part is intended to obtain your views on some aspects of the Web baset for Menara Alor Star (DWBT). Please mark [√] your answers.

1 = Strongly Disagree

2 = Disagree

3 = Natural

4 = Agree

5 = Strongly Agree

PERCEIVED USEFULNESS		1	2	3	4	5
6	Using **DWBT** to accomplish the ticket booking is quick.	○	○	○	○	○
7	Using **DWBT** would improve the performance of Ticket booking.	○	○	○	○	○
8	Using **DWBT** would increase my productivity	○	○	○	○	○
9	Using **DWBT** would enhance my effectiveness	○	○	○	○	○
10	Using **DWBT** would make it easier to do my tasks.	○	○	○	○	○
11	I would fined **DWBT** useful in my daily tasks	○	○	○	○	○

PERCEIVED EASE OF USE		1	2	3	4	5
12	Learning to operate **DWBT** would be easy for me.	○	○	○	○	○
13	I would find it easy to get **DWBT** to do what I want it to do.	○	○	○	○	○
14	My interaction with **DWBT** would be clear and Understandable.	○	○	○	○	○

15	I would find **DWBT** to be flexible to interact.	○	○	○	○	○
16	It would be easy for me to become skillful at using **DWBT.**	○	○	○	○	○
17	I would find **DWBT** easy to use.	○	○	○	○	○

Part 3: Overall Satisfaction

This part is intended to rate your satisfaction with the overall usability of Design web based Ticketing System For Menara Alor Star (DWBT).

. Please mark [√] your answers.

1 = strongly disagree.

2 = Disagree.

3 = Natural.

4 = Agree.

5 = strongly agree.

Attributes of Usability		1	2	3	4	5
18	I am satisfied with the number of steps included in **DWBT**.	○	○	○	○	○
19	It is easy to understand what is needed to interact with **DWBT.**	○	○	○	○	○
20	The procedure through **DWBT** was clear. .	○	○	○	○	○
21	I would need additional instructions to complete the task. .	○	○	○	○	○
22	**DWBT** is more complex than most others are.	○	○	○	○	○
23	It was easy to remember the steps through **DWBT** .	○	○	○	○	○

APPENDIX B

Use Case Specifications

❖ Use Case Specifications for Customer

1.0 Ticket booking

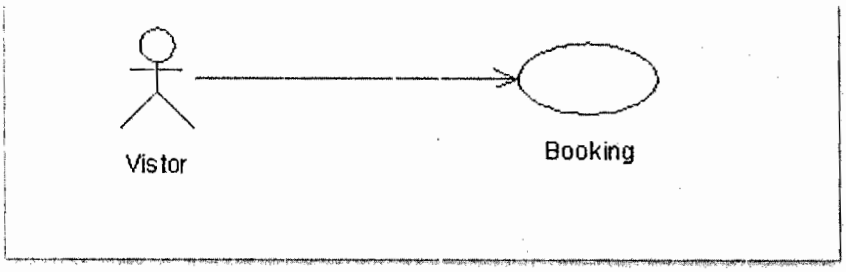

Fig B.1: Booking the Ticket

1.1 Brief description:

This use case is to show ticket booking to the visitor so he can select it and complete the booking ticket process and then press the reserve to continue the process, if the process complete successful he/she will receive the unique code to his/her ticket.

1.2 Pre-condition

N/A.

1.3 The Characteristics of Activation

Execution depends on visitors demand.

1.4 Flow of event

- **Basic flow**

-the customer open main page and registration he will login.

- the customer press booking and fill date for the time and date of ticket.

- **Alternative flow**

The user can decide to cancel the operation before click pay icon.

• **Exceptional flow**

E1: If the customer insert wrong time the massage will shown: "Please select valid time".

1.5 Post-condition

Visitor can manage the ticket booking option.

2.0 Registration User

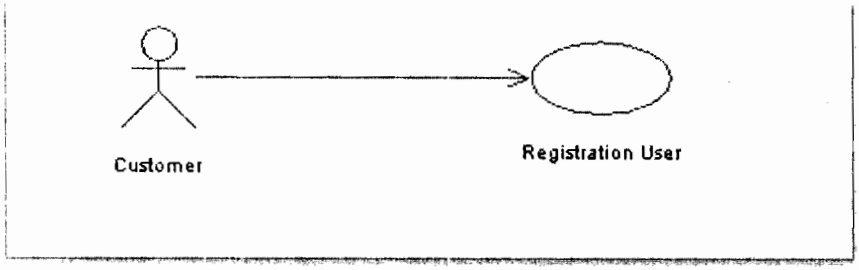

Fig B.2:Registration User

2.1 Brief description:

In this use cases show the empty field, in this field the visitors can enter the details through it

By fill the data and create user name and password.

2.2 Pre-condition

In this case the user can decide to cancel the operation if he cancel the page.

2.3 The Characteristics of Activation

Execution depends on visitor demand.

2.4 Flow of event

• **Basic flow**

- the use cases begin when the user press registration from main page.

- then will appear to the visitor many text boxes as the age, name, phone, user name, password and email.

- after the fill the data, the data will saved in the database of Menara Alor Star, and he can use user name and password for login to booking.

• **Alternative flow**

The user can decide to cancel the operation.

• **Exceptional flow**

N/A

2.5 Post-condition

Visitor can manage the fill data option.

3.0 View Ticket Information

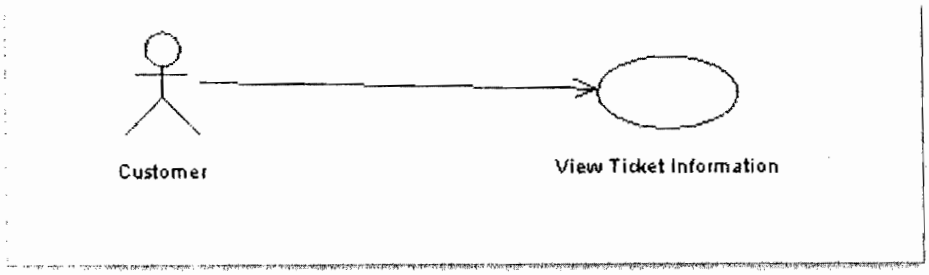

Fig B.3:View Ticket Information

3.1 Brief description:

In this use cases show the information about the ticket and pin code but he/she must activate from the check pin code button, after that they receive the information on on the email.

3.2 Pre-condition

N/A.

3.3 The Characteristics of Activation

Execution depends on visitor demand.

3.4 Flow of event

• **Basic flow**

- the customer login to his page.

-the customer view information about the ticketing if he do booking before .

• **Alternative flow**

N/A.

• **Exceptional flow**

N/A.

3.5 Post-condition

The appointment will appear to the visitors.

4.0 Check Pin Code and Activate

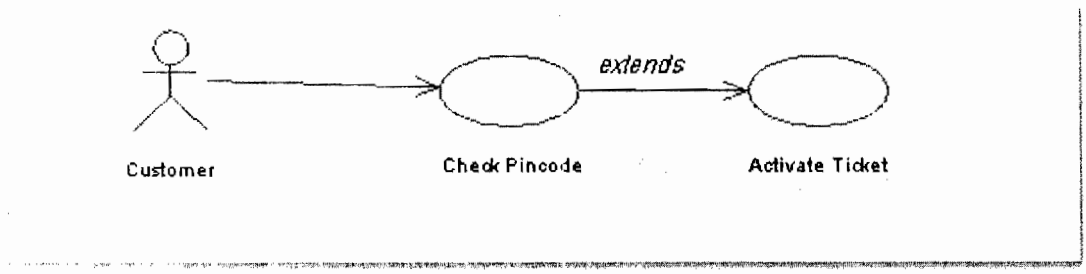

Fig B.4:Check Pin Code and Activate

4.1 Brief description:

In this use cases show the information about the ticket and pin code of ticket and the users can activate the pin code.

4.2 Pre-condition

N/A.

4.3

Execution depends on visitor demand.

4.4 Flow of event

• **Basic flow**

- the customer login to his page.

- the customer press booking and fill date for the time and date of ticket.

-the customer Check Pin Code and Activate the pin code if he/she want continue the Booking.

• **Alternative flow**

N/A.

• **Exceptional flow**

N/A.

4.5 Post-condition

The appointment will appear to the visitors.

5.0 Login by Customer

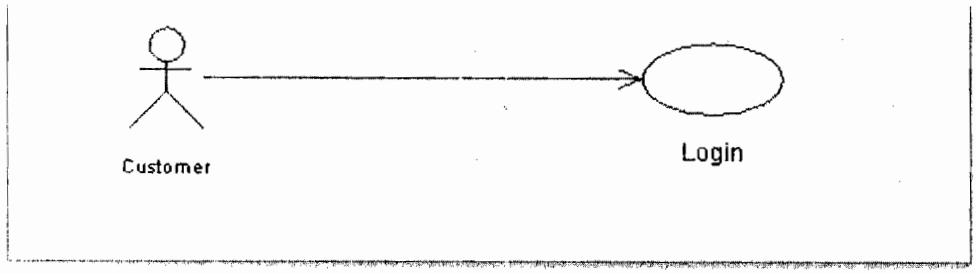

Fig B.5: Login by Customer

5.1 Brief description:

The Customer initiates this use case when write the name and password, after this the system allow to him to booking.

5.2 Pre-condition

Insert user name and password and press to sign in button.

5.3 The Characteristics of Activation

Execution depends on manager demand.

