

A STUDY AND DEVELOPMENT  
OF AN  
ONLINE BUS TICKETING SYSTEM

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KUALA LUMPUR

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## **ABSTRACT**

This project addresses the study and development of an Online Bus Ticketing System web portal to enable users, both the bus operators and the customers to make an online bus ticket sale/ purchase and act as an operation tool for bus operators to operate their organization effectively. Traditionally, bus ticket purchase has been over the counter in bus terminals, however, today it has evolved with the rapid expansion of e-commerce. Thus, prior to developing the system, a this research critically assess and study the reason behind the evolution and the current e-ticketing systems. This project also addresses the problems faced by customers and bus operators especially on illegal bus operators, long wait to purchase a bus ticket, unsafe environment and many more. The research studies some issues on implementation and also recommendations on how Online Bus Ticketing System web portal can take place effectively. This research recommends on a star ranking system based on monthly sales, bus operator popularity and law traffic offences. This research also recommends a Decision Support System to deal with the customer's requirement whereby it provides reliable choices to a customer to make decision. This research includes the development of a prototype Online Bus Ticketing System web portal to support the research objective. This web portal will assist in future development that would support a fully integrated system that links bus operators to customers, bus operators to bus operators, bus operators to other mode of transport providers, bus operator to businesses and bus operators to government agencies.

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

The government of Malaysia has successfully capitalized its country's topography to construct a road system, especially the national highway to its public to commute within the Peninsular Malaysia.

The North South highway with a total distance of 847.7 km was officially open on September 8 1994, which stretches from Bukit Kayu Hitam, Kedah to Johor Bahru (The North South Expressway, 2006). It has made possible for a person to travel from north to south of Peninsular Malaysia within 9 hours compared to longer hours prior to its existence.

Kompleks Perhentian Puduraya is the most significant public transport (bus) terminal in Malaysia (Wikipedia, 2006). Every year, the number of public using its services has been increasing as the government constantly urges commuters to use public transport instead of private vehicles (Ng Cheng Yee, 2006). So much so during the weekend or any given public holidays, the number of commuters' increases by doubles. The main activity that is taking place in Puduraya Bus Terminal is over the counter bus ticket sales.

Since the highway has encouraged the public to commute easily, the development of public transport system (express bus) has grown rapidly since then. In 1976, there were only 26 bus operators operating in Puduraya, but in year 2003, there are 67 bus operators that are in operation and offering services to almost all destinations throughout the country. On the average, about 1,500 buses go in and out of Puduraya weekly picking and leaving passengers for their various destinations. The number of buses increases on public holidays and school holidays (UDA Holdings, 2006a). To meet the demand of increasing customers during this peak period, illegal bus operators will rise to the occasion to provide illegal bus services. These illegal bus operators are usually school and factory busses operating without permits or express busses with expired permits. There is a need to curb this phenomenon because, if any mishap would occur during the journey, the customers will not be subjected to any insurance coverage (The Star, 2006b). In short, by displaying all legitimate bus operators (either big or small) in the system, the customers will have wider range of choices of legal bus operators therefore reducing or eliminating the illegal ones out.

With the increasing number of human traffic in Puduraya, purchasing a bus ticket has been an uphill task if a passenger has planned their detailed traveling itinerary. As the result of the survey conducted, due to the intense number of human traffic in Puduraya, purchasing a bus ticket is not merely a ten or twenty minute's task, but in fact, it can even take up to an hour or two especially during the peak season.

Looking at this unpleasant scenario, Park May Berhad, an express bus operator has introduced an online e-ticketing system in the year 2001 (W.W. Tan *et al.* 2004). This

online e-ticketing system will not only assist the passengers but also the bus operator's position as an efficient service provider, gaining competitive advantages and also lead to superior control over the reservation process and operation, compared to conventional manual processing. The main feature in this online e-ticketing system is to cater destinations between inter cities within Peninsular Malaysia. With this system, the passenger can perform an online bus booking at his or her own free time and will consecutively reduce the human traffic in Puduraya.

Till to date there are six individual bus e-ticketing systems available in Malaysia, with only one website offering services collaborating only four bus operators. This service is limited to the public as there are 67 bus operators in the country (UDA Holdings, 2006a).

The main purpose of introducing these e-ticketing system operated by individual operators are to ease the process of purchasing a bus ticket, ease the traffic condition in Puduraya and to keep up with Information Technology era. Unfortunately, looking at the scenario, the objectives have failed.

It is believed the main reason for the failure of the existing e- ticketing systems is because there are only four express bus operators providing these services compared to the total of 67 bus operators (UDA Holdings, 2006a) currently in operation. This makes the destination choices and the number of seat offered very limited. Thus, a development of a portal collaborates all available inter-city bus operators, the problem faced in purchasing a bus ticket over the counter will ultimately be solved.

Besides the above given reason of curbing the traffic flow and reducing the human and negative environment congestion in Puduraya Bus Terminal, the element of providing options to a customer on which bus operator to use is very important and should be implemented in the Online Bus Ticketing System web portal. This element is relatively important based on the number of unsatisfactory experiences by customers and accidents occurred due to the negligence of the bus operators (Audrey Edwards, 2006). Therefore a customer has a choice to which bus operator to use based on a bus operator's classification or standard or rank given to a bus operator. The criteria that can be used to rank a bus operator could be based on the internal factor (i.e. company's performance) and external factor (i.e. public polling and governing bodies).

To achieve this element the usage of a Decision Support System (DSS) and Management Information System (MIS) as a tool to develop a system that will finally benefits the user to maximize their rights to make decision based on merit and also the bus operators to meet their organization financial objective.

## **1.2 Problem Statements**

Malaysia is served by an excellent transport system. Once you are in the country, there is always transport available to you even to remote areas. Traveling by road in Peninsular Malaysia is the most popular mode of transport as it has well- developed road network system.

The express bus operators have benefited from this well developed road network system. This industry has grown from its modest operation to providing e-ticketing system by few bus operators operating individually.

In line to support the government towards realization of Multimedia Super Corridor (MSC) and Vision 2020, every company should upgrade itself with the latest technology available towards the Information Technology (IT) era.

Due to dependency of Malaysians on the services provided by the bus operators, there has been a tremendous increase of number of bus operators in Malaysia. For instance, in Puduraya, in the year 1976 there were only 26 bus operators, but in year 2003, there are 67 bus operators (UDA Holdings, 2006a). Such increase has made Puduraya Terminal as the main place to purchase a bus ticket for a certain destination. Purchasing a ticket can either be done over the counter or via e-ticketing offered by a few major bus operators.

Between the two choices of purchasing a ticket, the option of over the counter purchase is the preferred choice. This is because the current e-ticketing system operated by individual bus operators, does not provide enough choices to a passenger such as different destinations and the availability of tickets are limited. The development of an Online Bus Ticketing System web portal will also reduce or eliminate the activities of unauthorized bus operators who are operating without legitimate permits during the high demand period. This vital information should be conveyed to the customers because these illegal touts' busses are school and factory busses and might not be worthy enough to be used as express busses.

The bus transport operators should use IT as a tool to draw up a master plan in order to enhance the level of service provided to the users. Capitalizing on the rapid growth of e-commerce application users, there must be a portal that combines all these bus operators into a consortium providing services to the passengers. The objective of this Online Bus Ticketing System web portal in Malaysia has been conceptualized to achieve:

- Faster bus ticketing booking and a choice of purchasing from different express bus operators, support services which are more responsive to users needs, greater customer appreciation (through a Decision Support System), elimination of illegal bus operators and also to provide greater benefits to bus operators to enhance their business processes (through Management Information System).

Faster bus ticketing booking will mean better response time from the bus services. A choice of booking from different express bus operators will allow users to have a choice of services to use based on standard rating derived from consumer's feedback, governing bodies, and individual bus operator's performance. Decision Support System will create standard rating to rank each bus operator and thus will allow a user to make decision on which bus operator's to use based on these ratings. With support services, which is more responsive to users' needs, will create greater customer appreciation and thus will benefit the bus operators. Online bus ticketing booking will contribute to the successful development of the Online Bus Ticketing System by attracting users within Malaysia as well as tourists.

This research survey will result in greater customer appreciation, whereby, customers are able to search for bus services, deciding which service to use through bus operators ranking

and obtain e-tickets right after purchase by printing them online. When a ticket is purchased, the customer does not have to worry about a scheduled trip. It will also give benefits to the bus operators, whereby it should expose bus services to a large customer base, real-time online information on sold tickets and tickets availability, it should also allow administrators to insert, remove and edit available tickets online anytime and anywhere. Bus operators will also be able to gather valuable information such as sales reports and various reports for management decision making.

The main problem is a collaborated (incorporating all available bus operators into a single system) Online Bus Ticketing System web portal is not available in Malaysia. A portal which is reliable in incorporating all express bus operators and allowing a user the flexibility of choosing a particular bus operator from a list of operators and allowing the user to specify the date and time of booking. It will also allow user to pay for the tickets and offer a secured transaction.

Online Bus Ticketing System web portal is a total Internet Ticketing Operations offering the benefit of total in-house management of bus schedules, ticket bookings, ticket sales, report generation, and other business functions associated with ticket sales. It also offers the power of decision making to customers to make a ticket booking through bus operators' popularity, performance and ranking. This powerful Internet based ticket booking system that allows a full control of not only on the ticketing inventory, but also the site's content.

Some basic components of an Online Bus Ticketing System web portal that provides enhanced service to the bus operators and customers consist of:

- Capture of customer information such as name, address, phone number and e-mail address
- Price list
- Bus operators ranking
- Seating chart
- Loyalty Points/Redemption
- Search engine
- Payment information/credit card authorization
- Organization's advertisement/slogan, phone number, fax number, and address
- Forum
- Comments and suggestions section / option
- Reports

The overall research has identified the above-mentioned problems by conducting a survey and has proposed a framework on the development of an Online Bus Ticketing System web portal. A fully workable prototype system is developed based on the findings to support the following objectives.