5.4 Flow of event

• **Basic flow**

-The Customer access the Menara Alor Star home page.

- The Customer press on registration button.

-after registration and make user name and password the Customer can login by write user name and password and save in data base.

- **Alternative flow**

N/A.

- **Exceptional flow**

E-1: Wrong Username and Password.

The Menara system shall display the message "Invalid User name or Password".

5.5 Post-condition

-Login to the user page.

-View the user page option.

❖ Use Case Specifications for Manager

6.0 Login

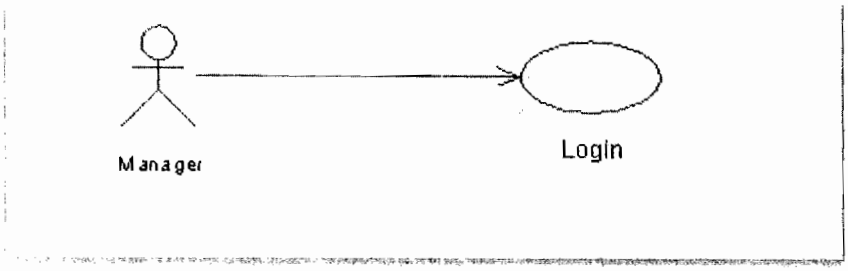

Fig B.6:Login for Manager

6.1 Brief description:

The manager initiates this use case when write the name and password in his page, the manager will establish their tasks after the login process successful.

6.2 Pre-condition

Insert user name, password, and press to login button.

6.3 The Characteristics of Activation

Execution depends on manager demand.

6.4 Flow of event

• **Basic flow**

-The manager access the Menara Alor Star home page

- The manager press on manager button.

-The manager insert the username and the password to login

-The manager hit the login button to match it with the user database

-System will send the user to his page

• **Alternative flow**

N/A.

• **Exceptional flow**

E-1: Wrong Username and Password.

The Menara system shall display the message "Invalid User name or Password".

6.5 Post-condition

-Login to the user page.

-View the user page option.

7.0 View Information for Customer Ticket

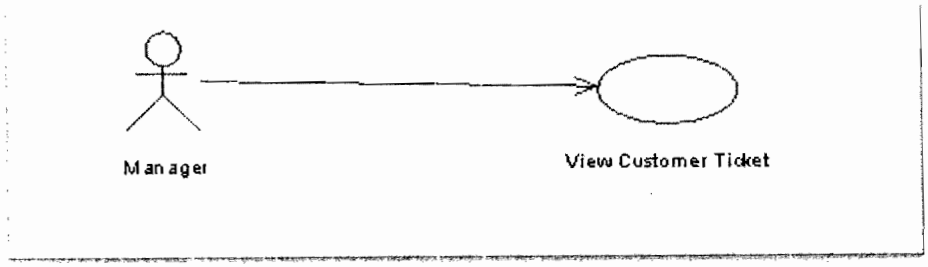

Fig B.7:View Information for Customer Ticket from Manager

7.1 Brief description:

In this use cases the manager can show the information about the visitors to Menara Alor Star

7.2 Pre-condition

The visitors must been fill the application for the personal information.

7.3 The Characteristics of Activation

Execution depends on visitor demand.

7.4 Flow of event

- **Basic flow**

-the manager open the main page and press the manager page

The manager fill the user name and password and press to the button of login

- the manager press view Customer Ticket

-then will appear to the visitor page of information for Customer Ticket.

- **Alternative flow**

N/A

- **Exceptional flow**

N/A

7.5 Post-condition

The appointment will appear to the manager.

8.0 Mange Information

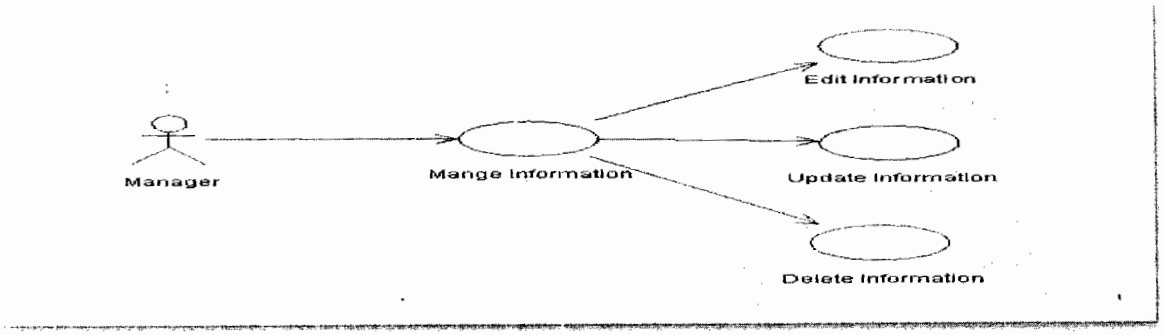

Fig B.8:Mange Information by Manager

8.1 Brief description:

The manager to manage model initiates this use case. The manager will establish his tasks after the login process successful. The manager can manage all information about the customer like insert, update and delete and can cancel the booking.

8.2 Pre-condition

Successful accessing to the administrator page

8.3 The Characteristics of Activation

Execution depends on manager demand.

8.4 Flow of event

- **Basic flow**

  - manager select login from the main page after press the manager page from main menu.

  -The manager can show the information about the visitors after write the user ID of this visitors.

  -the manager mange the information for Customer Ticket like update, view, delete, add customer.

  -The manager press the submit button.

  -Menara system will save the manager order to Menara database

- **Alternative flow**

  Before delete the customer the meassage shown "Are you sure you want delete?"

- **Exceptional flow**

  E-1: Please Select Model

  When the manager forget fill some row the message will shown" Please enter a value for the "....." field".

8.5 Post-condition

-Add new model

-Update model

-Delete model

Appendix C

Sequence diagram

C.1: Registration Sequence Diagram by Customer

The customer must registr if he want to booking for Menara Alor Star and make new user name and password

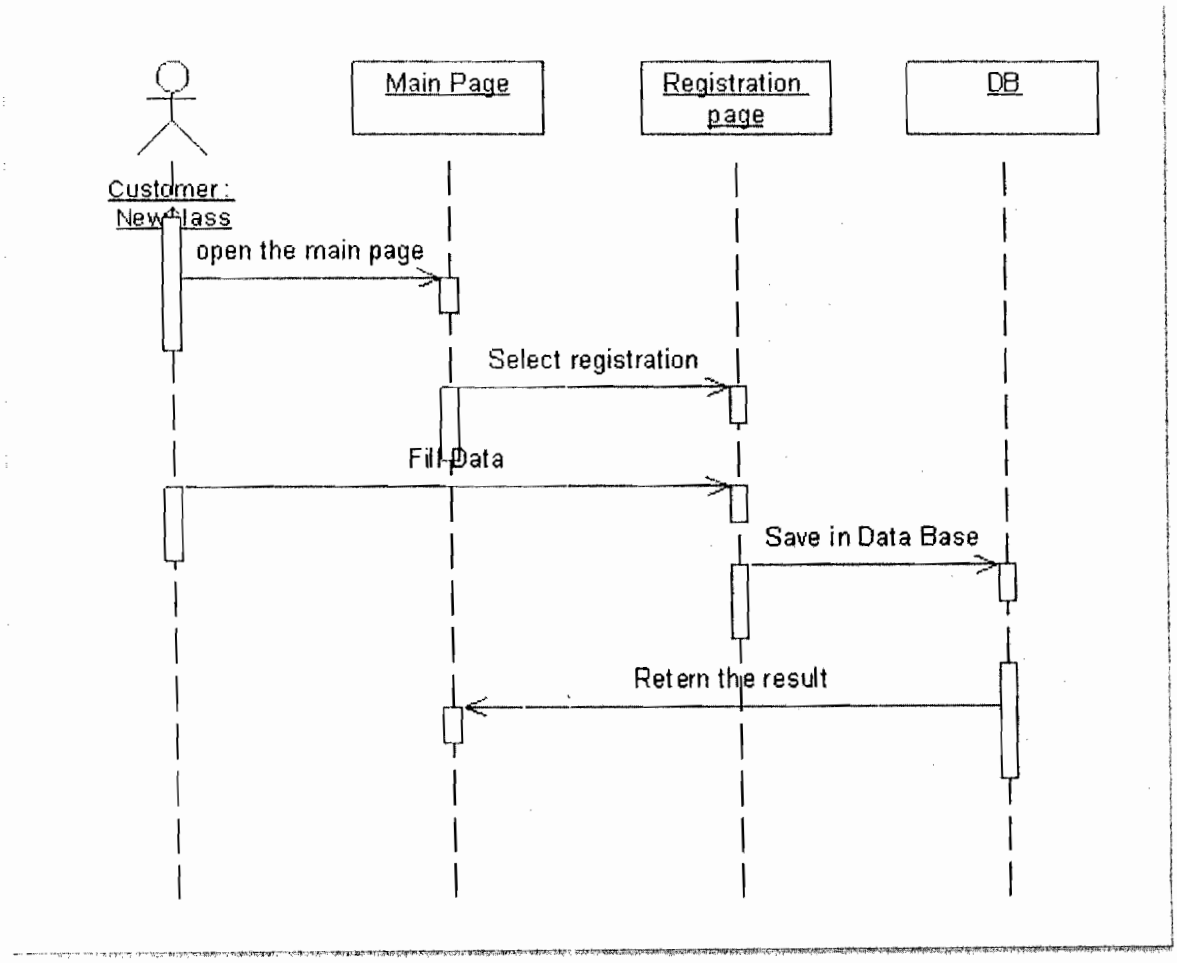

Fig C.1: Registration Sequence Diagram by Customer

C.2: Login for Customer:

The user must login from the main page login to do booking to Menara

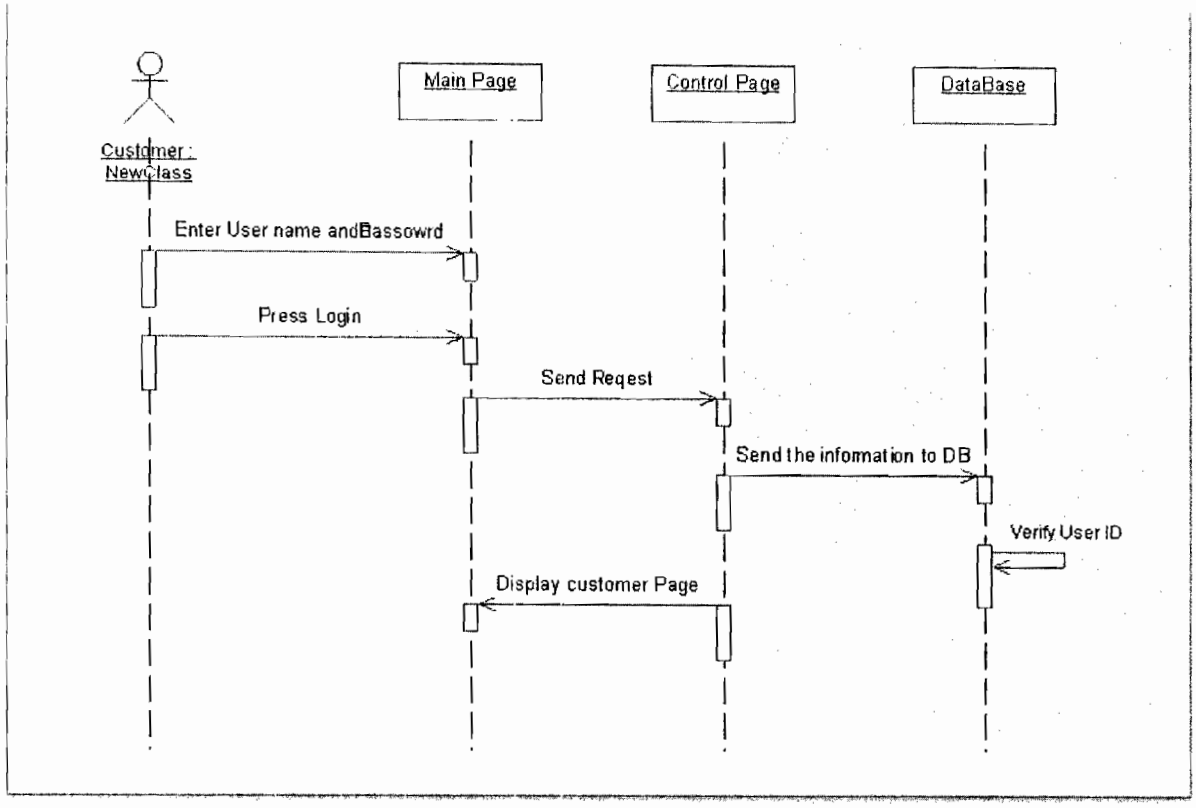

Fig C.2:Login for Customer

C.3: View information for user

The user can show the information about the ticket like time, date, day and pin code after login page as shown in Fig C.3

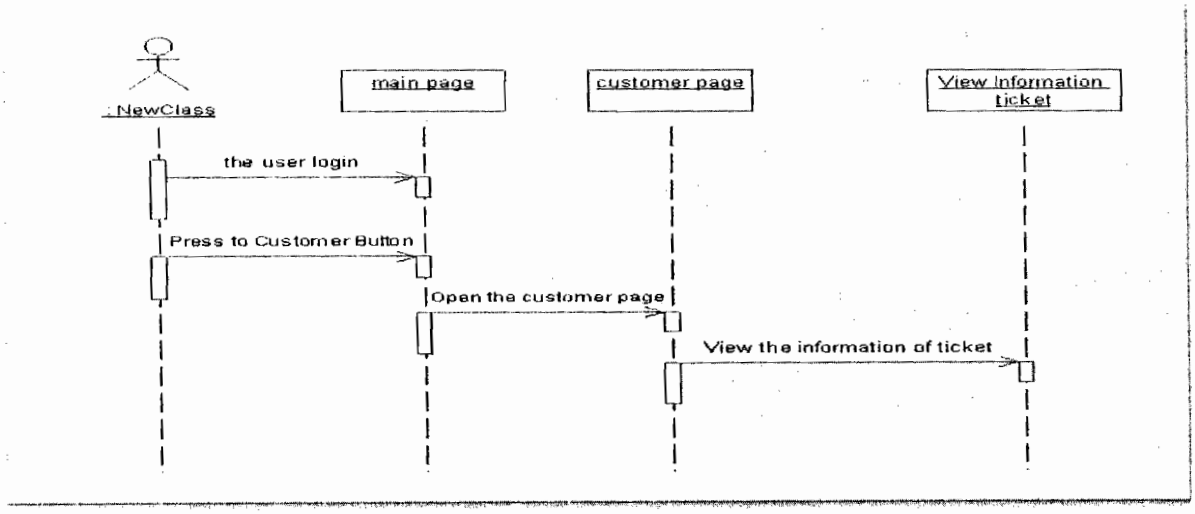

Fig C.3:View information for User

C.4: Check Pin Code

The customer must check pin code to activate it then the manager can check it if he activate the pin code that's mean the process complete successfully as shown in Fig C.4

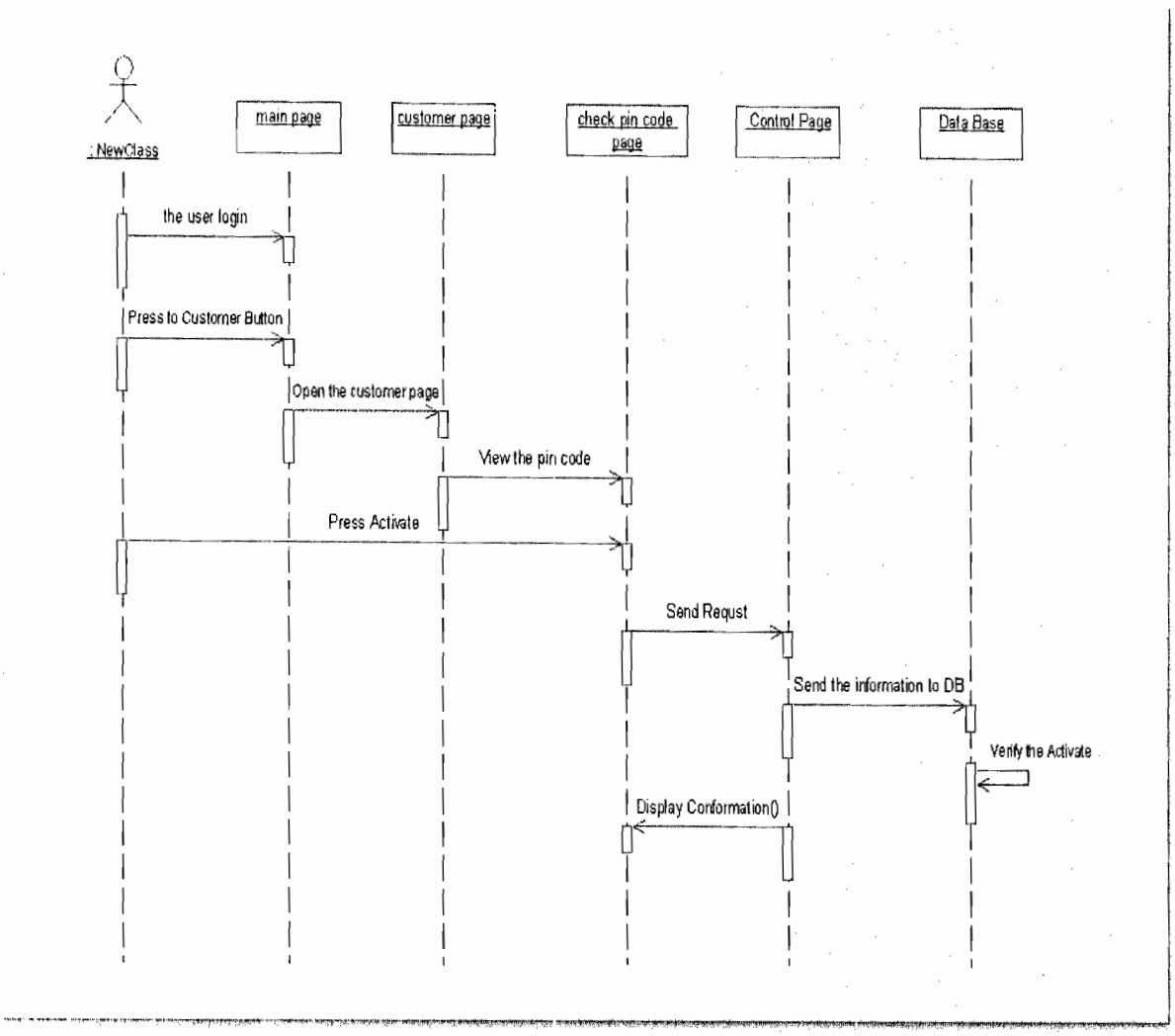

Fig C. 4:Check Pin Code by Customer

C.5: Booking

The user fill the information about the ticket and complete the processes for booking as shown in Fig C.5