### **1.3 Objectives**

The objectives of this research are as follows:

- (i) To investigate and analyze the problems on the existing e-ticketing systems provided by individual bus operators.

(ii) To assist the authority to curb illegal bus operators by the collaboration of all legal bus operators in the system that will reduce or eliminate illegal bus operations.

(iii) To identify the relevant features of various components and methods needed for the Online Bus Ticketing System web portal. To give power of choice to consumers to choose which bus operator's services to use based on standard rating derived from consumer polling, traffic summonses obtained, and sales performance. To assist bus operators operations and marketing decision through timely decision making via Management Information System through the deployment of Online Bus Ticketing System web portal and the phasing out of manual ticketing system. Development of the prototype system for an Online Bus Ticketing web portal. The development of this prototype portal will then assist in developing a real Online Bus Ticketing System web portal in future, which can be offered to the public.

The first objective determines the problems encountered with the existing individually operated bus e-ticketing systems in Malaysia. An interview is conducted with the bus operators and customers to gather feedback on the existing services provided by the current e-ticketing systems.

The second objective is to assist the authority to curb illegal bus operators by the collaboration of all legal bus operators in the system that will reduce or eliminate illegal bus operations.

The final objective identifies the improvements needed on the existing e-ticketing systems through interviews and surveys. With the suggested information gathered, the relevant features of various components and methods needed for an Online Bus Ticketing System web portal is designed. It also explains the involvement of Decision Support System that will provide option to a user based on the service level provided by the bus operator and thus gives power to the user to decide and choose which bus operator's services to use. This objective is very much important due to the high level of dependency that the user is having on the bus operator that could cause fatal if the services is not up to the standards drawn by the governing bodies (Jabatan Pengangkutan Jalan and Polis Diraja Malaysia). This objective explains further on the development of an Online Bus Ticketing System web portal. The tools and methodology used, user requirements and other issues on designing the system are discussed.

#### **1.4 Scope of the Research**

This research focuses on two parties, i.e. the bus operators and the customers. The bus operators are the system administrator of this system. They are able to add, edit and retrieve information and generate reports to assist them with their daily operations. This back-end activities will help the bus operators to evaluate its current position and to plan its company's operations on how and what action to be taken in order to stay ahead in this competitive business world.

The back-end activities mentioned above are the sales/business performance, public opinion through online voting and finally the bus operator's commitment of maintaining

good track records according to the policies of governing bodies. These back-end activities will be the pillar for creating the competitive edge to a bus operator to spear-head in providing better service to a customer in this challenging business environment.

The customer will be able to utilize this Online Bus Ticketing System web portal to perform their transaction of purchasing bus tickets at their own hassle free time. The features that are available in this system will mostly reflect from the survey conducted during the data sampling stage.

In this business competitive era, Information Communication Technology (ICT) is placed on a platform by many organizations as their key indicator for success. Online data handling has been a major tool to provide better customer service.

By adapting ICT as a tool to provide the bus operator's management, it will not only improve operations efficiency, gaining competitive advantages, delivering higher-quality services, but it will also lead an organization to superior control over the booking process which will allow the customers to choose their services from other competitors.

Thus, by developing the Online Bus Ticketing System web portal between inter-cities, the bus operators will have no choice but to join the bandwagon to stay ahead with ICT to improve its services and finally this will cause a reduction of human traffic in Puduraya.

## **1.5 Significance of the Research**

This research survey identifies the need of developing and promoting a comprehensive Online Bus Ticketing System web portal of various bus operators in Peninsular Malaysia.

This study explores views from the bus operators as the service providers and the customers as the system users upon the adoption of this system.

For the bus operators, the survey conducted identifies the responds received from the passengers on the current available system in the market, the cost-effectiveness of developing and maintaining this system and the usage of reports from the system.

On the other hand, the survey conducted on the system users identifies the awareness of the current system and the willingness to transform from practicing the conventional method of over the counter purchase of bus tickets to the modern method of purchasing through a web portal. The survey also introduces and identifies acceptance of the creation of bus operators' classification or standard via popularity, performance and maintaining satisfactory road traffic law track record, features available in the system and the level of security to perform a financial transaction.

## **1.6 Methodology**

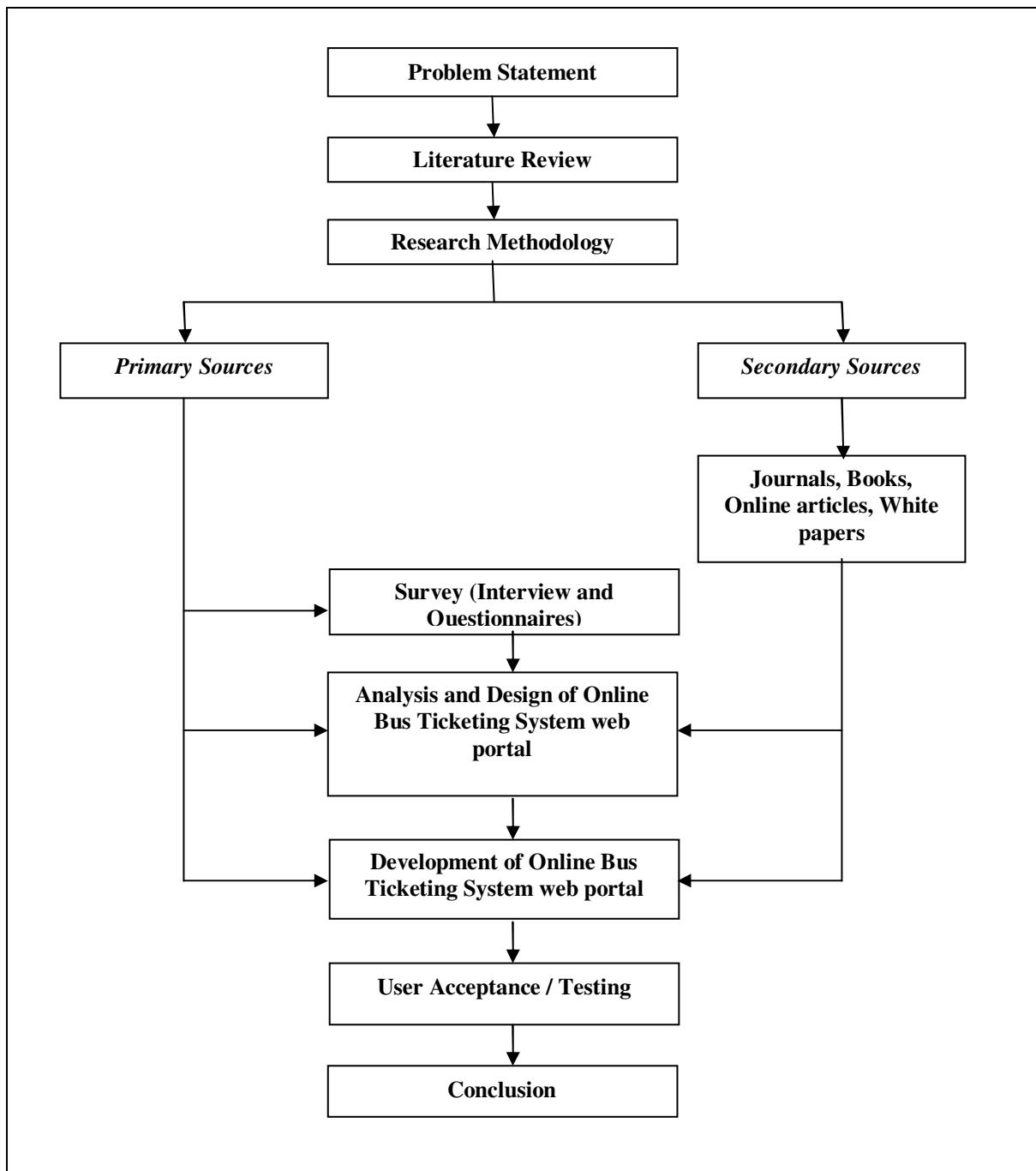
To accomplish the research objectives, a systematic process is followed. The procedures involved in accomplishing this research are depicted in Figure 1.1.

The research process begins with the identification of the research topic where studies was carried out to obtain enough information on the topic. A literature review was carried out to study the Online Ticketing applications in Malaysia and in other countries. The literature review further looks into the role of an Online Bus Ticketing System web portal in terms of providing Decision Support System and Management Information System services to both customers and bus operators, security on e-commerce, privacy and payment options.

After completing literature review, a survey using close and open-ended questionnaires was carried out to identify the passenger's perception on bus e-ticketing services that is currently available. A survey (50 questionnaires were distributed) was carried out on the passengers to find out the awareness, efficiency, and effectiveness of the current bus e-ticketing system on conducting their bus ticket booking. In addition to this, numerous interviews with bus operators were conducted to gather more information on their daily operations and on the methods and features required in the Online Bus Ticketing System web portal.

After gathering feedback from the bus operators and passengers, an analysis was conducted to draw out important information for the development of the portal. This research identifies the importance of adopting a comprehensive Online Bus Ticketing System web portal by inviting all bus operators to utilize the web portal and to provide various options for a customer to purchase bus tickets.

Finally, based on the overall findings, a user-friendly prototype Online Bus Ticketing System web portal is developed. The development of this prototype Online Bus Ticketing System web portal can be used as a guideline for the future implementation of a successful Online Bus Ticketing System web portal in Malaysia.



**Figure 1.1**  
Research Process

## **1.7 Organization of Thesis**

The purpose of this research document is to give an overview of major phases involved throughout the development of the dissertation. Basically, the research document is divided into 7 chapters.