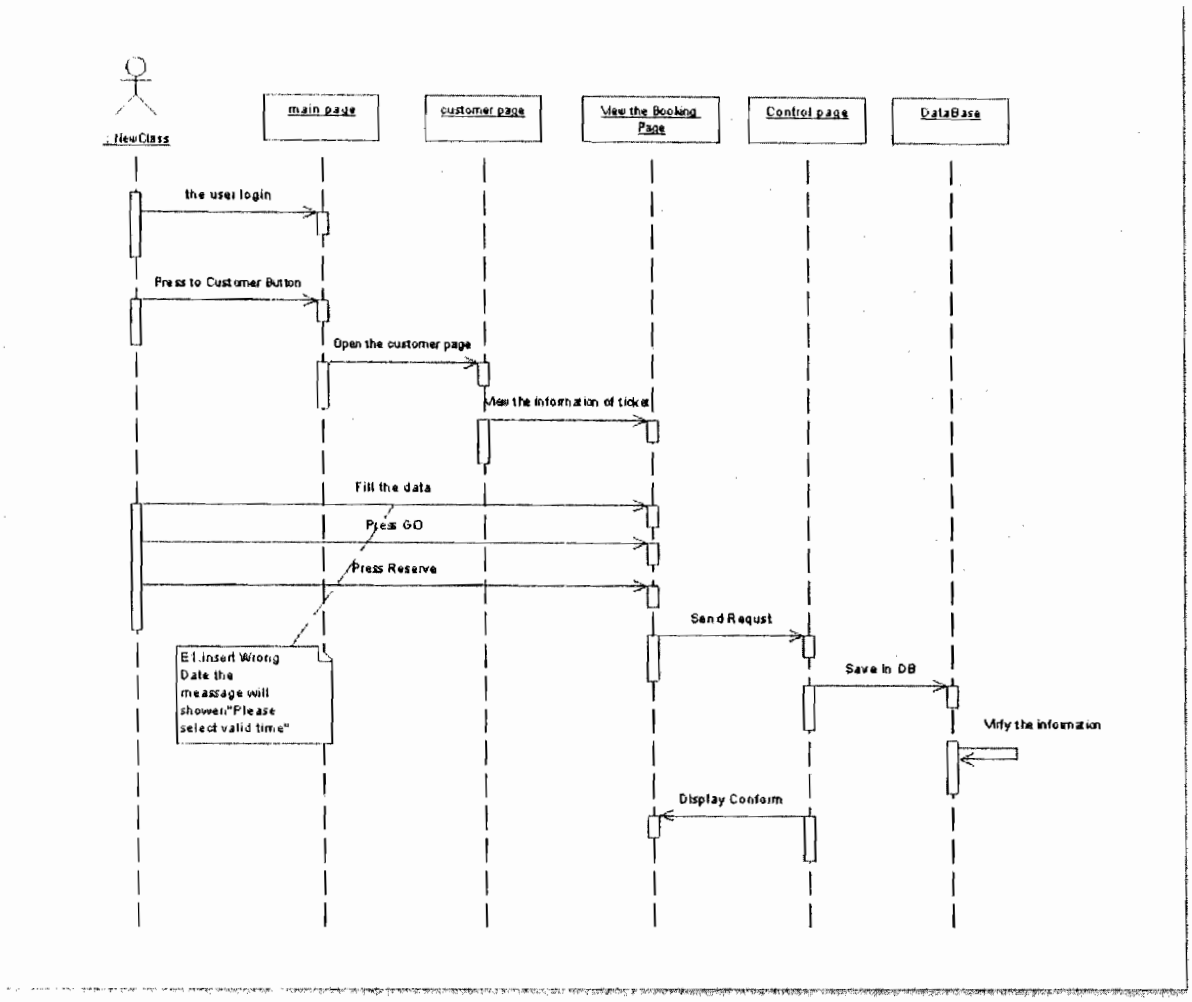

Fig C.5:Booking Ticket

C.6: Login by Manager

In Fig C.6 the manager login to his page

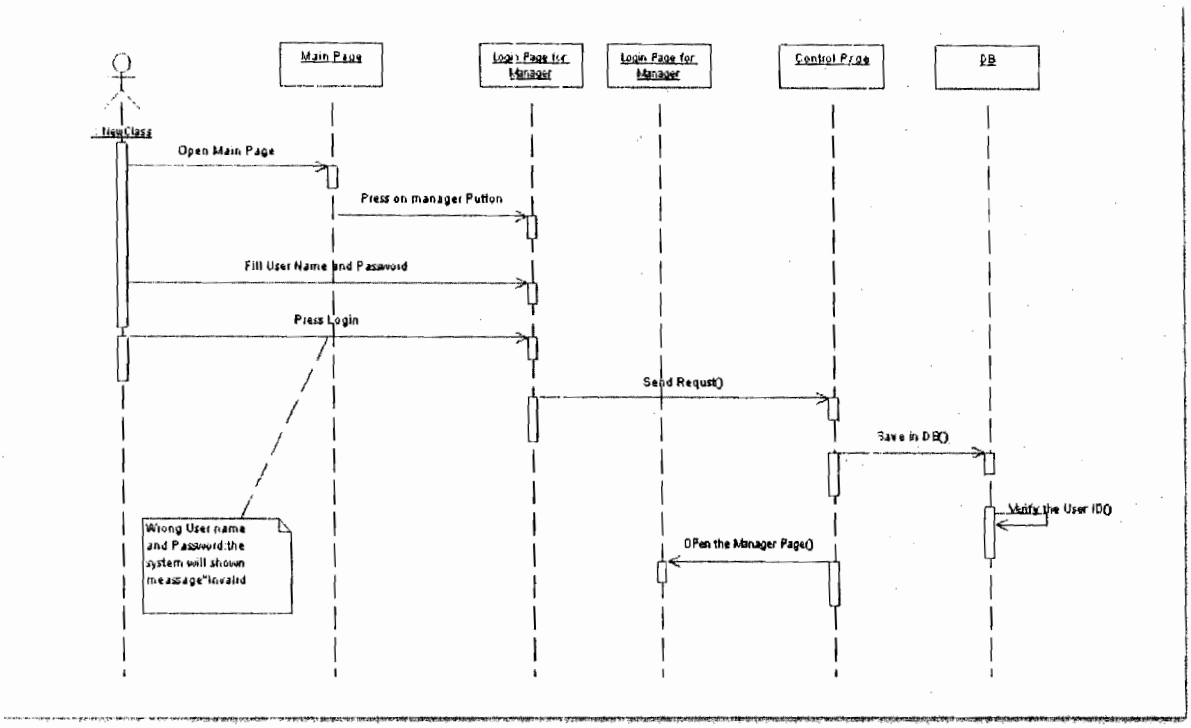

Fig C.6:Login By Manager

C.7: View information of ticket by manager

In Fig C.7 manager can show the information about the ticket then he can mange it.