Chapter 1 covers the Introduction of the research. This chapter covers the overview of the research including problem statements, objectives, scope and the development strategy.

Chapter 2 covers literature review. This chapter concentrates on the overall aspect about Online Bus Ticketing System. This chapter begins with the introduction of e-ticketing, understanding the online ticketing applications, understanding the role of e-commerce, the security and privacy issues, and the payment methods of online ticketing. The incorporation of Decision Support System and Management Information System are also highlighted in this chapter for better understanding in the development of the Online Bus Ticketing System web portal. This chapter further discusses on the research methodology that is used in completing the dissertation and the research instrument used to gather data is the questionnaire.

Chapter 3 covers the interview and survey. Bus operators and customers are interviewed to gather more understanding on the current procedure and feedback of purchasing of bus tickets. Questionnaires were distributed to 50 random customers.

Chapter 4 covers the analysis of an Online Bus Ticketing System web portal after obtaining information from the distributed questionnaires. This includes the analysis on the bus passengers awareness on the current services provided to them by the current individual bus e-ticketing systems. The bus operators ranking is explained further in this chapter. This includes the calculation derived for each criterion that will determine the ranking. This chapter also includes a proposed framework on implementation of an Online Bus Ticketing System web portal. Further explanation on the process of implementation of the prototype system is also discussed.

Chapter 5 covers the design and development of the Online Bus Ticketing System web portal. The structure charts, context diagram, entity relationship diagram and data dictionary is also shown in this chapter. This chapter also includes the implementation of the suggested features gathered from the survey and the technical aspects of the development.

Chapter 6 covers the evaluation of the system. A number of user acceptance questionnaires were distributed to bus operators and passengers to test the prototype Online Bus Ticketing System web portal and the feedback is tabulated.

Chapter 7 covers the possible future enhancements for the Online Bus Ticketing System web portal and the conclusion of this research.

## **1.8    Expected Research Outcome**

The expected research outcomes at the end of this research are listed as follows:

- The introduction to Malaysian public a web portal combining all bus operators which has been rated according to star ranking according to specific criteria that will allow customer to choose based on their preferences.
- Awareness on the existing current individually operated bus e-ticketing system in Malaysia.
- Effectiveness of the available methods and features in the current individually operated bus e-ticketing system in Malaysia.
- A study on current bus e-ticketing systems in other countries.
- The outcome from the survey on the features needed in the development of an Online Bus Ticketing System web portal.
- The proposed framework for implementation of the Online Bus Ticketing System web portal.
- Issues rose during the implementation of Online Bus Ticketing System web portal.
- A web portal to support this research that will be used by both the Customers and Bus Operators.

## **1.9 Conclusion**

This chapter covers the overall scope on the need and the implementation of an Online Bus Ticketing System web portal in Malaysia. The development of this system will benefit both the system administrator and the system user by adopting Decision Support System and Management Information System as a tool to maximize their right to make decision based on merit and meeting its organization financial objective respectively.

By developing an Online Bus Ticketing System web portal between inter-cities in Peninsular Malaysia, it will not only provide better service to the user, but also improve the overall standing of the bus operators in this competitive market. Furthermore, the adoption on ICT will also allow the bus operators to open its business horizon globally and make the entire world as its market place.

Therefore, the Online Bus Ticketing System web portal can bring more advantages if the right solutions are used, systematically deployed and carefully implemented.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The main purpose of this chapter is to review the development of bus e-ticketing systems in Malaysia and in other countries. This chapter will look into issues concerning the development of an Online Bus Ticketing System web portal in Malaysia.

#### **2.2 E-Commerce**

E-Commerce stands for Electronic Commerce. E-Commerce is often thought as simply as buying and selling using the internet. It involves more than mediated financial transactions between organizations and customers (Chaffey. D, 2004).

E-commerce is the sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks. In today's business environment, where the operational boundaries between firms have become fluid, it is often both pragmatically and analytically unfruitful to separate inter-organizational and intra-organizational business processes. Therefore, E-commerce includes the sell-buy relationships and transactions between companies, as well as the corporate processes that support the commerce within individual companies (Zwass V, 1996).

Rapid developments in information technology and telecommunications have set the pace for an electronic revolution leading to the emergence of E-commerce. Although the use of Internet as a channel for shopping has been around for quite some time now, it has not caught on with the Malaysian masses just as yet. Teething problems with security and privacy is hindering the potential growth of this medium as a preferred channel of shopping (Yulihasri Eri *et al.*, 2005). Security, ease of use and usefulness are the main issues looked at by Malaysian researchers (Sathye, M, 1970).

### **2.3 Business to Consumer (B2C)**

The term E-Commerce refers to all online transactions, while B2C stands for "business-to-consumer" applies to any business or organization that sells its products or services to consumers over the Internet for their own use. When most people think of B2C e-commerce, they think of Amazon.com, the online bookseller that launched its web site in 1995 and quickly took on America's major retailers. However, in addition to online retailers, B2C has grown to include services such as online banking, travel services, online auctions, health information and real estate sites (S. Patton, 2005).

In Malaysia, the growth of Business-to-Customer (B2C) e-commerce is still at its early stage. Computer ownership is 8 people per 100 populations in 2001 and is expected to increase to 15 by the end of 2002 and hit 30 by 2005, whereas the worldwide standard of computer ownership is 40. At the same time, the Internet users population in Malaysia is estimated at close to five million, representing 38.9% of the total population in 2006 (Malaysia Internet Usage Stats and Marketing Report, 2007). Comparing to the United

States, Malaysia is still lacking behind in almost all aspects of the Internet. Like most Asian countries, Malaysia is working hard to catch up with the developed world's economies, and the Internet presence become urgent issues. This country is still struggling to develop its Internet infrastructure and building its knowledge economy, for example developing communications networks, enabling Internet access to all, and setting up a legal framework for using the Internet. Most significantly, the primary focus is to promote Internet usage among Malaysians to improve the country's competitiveness (Noornina Dahlan *et al.*, 2002).

## **2.4 Portal**

A portal is a Web site or other service that provides an initial point of entry to the Web or to internal company data (Kenneth C. Laudon *et al.*, 2004). Another description for a portal is a “gateway” to the Internet, it is also known as Web sites that provide some basic information and services (Lim, E., 2004) and, more importantly, provide access to selected sites in the Internet through links and to many other sites through search engines (Zahir S. *et al.*, 2001).

Portals are important because they are the prime real estate of the Internet. Portal varies in scope and the services they offer, so there are many terms evolved to describe the different types of portals (Whitten J.L *et al.*, 2002). For this research, the type of portal that will be best used for an Online Bus Ticketing System web portal will be horizontal or functional portal where it has the characteristics of a range of services; search engines, directories, personal information management and online-shopping.

Portals are special business models which are full with Web information resources that help individual or organization to locate information more efficiently. Web services are best used in portals because of the portal technology ability to combine different applications and services and present them into an easy and single interface.

Portals offer many functional advantages over traditional media, such as easy access to related services, access to almost unlimited content and excellent retrieval facilities. Portal sites can provide a whole range of customized facilitating and supporting services, such as search engines, forums and newsletters that can add value to the core service. These services can be termed as e-service.

There is no physical interaction between a buyer and seller in an electronic market space, therefore an alternative type of a virtual location need to be considered and represented. The type of location that will be ideal for an Online Bus Ticketing System web portal will be a seller-oriented site which are controlled by third parties, but are representing the seller rather than providing a full range of options (McDonald *et al.*, 2002).

## **2.5 Management Information System**

A Management Information System, or MIS, is a computer-based system that optimizes the collection, transfer, and presentation of information throughout an organization by using an integrated structure of databases and information flow (Long & Long, 2004). MIS combines the theoretical work of computer science, management science, and operations research with a practical orientation toward developing system solutions to real-world

problems and managing information technology resources (Kenneth C. Laudon *et al.*, 2004).

MIS is also seen as a system collecting and analyzing data and producing reports. Its purpose is to help managers to solve structured problems. But it should also fulfill a number of other purposes (Adriana Harizanova, 2003):

- It should provide a basis to analyze warning signals that can originate both externally and internally; this is the main function of data base;
- It should automate routine operations thus avoiding human work in the processing tasks;
- It should assist management in making routine decisions;
- It should provide the information necessary to make non-routine decisions;
- It should serve as a strategic weapon to gain competitive advantages.

There are numerous definitions of MIS, for the purpose of this research, MIS can be defined as a system providing bus operator management with accurate and timely information necessary to facilitate the decision-making process and enable the bus operator's planning, control, and operational functions to be carried out effectively. By doing so, MIS will increase competitiveness between bus operators, reducing cost and improving processing speed.

## **2.6 Decision Support System**

Decision Support System or DSS is an information system that can be used to help decision-makers make better decisions. Decision-making involves activities such as collecting relevant information from the environment, modeling the problem domain and generating alternative solutions, employing a decision strategy to choose between alternatives, testing and justifying the decision, and effecting the necessary changes in the environment to implement the decision. DSS have been developed to support human users across all of these activities (Susan Sproule *et al.*, 2002).

DSS was defined as a computer system that dealt with a problem at least some stage of which was semi-structured (modelable or tractable) or unstructured. A computer system could be developed to deal with the structured portion of a DSS problem, but the judgment of the decision maker was brought to bear on the unstructured part, hence constituting a human-machine system (G.A. Gorry *et al.*, 1971).

The decision-making process consists of three phases, namely, intelligence, design and choice. Intelligence is used in the military sense to mean searching the environment for problems, that is, the need to make a decision. Design involves the development of alternative ways of solving the problem, and choice consists of analyzing the alternatives and choosing one for implementation (H. A. Simon, 1960).

Management information systems, such as billing, other accounting systems, inventory control, require current, accurate data that is derived primarily from sources internal to the organization. DSS applications, because many are strategic in their orientation, tend to require data from outside the organization, and this data may be in the form of trends or

estimates. The ill-defined nature of information needs in DSS situations leads to the requirement for different kinds of databases than those for operational environments (James F. Courtney, 2000).

With that, the conclusion is, DSS feature must be included in the development on Online Bus Ticketing web portal to provide customers with a service to allow them to insert their desired traveling location and dates into the system which in turn displays the data based on the criteria chosen. This Online Bus Ticketing web portal will then be a system that not only allows customers to book and purchase bus tickets online, but also provides current information about bus operators, that will give a deciding power to customers.

## **2.7 Security**

Security is defined as the protection of data against accidental or intentional disclosure to unauthorized persons, or unauthorized modifications or destruction (G. J. Udo, 2001). Security concern has become one of the main reasons for not transacting online because as soon as a user accesses the Internet, anyone from anywhere around the world has access to the information being sent. The risk of data theft, theft of service, and corruption of data, and viruses becomes a reality. The lack of security, reliability and accountability make the Internet online transaction too risky for many users (T. Ramayah *et al.*, 2003).

Devising the Internet security policy can be complex because a rational policy requires an organization to access the value of information. The policy must apply to information stored in computers as well as to information traveling through a network. The internet

security policy is complex as primary complexity arises because of the internet security can not separate from the security policy for the computer policy for computer systems attached to the internet. In particular, defining a policy for data that travels through the internet does not guarantee that data will be secure (Douglas E. Comer, 2001).

Nowadays, the society consisting of either the businesses or the government areas are concerned by these internet security issues. These people are very dependent on the data communication networks for their daily performance especially in the businesses areas. The rise of the internet with opportunities to connect computers anywhere in the world has significantly increased the potential vulnerability of the organizational assets (Fitzgerald and Dennis, 2002). Emphasis on internet security also has increased as a result of well-publicized security. For this research, the Internet security that should be taken into consideration is the unauthorized access. Unauthorized access can be defined as the use and access of information without getting the permission from the administrator. This problem is often viewed as the hacker or the employee gaining access to the information and resources from the organization through the internet. A hacker is a person who tries to enter into the computer system or network illegally and then access the information or resources before logging out. Hackers have extensive knowledge of the workings of the Internet and can exploit security vulnerabilities to gain access to systems. Once inside, the hacker can do almost anything, including take over the computer completely. The hacker can improvise and try different approaches to breach a system's security, but hacking is inefficient because hackers typically focus on one system at a time. Instead, they often prefer to focus on the attack vectors that can reach the masses more efficiently (Tubin G., 2005).

## **2.8 Payment**

The most important part of selling online is accepting payments from users for a single transaction for a purchase of an item from a Web site or for a series of transaction for the payment of membership fees or installment payments via your Web site. Online payment processing offers users the convenience of submitting their credit card or other form of payment on your Web site (Verisign, 2005).

The implementation of chip technology now, offers new forms of payment choices and higher security to the public. In 2004, an important step has been taken by the Bankcard by replacing the magnetic stripe Automated Teller Machine (ATM) cards towards migrating to Europay MasterCard VISA (EMV) compliant credit cards. A further development has been also introduced, which is the Malaysian Electronic Payment System (MEPS) Cash and the national e-purse scheme as an alternative electronic payment mode rather than using cash for making retail payments. The ATM machines of the participating banks and terminals at retail outlets are being upgraded to facilitate MEPS Cash transactions.

There are various modes of payment through the internet, namely,

- Cards
- Online Banking Services
- Electronic Money
- E- Wallet
- E- Billing
- Mobile Payments

- E- Checks

As for this research, the mode of payment identified is through credit card and online banking. These two methods are extremely popular with the interviewees during the survey. Credit cards, debit cards and prepaid cards currently represent the most common form of electronic payments. For all 3 types of cards the consumer or the business most often uses a plastic card, commonly with a magnetic stripe. The cardholder gives his or her card or card number to a merchant who swipes the card through a terminal or enters the data to a Personal Computer. The terminal transmits data to his or her bank, the acquirer. The acquirer transmits the data through a card association to the card issuer who makes a decision on the transaction and relays it back to the merchant, who gives goods or services to the cardholder. Funds flow later for settlement with credit cards and are debited immediately for debit or pre-paid cards.

Along with magnetic stripe cards, smart cards are and will increasingly be used for payments. Smart cards are at present overwhelmingly plastic credit cards with an embedded computer chip. Until recently, many smart cards operated using proprietary rather than common standards. A standard set of specifications, EMV, has been developed and is being used increasingly so that the chips on smart cards are interoperable. Korea and Japan are among the most advanced countries in Asia for smart card payments, with Malaysia catching up fast due to government mandates for banks to issue smart cards. Most credit and debit cards are expected to be issued or reissued as smart cards by 2008 or earlier (Epayment, 2006).

Soon to come is the usage of chip for payment can be expected to move onto other devices. A “smart card” might then become the computer chip in a phone, Personal Digital Assistant (PDA) or other device that can perform the same function as chip in a plastic card, eliminating the need for the actual plastic card. Smart cards could thus evolve into “smart phones”, “smart PDAs” or other “smart” devices (Epayment, 2006).

Credit cards have become the default e-commerce payment system in the absence of a better paying option. No physical paper needs to be passed unlike cash or checks. The user simply type the credit card number into the merchant’s World Wide Web (WWW) page payment form and wait for the purchase shipped to them. The only thing that needs to pass between the merchant and the user is the credit card number (Fritscher M *et al.*, 2003).

Though the process sounds simple, it is far from the truth. Users have some legitimate fears about giving their credit card number out over the Internet. Because of these fears, hosting the WWW site on a secure server are being developed to make purchasing product online more secure. A secure server uses a protocol such as Secure Socket Layer (SSL) or Secure Hypertext Transfer Protocol (S-HTTP) to transmit data between the browser and the server. These protocols encrypt the data being transmitted, so when the users submit their credit card number through their WWW form it travels to the server encrypted (E. Rescorla *et al.*, 2005).

Online banking services, from everyday checking and savings account transactions to advanced services like mortgages and online trading, are increasingly becoming a hot prospect for Internet portal sites and even cellular operators. In Australasia, growths in

online banking in markets like Australia, Hong Kong, Korea, Malaysia, Singapore, Taiwan and Thailand have been rising steadily. The main challenge for online banking is with security, particularly with the rise of "phishing" schemes designed to scam online banking and retail customers out of personal information (Telecom Asia, 2004).

Online system allows customers to plug into a host of banking services from a personal computer by connecting with the bank's computers over telephone lines. The convenience can be compelling. Not only is travel time reduced, but ATM machines, telephone banking or banking by mail are often unnecessary.

There are 12 banks in Malaysia offering Internet banking facilities while five have introduced mobile banking (L.G. Chai, 2005). Few banks in Malaysia, example Maybank provides quite completely of online business process stages and Internet marketing activities. The list of commercial banks, as well as banks which offering the Internet banking in Malaysia is listed in Appendix E. The provision of E-banking services in Malaysia mainly via electronic devices especially Automated Teller Machine, telephone, personal computer or the Internet (L.G. Chai, 2005).

## **2.9 Analysis of Puduraya Bus Terminal**



**Figure 2.3**  
**Puduraya Bus Terminal**

Hentian Puduraya, is on Jalan Pudu in the center of town, was officiated as the public transport terminal as well as a shopping complex on 2 October 1976 by the Former Prime Minister of Malaysia, the late Yang Amat Berhormat Tun Hussein Onn. The complex comprises of a podium block which housed the shopping outlets, buses platforms, car parks, taxi stops and a tower block which is the hotel (UDA Holdings, 2006b).

This building had been upgraded after 22 years of service to the passengers and the bus and taxi facilities had also been increased. In 1976, the year it was opened, there were only 26 bus companies that operated from here, but currently, there are 67 bus companies that are in operation and offering services to almost all destinations throughout the country, included Singapore. There are also 6 taxi companies, which are in operation serving the North, South, East Coast and Genting Highlands as their destinations. The bus companies and taxi companies that are offering services in Puduraya Bus Terminal are attached in Appendix A (UDA Holdings, 2006b).

The ground floor of Puduraya is the shopping and stalls lots. There are 173 shops or stalls, which offer a variety of products and services to passengers and shoppers. There are eating stalls, stationery and tidbit shops, shopping arcade and a kiosk. The basement of Puduraya is the bus drive-in bay where all the busses from different companies heading in and out. 1<sup>st</sup> floor is the taxi services, whereas 2<sup>nd</sup> and 3<sup>rd</sup> floor is the car parks, which has 383 parking lots and 124 motorcycle parking lots. The Puduraya Hotel is situated within the Tower Block of the Puduraya Complex that located at 4<sup>th</sup> floor and above. It is being leased out to a hotel operator and it offers 174 rooms with numerous facilities (UDA Holdings, 2006b).

Although Puduraya Bus Terminal is strategically located in the heart of Kuala Lumpur which accommodate express bus users, there have also been some limitation and problem faced, such as :-

- **Traffic jam along Jalan Pudu**

The buses heading in and out of Puduraya Bus Terminal are blocking traffic along Jalan Pudu which then congests nearby city streets, which shown in Figure 2.2. This scenario becomes worst during the peak season and school holidays (Chow H.B. (2006).



**Figure 4.2**

**Scenario of traffic congestion along Jalan Pudu**

- **Air pollution**

The environment around Puduraya Bus Terminal is polluted because the number of buses that go in and out the station picking and leaving passengers are discharging toxic gasses (The Star, 2006a).

- **Bad environment**

Many people flood Puduraya Bus Terminal for their own purposes such as travel within Malaysia, purchase ticket, shopping and others. This situation makes the environment in Puduraya bus station become noisy, filthy and hot (The Star, 2006a).