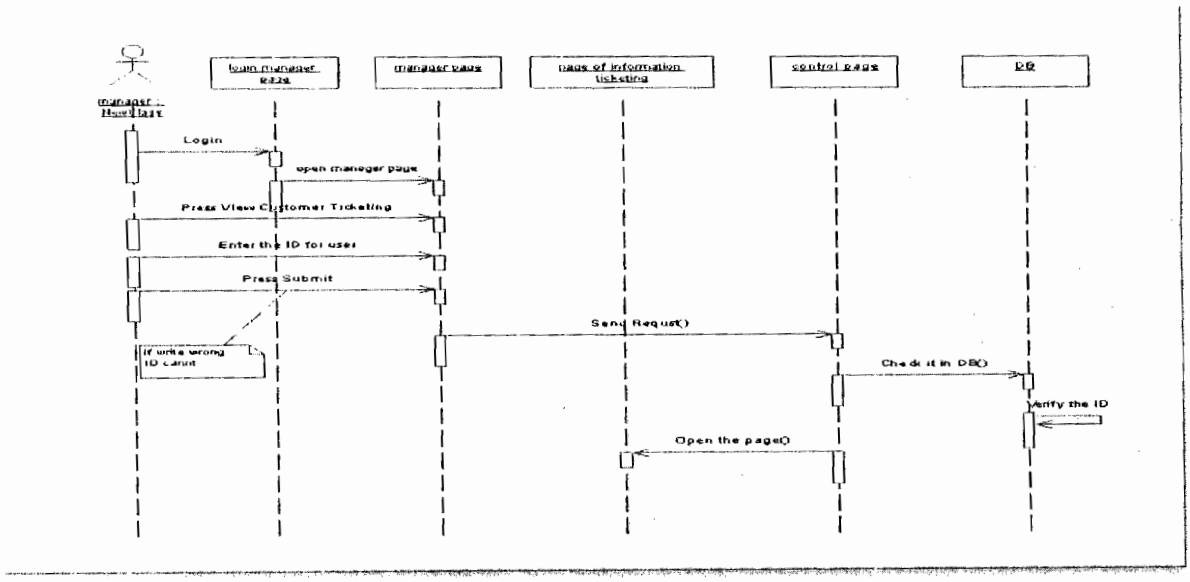

Fig C.7:View Information of Ticket by Manager

C.8: Mange information

Delete Information

The manager can delete any customer he wants as shown in Fig C.8

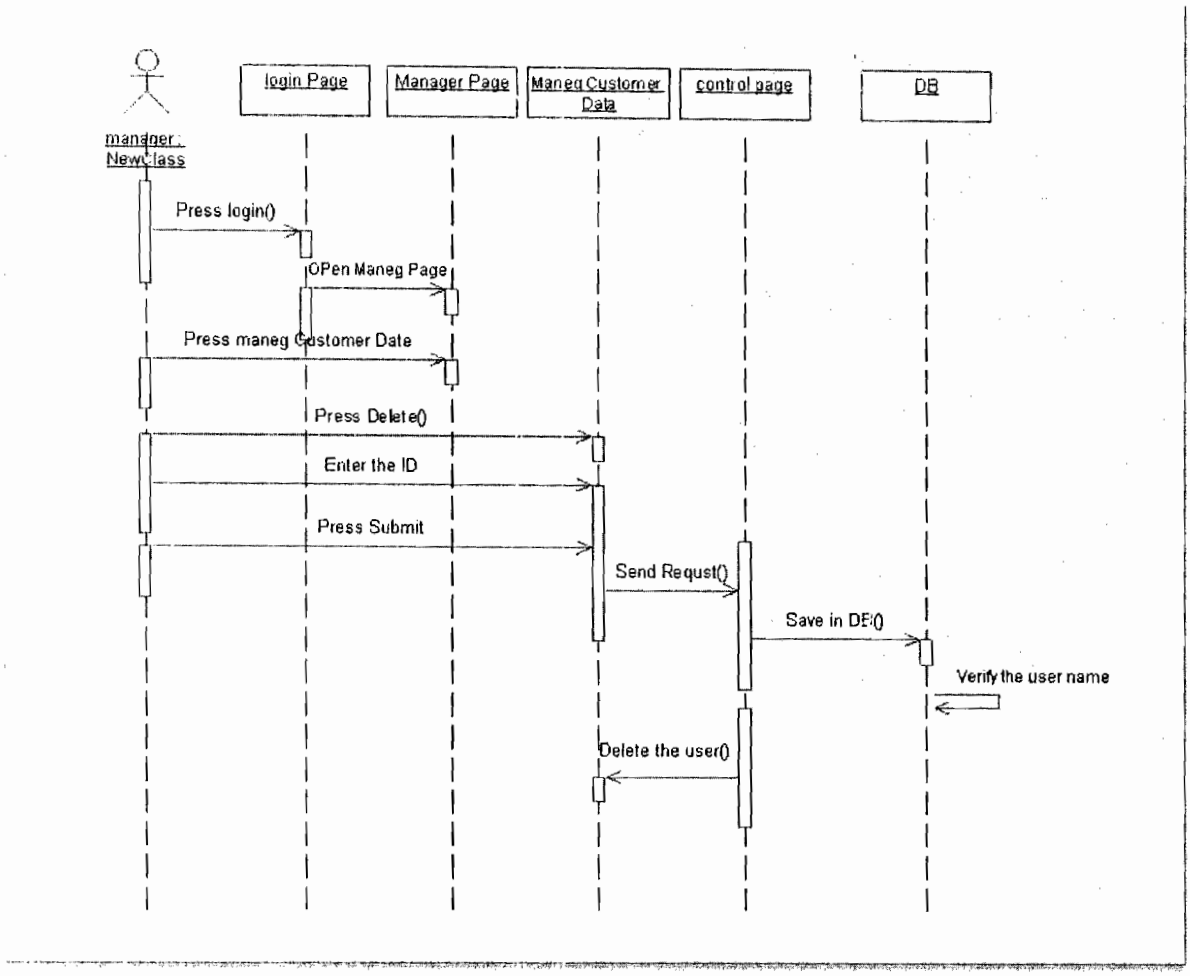

Fig C.8:Delete Customer from Data Base

Update Information

The manager can update the information about any customer and the information of ticket as shown in Fig C.9