- **Inconvenience**

Puduraya Bus Terminal has no general telephone inquiry numbers in their own right. Inquiries must be made directly to individual bus companies. This situation causes inconvenience in acquiring information or making a complaint.

- **Unsafe Environment**

Cases such as touts, snatch thieves, pick- pockets and molestation have been reported in Puduraya Bus Terminal. A recent check found that competition was rife everywhere inside the bus station where touts badger passengers to buy bus tickets from them (The Star, 2006a). Passengers also get cheated for paying high prices of bus tickets during peak periods (Gill P., 2006).

- **Illegal Bus Operation**

During the peak season where the demand of bus services increases the operations of illegal bus operators will also emerge. These buses are without permits and are not worthy to be used as express busses (Farik Zolkepli, 2006).

With that, it is concluded that the development of an Online Bus Ticketing System web portal will reduce if not eliminate the above existing problems.

## **2.10 Ticketing System**

According to Oxford Dictionary, a ticket is defined as “a piece of paper or card giving the holder the right to admission to a place or event or to travel on public transport” (Oxford English Dictionary, 2005). Generally, a bus ticketing system consists of all the activities involved in producing a ticket, which includes, producing tickets, booking ticket, selling tickets, rejection of the tickets, total tickets produced for a trip and total tickets sold and income gained through the ticket selling. There are two types of bus ticketing system, manual and computerized.

### **2.10.1 Analysis on Existing Manual Bus Ticketing System**

Most of the ticketing systems in Malaysia are conducted manually. Before tickets are sold to customers, trip to particular destination has to be scheduled which is fixed by the management of each bus operators. The management will also assign a bus driver for each of these scheduled trips.

Once the schedule is finalized, the management issues standard tickets which has the ticket serial number. The destination and price are printed on the ticket for particular trip.

There is several bus operators offers call and book system to its customers. Customer calls up the bus company and gives their particulars like name, address and identification numbers and stating their destination. The counter will manually reserve the ticket for the customers, which means the ticket sales counter clerk will put the ticket aside. The customer has to come personally to the ticket counter one day before the actual trip to collect the reserved ticket. Failing to do so, the ticket will then be released to other passenger.

The ticket sales counter clerk has to manually calculate the total amount of the ticket sold and send the daily report to the management. Matters become complicated when several branches conduct the ticketing-selling task for the same bus at the same time. The ambiguities let the management face operation and accounting problems.

## **2.10.2 Analysis on Existing Computerized Bus Ticketing System**

In Malaysia, only giant bus companies have computerized ticketing system, namely Plusliner, Konsortium Bus Express Semenanjung, The Ticketing.com, and Aeroline. The management of each bus operators sets the bus trip schedule. Based on this schedule, ticket will be generated for a particular trip according to the seat available in each bus. For example, there is a trip to Melaka in the schedule list. The counter clerk from every station is entitled to check the ticket availability from the database when customers come to the ticket sales counter. Upon availability, the sales clerk will print out the ticket with details such as destination, date and time of departure, date of purchase, ticket price, bus registration number and platform number of the bus departure. The ticket is considered sold once it is printed out.

The booking facilities are unavailable to the public. Only authorized agents are allowed to book tickets. These agents are placed at some strategic location such as university campus who calls the clerk at the ticket selling counter to check the availability of the ticket when there is a request for a ticket. Upon availability, the agents will then issue temporary ticket for the customer. Usually, RM 0.50 service charge will be added to the ticket price if a ticket is purchased from agents.

At the end of the day, the ticket sales counter clerk will print out the summary reports, which contains information like how many trips of the day, how many passengers abort the buses and the sales amount collected for the day. This report will be handed to officers on

duty for verification and later it will be sent to the management for future analysis and updates.

### **2.10.3 Comparison between Manual and Computerized Ticketing System**

After analyzing the manual and computerized ticketing system, a summary of comparison between both systems had been prepared as shown in Table 2.1.

#### **(a) System Organization**

In the manual bus ticketing system, the sales counter clerk has to write the price, date and time of departure and others ticket information manually on the ticket to be issued. This is prone to human error. Computerized system will alert the counter clerk if there is an error made, which will then enhance the bus operators services. There will not be ticket forgery in the computerized system because the system is updated on real-time basis and keeps track on all the transactions occurred.

#### **(b) Ticket Availability**

The manual system is not well organized compared to computerized system. The manual system is less efficient in identifying ticket availability compared to computerized system. Computerized system has clear view on the seat availability with the latest update from every station/counter. The sales counter clerks of manual ticketing system are unable to tell the number of ticket sold until the end of the day operation.

**(c) Report Generation**

The computerized system will automatically generate daily report at the end of the transaction day, but the sales counter clerk has to calculate manually to produce its reports.

**(d) Further Analysis**

The bus operators, who use the computerized system, will prompt to make more accurate analysis compared to the manual system. The bus operators are able to generate many Management Information System (MIS) reports by using the computerized system for the development of their company.

**Table 2.1**

**Comparison summary between manual and computerized Ticketing System**

<i>Characteristics</i>	<i>Manual</i>	<i>Computerized</i>
<b><i>System Organization</i></b>	Standard tickets are used	Printed out tickets are used.
<b><i>Ticket Availability</i></b>	Less efficient in identifying ticket availability.	Clear view on the seat availability.
<b><i>Daily Report Generation</i></b>	Manual calculation of the total sales and manual reports are prepared.	Uses the computerized system to generate various reports.
<b><i>Future Analysis</i></b>	Manual prediction and analysis	The report is free from human error and prompt to make more accurate analysis.

## **2.10.4 Analysis of Existing Online Ticketing System**

### **2.10.4.1 Malaysia**

#### **2.10.4.1.1 Plusliner Sdn Bhd**



**Plusliner.com** (Plusliner Sdn Bhd, 2006) is the official Internet website of Plusliner Sdn Bhd for the public on the services provided by Plusliner and NiCE which provides services covering major towns and cities sprawled across Peninsular Malaysia.

Plusliner.com is a very informative web site. In addition to the seat reservation and ticket purchasing, this website also includes additional information such as reviews on places of interest for each location and contact directories that covered by their service. A Frequently Asked Question (FAQ) is also included in this web site. Furthermore, this web site has a system demo section to assist first timers for using this web site to make a reservation or to purchase a bus ticket. This web site also includes a member's corner that allows the members to view profile, change password and make redemption through the loyalty program.

This web site provides the seats available for specific route on the given day for NiCE, NICE ++, NICE2 and Plusliner to the passengers as shown in Figure 2.3. To check the seats availability, firstly, choose the type of service needed. By clicking on the particular number for specific route on the given day, the consumers could check the availability of seats according to the departure time, which shown in Figure 2.4.

**Plusliner Sdn Bhd**

*Express Division*

[Home](#) | [Membership Registration](#) | [Online Reservation](#) | [FAQ](#) | [Contact Us](#)

[Back to Seat Availability Page](#)

<b>Service :</b>	NICE2
<b>Route :</b>	KUALA LUMPUR - PULAU PINANG
<b>Date :</b>	21 Mar 2006
Departure Time	No. of Tickets Available
9:30:00 AM	Sold Out
11:30:00 AM	24
4:30:00 PM	29
6:30:00 PM	Sold Out

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**Figure 2.3**  
**The number of seats available for specific route**

**Plusliner Sdn Bhd**

*Express Division*

[Home](#) | [Membership Registration](#) | [Online Reservation](#) | [FAQ](#) | [Contact Us](#)

**Seat availability**

Click [HERE](#) to check for NICE2 schedule.

<b>Service</b>	<b>NICE2</b>			
<b>Route</b>	<b>Today</b>	<b>22 Mar</b>	<b>23 Mar</b>	<b>24 Mar</b>
KUALA LUMPUR - PULAU PINANG	53	54	21	53
KUALA LUMPUR - SINGAPORE	63	64	74	53
PULAU PINANG - KUALA LUMPUR	34	47	53	55

• Figures above indicates number of seats available for specific Route on the given particular day.  
 • Please [click on the particular figure \(number\)](#) to see the breakdown of available seats according Departure Time.

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**Figure 2.4**  
**The Availability of seats**

This web site also allows the consumers to check the fare and schedule of the NiCE, NICE++, NiCE2 and Plusliner for the specified route as shown in Figure 2.5. By specifying the departure place and destination, the fare details and schedule information will be displayed as shown in Figure 2.6.

**:::: NiCE 2 Schedule**

Click on the **Origin and Destination Images** to specify your origin and destination and click on the **SEARCH** button to begin your search! Click **HERE** to check for seat availability.

Origin: Kuala Lumpur  
Destination: Penang  
Search | Reset

**Service Coverage**

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**Figure 2.5**

#### The Schedule form

Origin: Kuala Lumpur  
Destination: Penang  
Search | Reset

**Fare**

Category	Currency	Fare
ADULT	RM	57
CHILD	RM	42

RM 0.10 LMS (passenger insurance) charge will be added to the coach fare.

Scroll down for timetable

**Service Coverage**

Departure Time	Mon	Tue	Wed	Thu	Fri	Sat	Sun
9:30:00 AM	<input checked="" type="checkbox"/>						
11:30:00 AM	<input checked="" type="checkbox"/>						
4:30:00 PM	<input checked="" type="checkbox"/>						
6:30:00 PM	<input checked="" type="checkbox"/>						

Trips available    Trips not available

**Figure 2.6**

#### The Fare and Schedule form

Membership is required to make an advance reservation or purchasing the bus ticket. Points are given for each of the transaction which will be accumulated and then used for redemption. Figure 2.7 shows a part of the membership form.

**Figure 2.7**

#### Membership Registration form.

Once a member had logged in, he can then proceed with the bus ticket reservation process by selecting the route, origin, destination, departure date and time as shown in Figure 2.8.

**Figure 2.8**

#### Ticket Reservation and Purchasing form

The users then will need to click on the *Check for Availability of Seat(s)* button and select the categories and seat required. Click the *Go Get It* button to confirm the choice of seats. Now, the consumers need to sign in their password one more time and click *Check Out and Pay* button to complete the process as shown in Figure 2.9.

The screenshot shows a web page for Plusliner Sdn Bhd's Express Division. At the top, there is a navigation bar with links for Online Reservation, Profile, View Points, Redemption Details, Change Password, and Logout. Below the navigation bar, there are buttons for 'View cart' and 'check out'. A table displays travel details: Service (NICE), Route (KUALA LUMPUR - PULAU PINANG), Origin (KUALA LUMPUR), Destination (PULAU PINANG), Departure Date (Monday, April 10, 2006), and Departure Time (1:00:00 PM). Step 1: Please select category. Category: ADULT - RM50.1. Step 2: Please select the seat(s) required. A seat map shows rows of seats labeled 1C through 8A. Seats 2A and 3A are marked with a checked checkbox, indicating they are selected. A legend at the bottom left explains the symbols: a white square with a black border means 'Seat is available to be reserve.', and a solid green square means 'The seat has been sold.'

**Figure 2.9**

#### Seat Map

Once the confirmation on the destination and the seat is selected, the confirmation slip will be displayed which needs to be printed as shown in Figure 2.10. The confirmation slip will then be presented to the customer service assistant on the date of departure, at least 30 minutes before the departure time. The user will first make a payment for this transaction within 3 days using Maybank2u.com, Maybank phone banking or pay at the nearest Maybank branch. Failing to make the payment after 3 days, the seat reservations will be automatically cancelled.

**Plusliner Sdn Bhd**

CONFIRMATION SLIP

**Plusliner Sdn Bhd**  
Mezzanine Floor, KTM Station,  
Jalan Sultan Hishamuddin,  
50050 Kuala Lumpur  
Tel : (603) 2272 1586

[Continue](#)



Name	MELISA KAUR
Membership ID	26858
Bank In Code	268871

No.	Service	Origin	Destination	Date	Time	Seat	Category	Fare
1	NICE	KUL	PEN	Monday, April 10, 2006	1:00:00 PM	2A	ADULT	RM 50.1

Total Ticket Fare : RM 50.1  
 Membershipcard Annual Fee : RM 10  
 Total Payment : RM 60

Please print this CONFIRMATION SLIP and Maybank2u bill payment receipt to present it to our Sales Counter on the date of departure, at least 30 minutes before your time of departure.

**NOTE:** Your reservation shall be automatically cancelled should you fail to make payment for this transaction within 3 days.

**Figure 2.10**

### Confirmation slip

### Advantages of using Plusliner.com

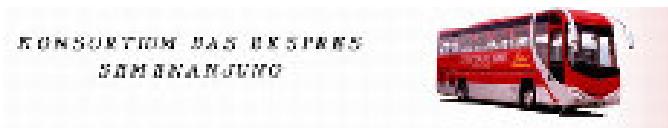
- Online checking for bus fare and schedule for the specified route.
- This web site has system demo section for first time users.
- Reliable and convenient method of payment.
- Seat status information is available and seat selection option is given.
- E-ticket is given with a printing option.

### Disadvantages of using Plusliner.com

- Availability of seats can only be checked for the given particular day. Users are able to only check the specific day for their trip when proceeding to the reservation and purchasing process.
- No cancellation facility is available after the reservation process.
- Too many steps to be followed for a bus ticket reservation and purchasing. Users may be confused to go through all these steps.

- d. The bus ticket reservation and purchasing process are available for the members only. Non-members are able to check the seat availability for the given day only.

#### **2.10.4.1.2 Konsortium Bus Express Semenanjung**



Konsortium Bus Express Semenanjung has more than 20 years of experience and has served millions of passengers to their desired destination. **Supercoach.com** (Supercoach, 2006) is the web site of the Konsortium Bus Express Semenanjung Sdn Bhd. Konsortium Bus Express Semenanjung provides service to all major cities and towns in Peninsular of Malaysia as well as Hatyai, Thailand and Singapore, and also caters for chartered services tailored to the requirements of individual customers at competitive rates.

Supercoach.com is a simple web site that includes the bus company information, member's corner, coach schedule, counter locations and online purchasing ticket.

A user must first register as a member to purchase bus ticket using this web-site by filling up the member form as in Figure 2.11. Once registered, the user will get a member card number. The user then must top up their accounts at any counters of the Konsortium Bus Express Semenanjung Sdn Bhd by cash, master card or visa card. Members are allowed to change their profile, password and top up history.

**New Member Registration**

\* Full Name: Melisa Kaur  
 \* NRIC No.: 771027055294 For Malaysian :- 780312013349  
 For Singaporean :- S1234567A  
 \* Mailing Address: A806 Kelana D' Putra Condo  
 \* City: Kelana Jaya  
 \* State: Selangor  
 \* Postcode: 47301  
 \* Contact Tel No.: 0123138560 eg: 0340338808  
 \* Handphone No.: 0123138560 eg: 0123456789  
 \* E-mail: mel7077@yahoo.com  
 \* Password:    
 \* Confirm Password:

© 2005 e-Transact Technology Sdn. Bhd.

**Figure 2.11**  
**New Member Registration**

The users then selects the destination, departure place, date and time, the total number of tickets to be purchased, and the seat selection as shown in Figure 2.12.

**KONSORTIUM BAS EKSPRES**  
 (SEmenanjung)

You can buy ticket from today to 2003-8-12

<b>FROM</b> KTMG	<b>TO</b> IPOH KB	<b>DATE</b> JUL, 2003 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	<b>Time</b> 10:00PM	<b>ADULT</b> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	<b>SEATS</b> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	<b>CHILD</b> 1 2 3 4 5
---------------------	-------------------------	--	------------------------	--	--	---------------------------

SUBMIT >>

Copyright ©, 2001 Super Coach Service SDN BHD. All rights reserved.  
 Developed By Super Coach Service SDN BHD. All rights reserved.

**Figure 2.12**  
**Ticket Purchase form**

The confirmation information will then be displayed as in Figure 2.13.

The screenshot shows a Microsoft Internet Explorer window with the title bar "SuperCoach Express About Us - Microsoft Internet Explorer provided by FSKTM Universiti Malaysia". The address bar shows the URL "http://www.supercoach.com.my/OnlineMain.htm". The main content area has a red header "KONSORIUM BAS EKSPRES (SEHENANJUNG)". On the left, there's a sidebar with links: "About Us", "Member's Corner", "Online Ticket", "Coach Schedule", "Counter Location", and "Contact Us". The main form is titled "PLEASE CONFIRM YOUR SELECTION". It contains a table with the following data:

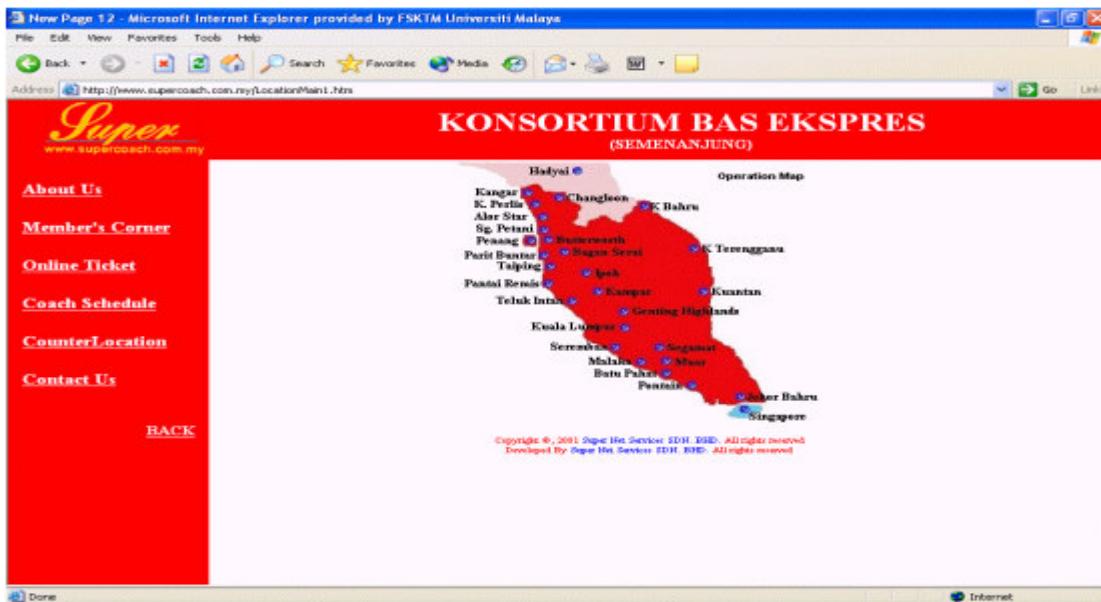
FROM	KMFGB
TO	IPOH
TIME	10:00PM
DATE	2003-07-17
NUMBER ADULT TICKET (OF)	1
NUMBER CHILD TICKET (OF)	0
ADULT TICKET PRICE	RM 5
CHILD TICKET PRICE	RM 5
SEAT No.	1,
AMOUNT	RM 5

Below the table, a message asks: "If the seats you have chosen were sold, Do you agree to the system automatic allocation seats for you ?" with two radio button options:  I agree. and  I do not agree. There are "BACK" and "MEMBER CARD" buttons at the bottom. The footer includes copyright and development information: "Copyright ©, 2001 Super Net Services (D) Sdn. Bhd. All rights reserved" and "Developed By Super Net Services (D) Sdn. Bhd. All rights reserved".