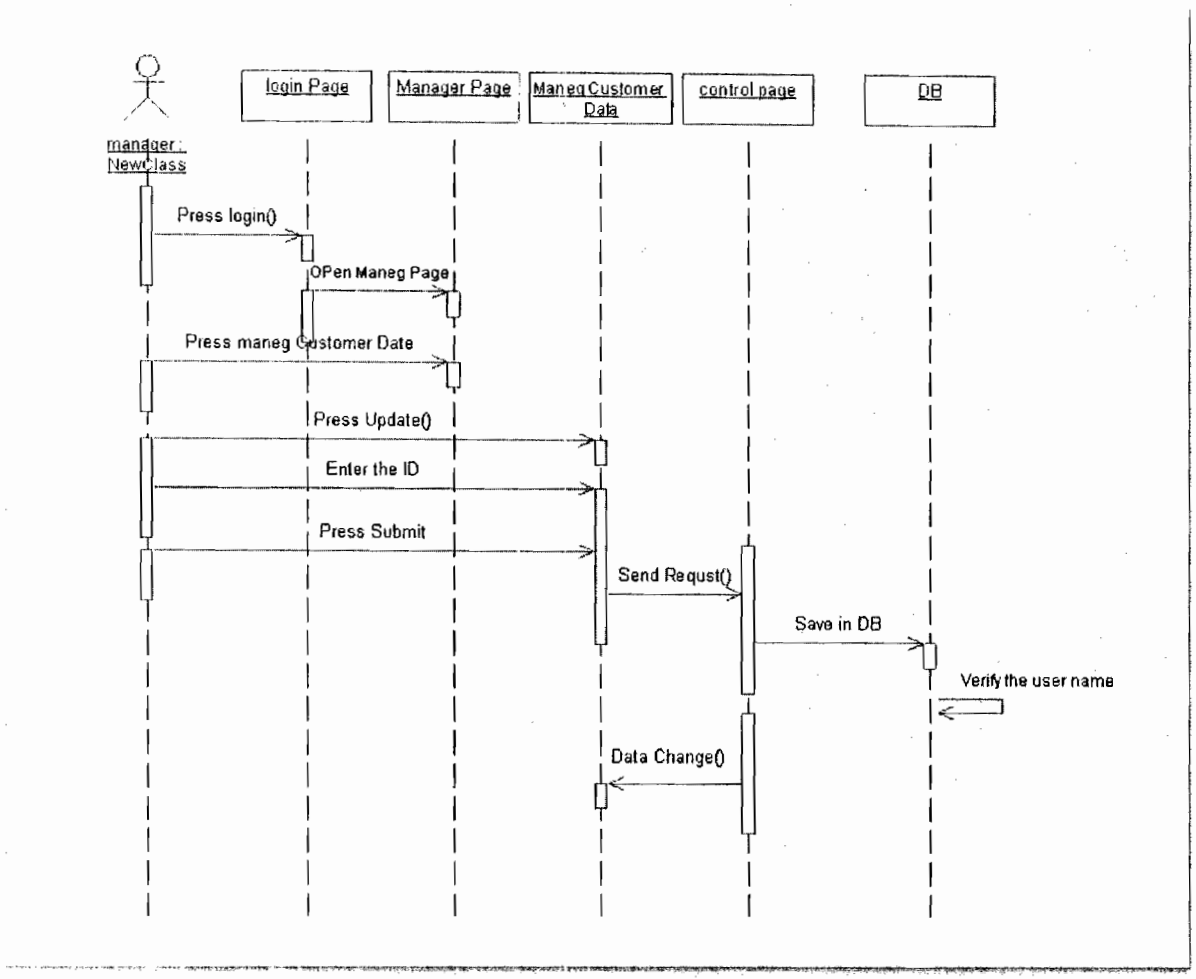

Fig C.9:Update Customer and Ticket Information from Data Base

Add Information

The manager can add customer to database as shown in Figure 4.20

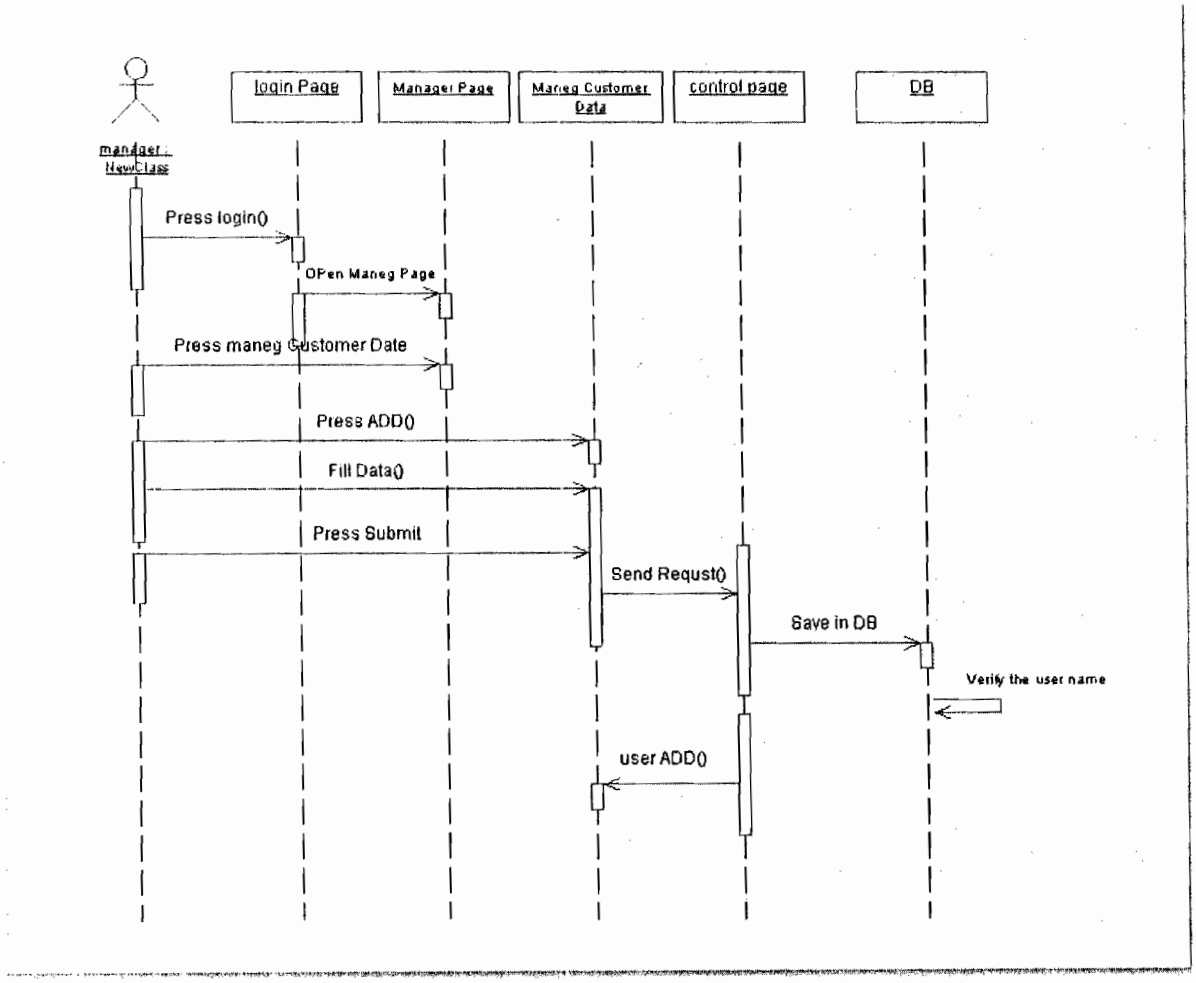

Fig C.10:Add Customer by Manager

Appendix D
Collaboration Diagram & attribute of Class Diagram

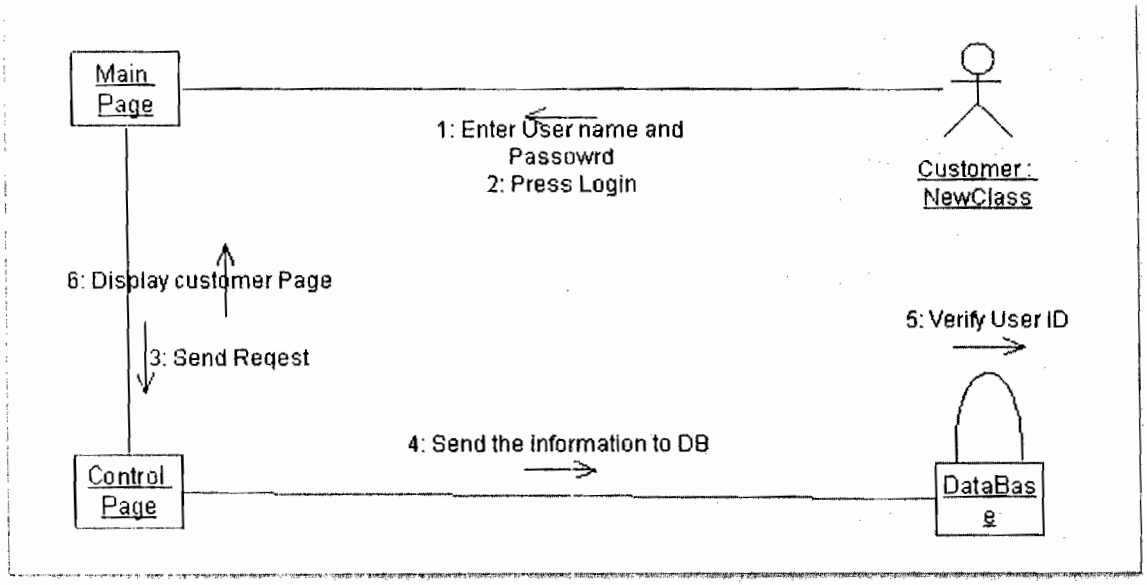

Fig D.1: Login for Customer:

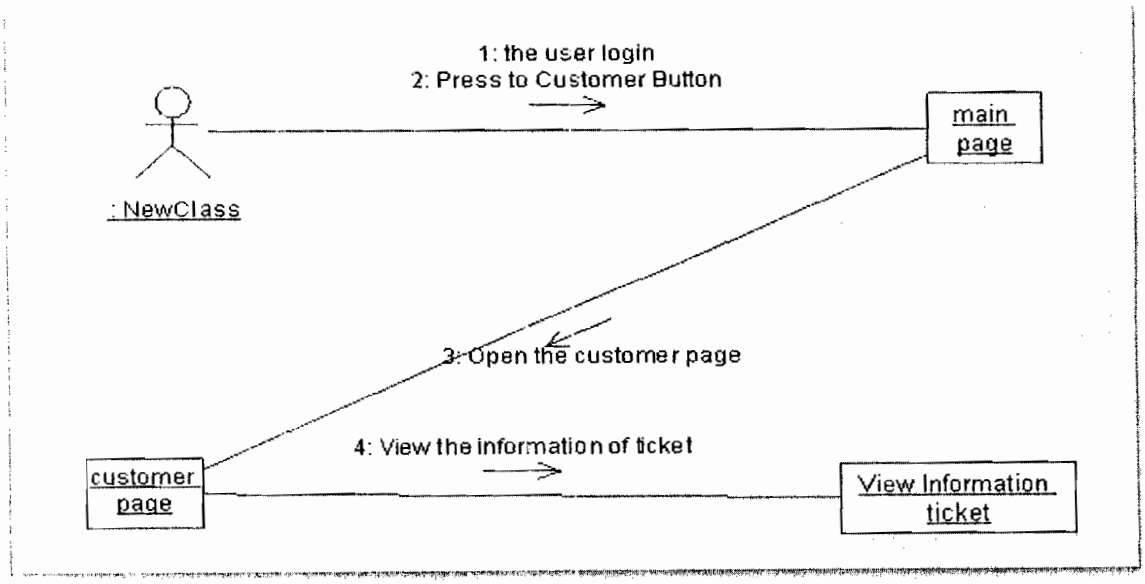

Fig D.2: View information for User

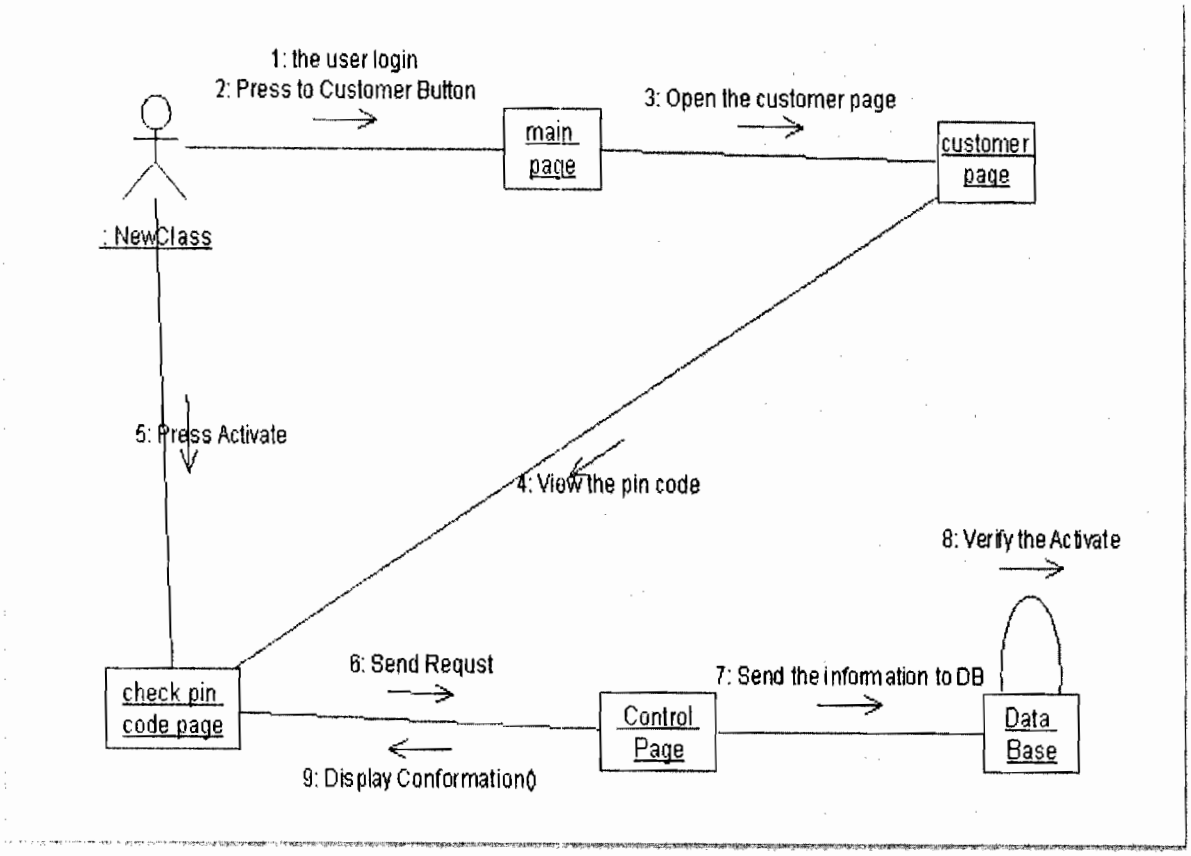

Fig D.3: Check Pin Code

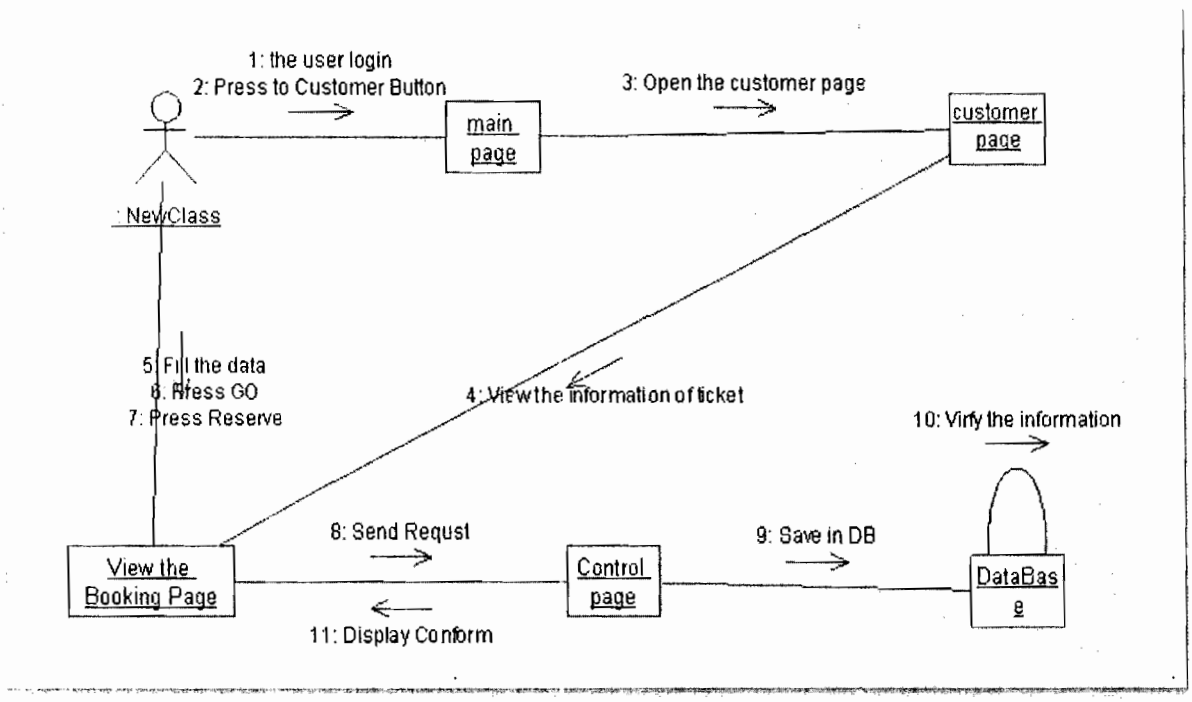

Fig D.4: Booking

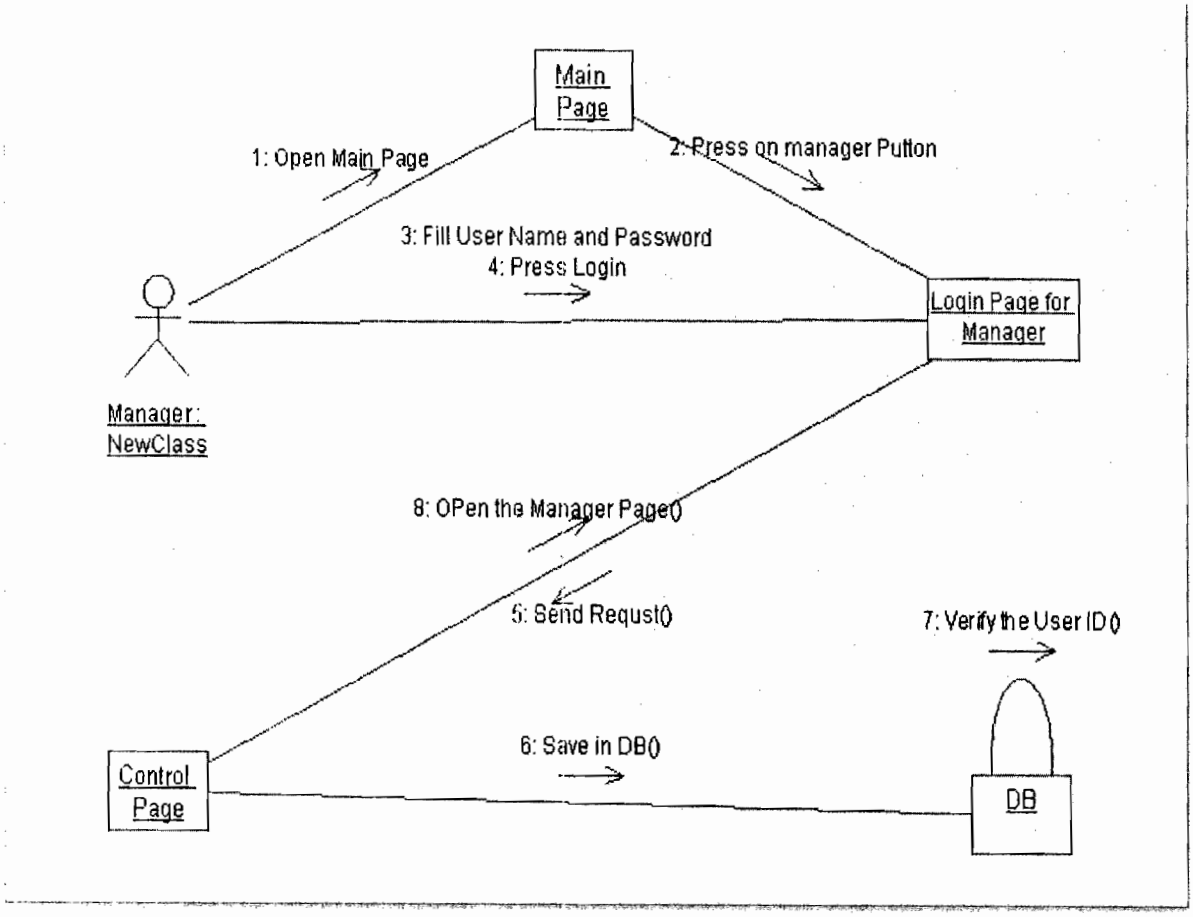

Fig D.5: Login by Manager

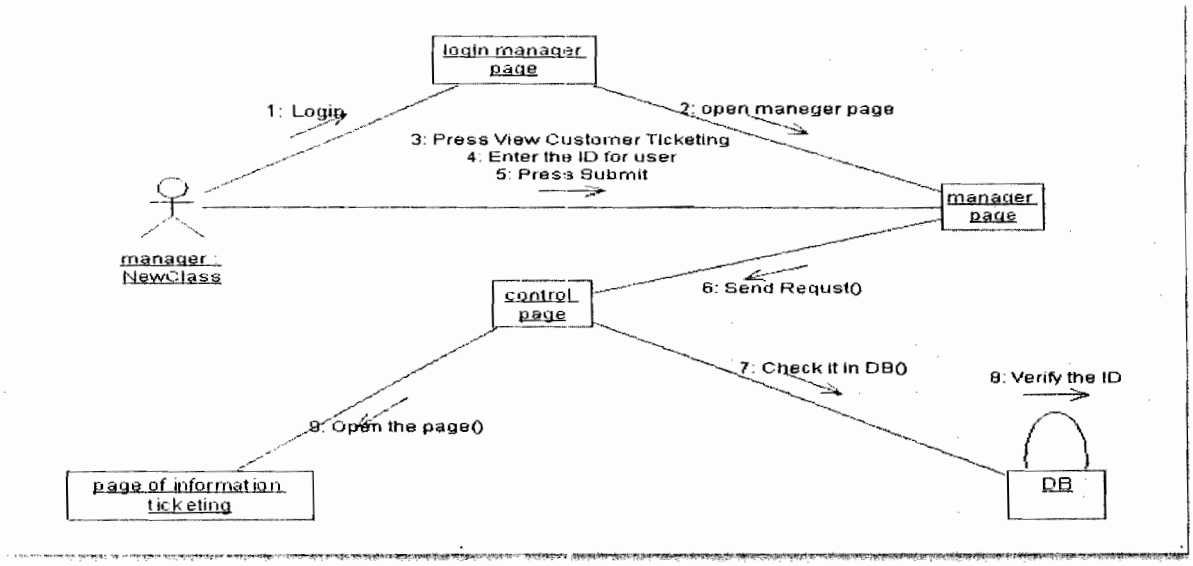

Fig D.6: View information of ticket by manager

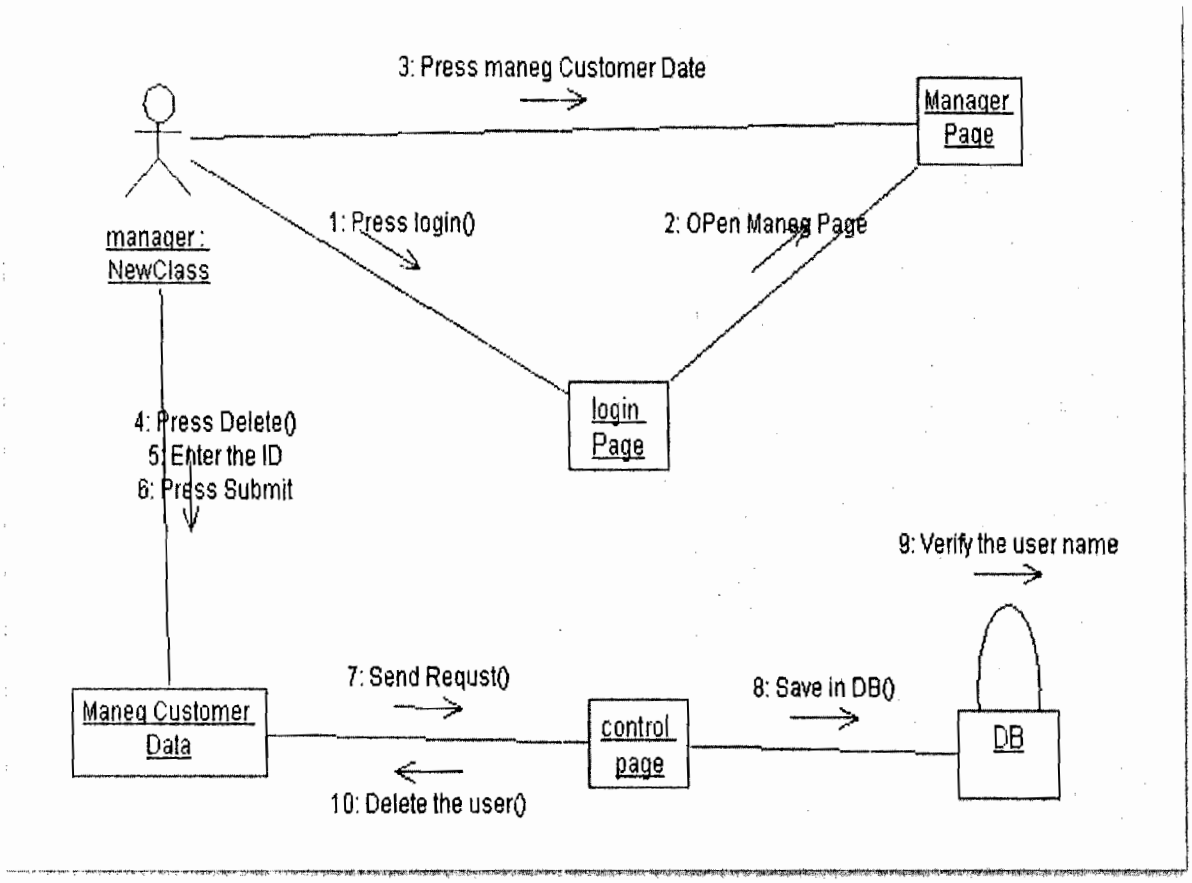

Fig D.7: Delete Information

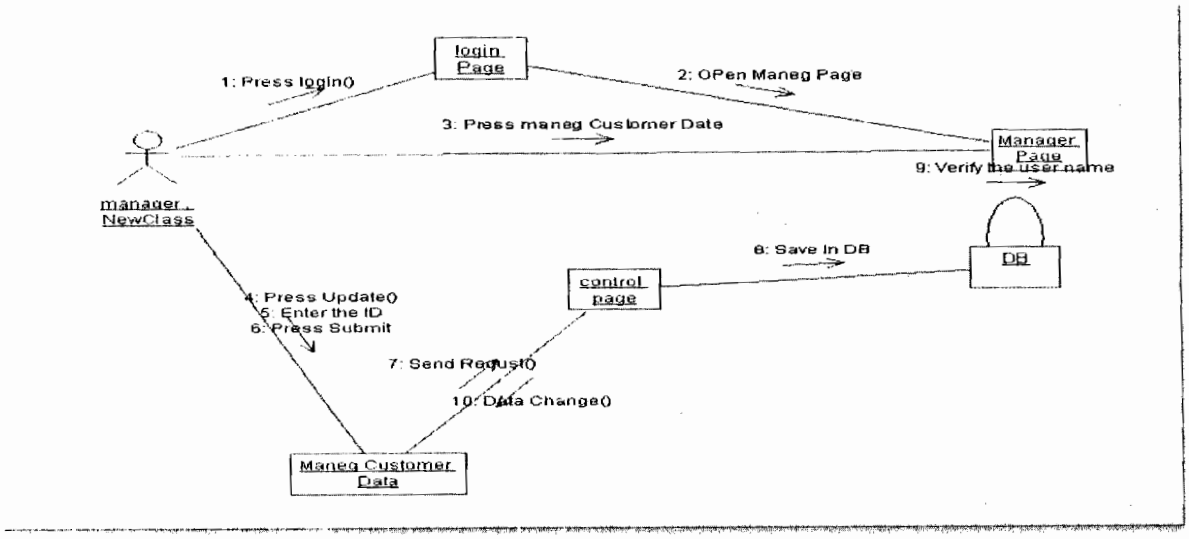

Fig D.8: Update Information

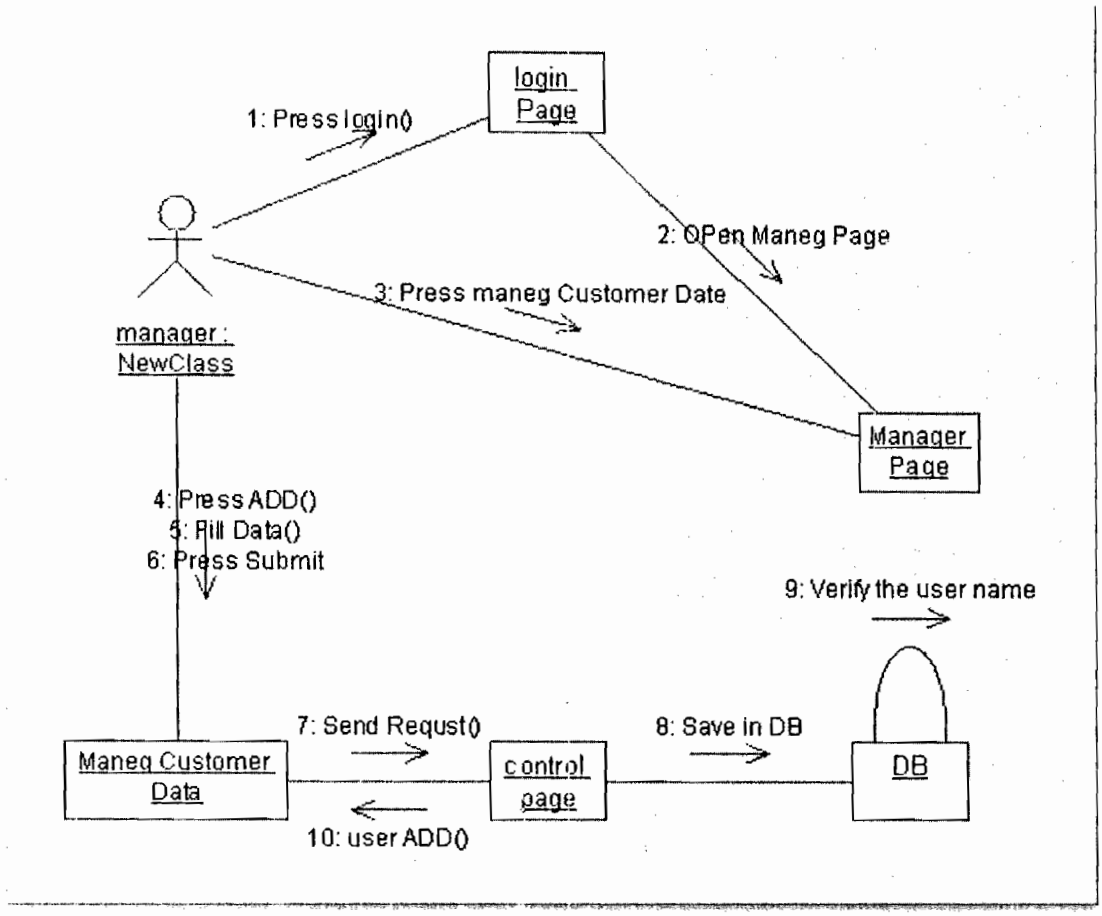

Fig D.9: Add Information

D.2 The attribute of Class Diagram of Web Base Ticketing for Menara Alor Star

The attribute of user is:

-Fname

-Lname

-Gender

-Mobile

-Telephone Number

-Email

-User Name

-Password

And an operation

-Registration()

-Booking()

-Activate the ticket()

-Login()

-View the ticket()

-Check the pin Code()

-And the booking ticket as:

The Attribute of Manager is:

-User name

-Password

And an operation

-Login ()

-Add Customer ()

-Update ()

-Delete ()

-View customer ticket ()

The Attribute of Ticket:

-Booking ID

-Customer ID

-Bin Code

-Status

The Attribute of Booking:

-User

-Date

-Day

-Time1

-Time2

-ID