**Figure 2.13**  
**Confirmation Information**

To buy the ticket, the users need to login their member card number and password at member login section. The payment will automatically deduct from the account of Konsortium Bus Express member debit card.

The supercoach.com allows public to search the bus schedule by selecting the destination. Then the bus schedule information will be displayed. This web site also provides the counter locations that exist along the routes plied by Konsortium bus express. The counter location map is shown in Figure 2.14.



**Figure 2.14**  
**Counter Location Map**

### **Advantages of using Supercoach.com**

- a. User friendly because the steps to purchase a ticket are simple and direct.
- b. The users can check the schedule for the specified route.
- c. Seat map and seat preference are available.
- d. Payment method is reliable.
- e. Konsortium Bus Express Semenanjung card members can enjoy discount benefits on bus ticket.

### **Disadvantages of using Supercoach.com**

- a. Users are unable to check for seat availability for the traveling day.
- b. Inconvenient for first time users because their account needs to have available balance before a ticket can be purchased.
- c. Online reservation and cancellation of bus ticket is not available.
- d. Help and FAQ section is not available in this web site.

#### 2.10.4.1.3 The Ticketing.com

## TheTicketing.com

This website is a centralized bus ticketing reservation system, which included 6 bus companies at PUDURAYA bus station. These bus companies are CEKAP EKSPRESS, CEPAT EKSPRES, UTAMA EKSPRES, RESTU EKSPRES, EKSPRES SUTERA and EDARAN EKSPRES (Supercoach, 2006).

Users must log in and use *Express Bus Trips Search* and select Date, From Place and To Place. Then, click *Search* button. Users can only buy bus tickets minimum 3 working days ahead from current date. The form is shown as Figure 2.15.

The screenshot shows a search form titled "Express Bus Trips" with a "Print Tickets after Payment" link. The form includes fields for Date (set to 13 Apr 2006), From Place (Kuala Lumpur), To Place (Kota Bahru), Time (Any), Bus Company (ALL), and Passengers (1 Adult). There are also links for "Express Bus Info" and "How to buy tickets?"

Figure 2.15

Search form

The schedules or time table will be displayed as in Figure 2.16. Select a Departure Time and click *Buy Now* button to continue.




Date:	13 Apr, 2006	Passengers:	1 Adult	Country:	Malaysia
From Place:	KL (Putra)	To Place:	Kota Bahru		
Departure Time	Bus Company	Bus No.	Normal Price	Special Price	Status
09:00 AM	Ekspres Sutera	1	RM30.00		<a href="#">Buy Now</a>
09:30 PM	Ekspres Sutera	1	RM30.00		<a href="#">Buy Now</a>
09:30 PM	Ekspres Sutera	2	RM30.00		<a href="#">Buy Now</a>
09:30 PM	Ekspres Sutera	3	RM30.00		<a href="#">Buy Now</a>
09:00 PM	UTAMA EKSPRES		RM30.00		<a href="#">Buy Now</a>

No. of Trips: 5

[Go Back](#)

**Note:** Tickets above are specially reserved for all internet users. Our internet tickets are guaranteed by CEPAT EKSPRES, UTAMA EKSPRES and EKSPRES SUTERA.

### Figure 2.16 Bus Schedule

Next the trip's information will appear as displayed in Figure 2.17. Users must record the *Transaction No* for printing the online tickets later. Then, click Pay Now to make the payment through Maybank2u.com.

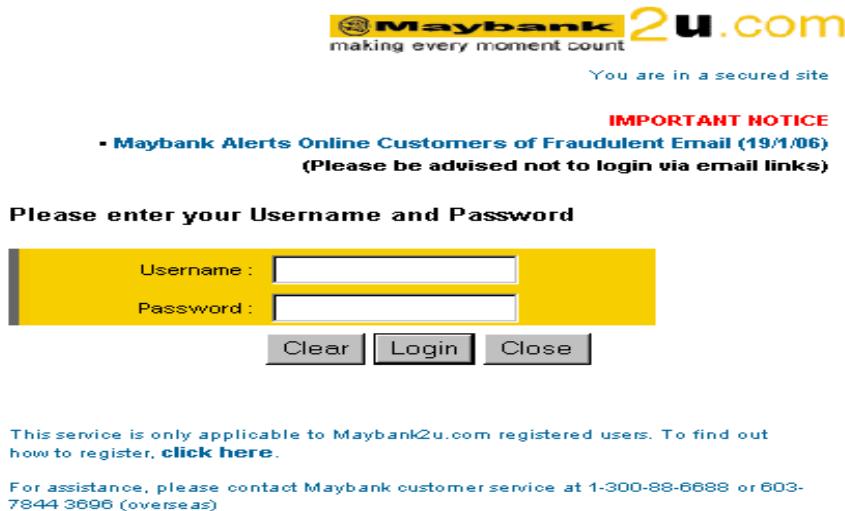



Express Bus Trip Info.	
Please check the below info. and click <b>Pay Now</b> button for payment:	
Transaction No.	10136697
Bus Company	Ekspres Sutera
Departure Date	13 Apr, 2006
Departure Time	09:30 PM
From Place	KL (Putra)
To Place	Kota Bahru
Passengers	1 Adult
Normal Price	RM 30.00
Discount	-RM 0.00
Special Price	RM 30.00
Online Charges	+RM 0.50
Total Price	<b>RM 30.50</b>
Payment Mode	Maybank2u.com
<a href="#">Help</a>	(Write down the <b>Transaction No.</b> for "Print Tickets after Payment" at main page after 2 working days.)
I accept the following conditions: 1. I agree to pay TheTicketing.com RM0.50 per ticket for Online Charges. 2. Make sure the date, time, destination and price are correct before clicking Pay Now button.	
<a href="#">Pay Now</a>   <a href="#">Go Back</a>	

### Figure 2.17 Trips Information

The Maybank2u.com will then be displayed and the users will then login and follow the process of the payment as shown in Figure 2.18.

---



The screenshot shows the Maybank2u.com login page. At the top, there is a logo with the text "Maybank 2u.com" and "making every moment count". Below the logo, a message says "You are in a secured site". A red banner at the top right reads "IMPORTANT NOTICE" and "Maybank Alerts Online Customers of Fraudulent Email (19/1/06) (Please be advised not to login via email links)". Below the banner, a yellow box contains the text "Please enter your Username and Password". Inside this box are two input fields: "Username:" and "Password:", both with black placeholder text. Below the input fields are three buttons: "Clear", "Login", and "Close". At the bottom of the page, there is a note: "This service is only applicable to Maybank2u.com registered users. To find out how to register, [click here](#). For assistance, please contact Maybank customer service at 1-300-88-6688 or 603-7844 3696 (overseas)".

**Figure 2.18**  
The Member Login section of Maybank2u.com.

After submitting the payment details, the users have to wait for 2 working days to obtain the payment confirmation from Maybank.

Once the user obtains the payment confirmation, the users will then click the *Print Tickets after Payment* in the ticketing.com. The Login box as in Figure 2.19 will be displayed and the user is prompted to insert the transaction number and the Identity Card Number if the user had made a payment through their savings account, or the user's company registration number if the user had made a payment through their current account. The user will then be able to print the online tickets.

The screenshot shows a web page from **TheTicketing.com**. At the top, there's a banner for "Buy Express Bus tickets online with Maybank2U.com". Below the banner, the main content area has a blue header bar with the text "Login to Print Tickets after Payment". The form itself has a light blue background. It contains two input fields: "Transaction (Trans.) No." and "I.C. No. or Company No.", each with a corresponding text input box. Below these fields is a red **Important:** note that says "Make sure your printer is ON and with paper!". At the bottom right of the form are three buttons: "Submit", "Clear", and "Close". At the very bottom of the page, there's a link labeled "Help" followed by a note: "Please key-in the Trans. and I.C. Nos. to Print Express Bus Tickets after paying through Maybank2U.com ."

**Figure 2.19**

#### Login form to Print Tickets after Payment

#### Advantages of using TheTicketing.com

- User friendly because the steps involved in purchasing a bus ticket are simple and direct.
- The users can check the schedule for a specified route.
- Reliable and convenient method of payment.
- Trips availability is listed clearly in the table. Users are able to find out their destination just by clicking on the option button.
- Fares, schedule and purchasing ticket online are available.
- Users are able to compare seat availability of different bus company for a particular trip.

#### Disadvantages of using TheTicketing.com

- Seat status information is not available.
- Online cancellation of bus ticket is not available.
- Seat map and seat preference are not available.

- d. Online changes to booking is not available.
- e. Help and FAQ feature is unavailable.

#### 2.10.4.1.4 Aeroline Malaysia



Aeroline is a First Class Shuttle serving the Kuala Lumpur to Singapore Route. It departs and arrives between Kuala Lumpur City Centre to Singapore City Centre. Aeroline operates a spacious, modern and well-equipped, air conditioned coaches. Aeroline's goal is to provide the passengers with exciting, comfortable, affordable vacation packages and sightseeing tours. They are committed to providing customers with the finest service possible (Aeroline, 2006).

The online ticketing procedure provided by Aeroline through **aeroline.com.my** is very simple. First, the user must register as a member to perform the booking. The user then selects the travel dates and clicks the *Search* button to continue as in Figure 2.20 and 2.21.

**Figure 2.20**

### Plan Trip form

Time	Type of Coach	Adult Fare Per Person	Children Fare Per Person	Status
08:00 AM	Double Deck	RM 80.00	RM 50.00	Available
09:00 AM	Double Deck	RM 80.00	RM 50.00	Available
10:00 AM	Double Deck	RM 80.00	RM 50.00	Available
03:30 PM	Double Deck	RM 80.00	RM 50.00	Available
06:45 PM	Double Deck	RM 80.00	RM 50.00	Available

**Figure 2.21**

### Select Form

The user will then select from a list of departing trips and click on the continue button to proceed to the confirmation screen as in Figure 2.22.

On the confirmation screen, the user will be able to view the itinerary of the ticket purchased and is also able to select if the passenger wants a vegetarian meal on-board the bus. The user then clicks on the *Confirm and Proceed Payment* button for the next step.

Confirm your booking Meals served is non-vegetarian by default.				
Departing: KUL - SIN				
Coach Type	Time	Tickets	Fare Per Person	Total Amount
Double Deck	08:00 AM	1 Adult	RM 80.00	RM 80.00

How many meals would you like to change to vegetarian?

Payment Details		Payable in Ringgit Malaysia (RM)
Total Fare For Coach Travel		80.00
Administration Charge ( 3 % )		2.40
<b>Amount Payable</b>		<b>82.40</b>

Click here to review our ticketing policy.  I have reviewed the ticketing policy

Please note that we only accept **VISA** and **MASTER** credit card for payment of your booking. By clicking the button below, you will enter a secured payment gateway directly

**VERIFIED by VISA** **MasterCard. SecureCode.**

\* Please have your credit card ready for payment. After entering your credit card details, please allow up to 45 seconds for processing. Only after the payment process is completed will you be allowed to choose your seat(s).

[Go Back](#) [Confirm And Proceed To Payment](#)

**Figure 2.22**  
**Confirmation form**

After the confirmation from the user, the next step is to give the details of the user's credit card for the payment of the bus ticket as per in Figure 2.23. Users will then need to click on the Pay Online button to confirm the payment and thus the bus ticket is booked.

**AEROLINE**  
The Convenient Way To FLY

Signed in as melisa. [Sign out](#)

Travel Summary [Book Online](#) [Future Trips](#) [Rooms Booked](#) [Waiting List](#) [Contact Us](#)

PLAN TRIP → SELECT → CONFIRM → PURCHASE → BOOKED

Please fill in your credit card details below

Total Bill Amount : RM 82.40

Credit Card Brand :  **VISA**  **MasterCard**

Name On Credit Card :

Credit Card No. :  -  -  -

Expiry Date (MMYY) :  /

The last 3 digits of the code number printed on the signature strip, at the back of your credit card :

**VERIFIED by VISA** **MasterCard. SecureCode.**

Follow this example and key in the last 3 digits

[Go Back](#) [Pay Online](#)

**Figure 2.23**  
**Payment form**

### **Advantages of using aeroline.com.my**

- a. The users can check the schedule for the specified route.
- b. Trips availability is listed in the table.
- c. Fares and schedule of bus ticket are available.

### **Disadvantages of using aeroline.com.my**

- a. Seat status information is not available.
- b. Online reservation and cancellation bus ticket is not available in this web site.
- c. Static data.

#### **2.10.4.1.5 Airasia Sdn Bhd**



When AirAsia was launched as Asia's first low fare, no frills carrier in January 2002, they began operations with the mission to make flying affordable so everyone can fly. Air Asia flies to major cities in West Malaysia, East Malaysia, Asian countries and is spreading its wings to UK and China. Air Asia not only provides air tickets, but also arrangements for packages and hotels as well (Kiat.net, 2006b).

In order for a user to make an online reservation via **airasia.com**, the user must first do a search for flight availability from the *Buy Now* search page as in Figure 2.24. To begin the search, users must select their Departing and Arriving destinations. The users will then

select their Departure date, and if this is a return trip, they must select their Return date. A calendar is available to help the users select their travel dates. Finally, users will select the number of passengers for the booking. In order to book seats for 10 passengers and above, the user must complete the online form available by clicking on the *Group Booking* button at the bottom. Once the selections have been made, click on the *Search* button.

The screenshot shows a flight search interface with the following details:

- Flight Tab:** Selected.
- Return:** Radio button selected.
- Origin:** Field (dropdown).
- Destination:** Field (dropdown).
- Departure date:** Field (dropdown set to 31 Mar 2006).
- Return date:** Field (dropdown set to 31 Mar 2006).
- Guests:** Field (dropdown set to 1 Guest).
- Infants:** Field (dropdown set to 0 Infants (9 days-23 mths)).
- Search:** Large red button with a magnifying glass icon.

**Figure 2.24**  
Air Asia Flight Search form

The system will perform a search based on the users criteria and will return all matching flights as shown in Figure 2.25. Departing flights are listed first, and if users have selected a return trip, the Returning flights are listed after the Departing flights. The system will display the available fares for the each of the departure and return flights on the selected dates. User will then select the departing and returning flight by clicking on the radio button on the left of each fare listing. Once selected, the user clicks on the *Continue* button.

<b>DEPART</b>						
	<input type="radio"/> <a href="#">T.FARE</a>	Guest	279.99 MYR	Sun, 30/Apr/2006 Flight AK 900	10:55 13:55	Depart Arrive
	<input type="radio"/> <a href="#">P.FARE</a>	Guest	179.99 MYR	Sun, 30/Apr/2006 Flight AK 904	16:40 19:40	Depart Arrive
	<input type="radio"/> <a href="#">U.FARE</a>	Guest	239.99 MYR	Mon, 01/May/2006 Flight AK 900	10:55 13:55	Depart Arrive
	<input type="radio"/> <a href="#">L.FARE</a>	Guest	219.99 MYR	Mon, 01/May/2006 Flight AK 904	16:40 19:40	Depart Arrive
	<input type="radio"/> <a href="#">V.FARE</a>	Guest	139.99 MYR	Tue, 02/May/2006 Flight AK 900	10:55 13:55	Depart Arrive
	<input type="radio"/> <a href="#">A.FARE</a>	Guest	119.99 MYR	Tue, 02/May/2006 Flight AK 904	16:40 19:40	Depart Arrive

<b>RETURN</b>						
	<input type="radio"/> <a href="#">L.FARE</a>	Guest	219.99 MYR	Fri, 05/May/2006 Flight AK 901	14:25 17:25	Depart Arrive
	<input type="radio"/> <a href="#">L.FARE</a>	Guest	219.99 MYR	Fri, 05/May/2006 Flight AK 905	20:10 23:10	Depart Arrive
	<input type="radio"/> <a href="#">U.FARE</a>	Guest	239.99 MYR	Sat, 06/May/2006 Flight AK 901	14:25 17:25	Depart Arrive
	<input type="radio"/> <a href="#">L.FARE</a>	Guest	219.99 MYR	Sat, 06/May/2006 Flight AK 905	20:10 23:10	Depart Arrive
	<input type="radio"/> <a href="#">T.FARE</a>	Guest	279.99 MYR	Sun, 07/May/2006 Flight AK 901	14:25 17:25	Depart Arrive
	<input type="radio"/> <a href="#">A.FARE</a>	Guest	119.99 MYR	Sun, 07/May/2006 Flight AK 905	20:10 23:10	Depart Arrive

**Figure 2.25**

#### Flight information using the search function

The Confirmation screen will display the summarized information of the flights and fares the user has selected, as in Figure 2.26. After reviewing all the information, the user will click on the *Continue* button to proceed to the purchase form.

Membership is required in order to purchase a flight ticket. If a user logged in as a member at the beginning of their reservation, the Purchase form will be pre-filled with their contact information, including name, address, state/province and zip/post code, country, phone number, hand phone number, fax number and email address. Otherwise, the user fills in their contact information on the next page and the pre-filled contact information will be displayed.

**BUY NOW! CONFIRM**

Search Select **Confirm** Contact Payment Itinerary

Here is a summary of your flights and fares information you have selected, along with the fare rules and the total cost of flights including taxes for all guests. Kindly review all the information and then click on the CONTINUE button to proceed to the payment screen.

<b>DEPART</b>						
	P FARE	Guest Web	179.99 MYR	Sun, 30/Apr/2006 Flight AK 904	16:40 Depart 19:40 Arrive	Kuala Lumpur (KUL) Bali (DPS)
<hr/>						
<b>RETURN</b>						
	L FARE	Guest Web	219.99 MYR	Fri, 05/May/2006 Flight AK 905	20:10 Depart 23:10 Arrive	Bali (DPS) Kuala Lumpur (KUL)
<hr/>						
<b>PRICING</b>		<b>FARE RULES</b>				
<b>Going Out (P FARE)</b> 1 Guest at 179.99 MYR Taxes and Fees ( <a href="#">details</a> )		179.99 MYR	94.00 MYR	<b>Going Out (P FARE)</b> -Bookings made with this fare only permit flight changes more than 48 hours prior to scheduled departure for a specified fee per guest per sector, plus any applicable difference in airfare.  -For full set of taxes, fees, charges and accompanying terms & conditions please read our Travel Requirements and our Terms & Conditions.  -This fare is capacity controlled. Seats offered at this fare are limited and may not be available on all flights.  -All fares are subject to change until purchased.		
<b>Coming Back (L FARE)</b> 1 Guest at 219.99 MYR		219.99 MYR	<b>Coming Back (L FARE)</b> -Bookings made with this fare only permit flight changes more than 48 hours prior to scheduled departure for a			

**Figure 2.26**

The confirmation screen provided by airasia.com

Once the user is satisfied with the itinerary, the contact information is needed and this will be requested to be filled in the Contact form as in Figure 2.27. The user will provide the names of the passengers and their contact information. If the user is not registered as an online member during the contact process, the user is required to fill in their contact information, including name, address, state/province and zip/post code, country, phone number, hand phone number, fax number and email address, and finally click the *Continue* button to proceed to Purchase screen.



**Figure 2.27**  
**The contact screen**

Once the user has filled in the contact information, the next step is to purchase the ticket. The Purchase screen as in Figure 2.28 will be displayed, where the user will provide the cardholder and credit card information for their purchase. The payment can be made using MasterCard or Visa credit cards and using direct debit from Maybank, RHB Bank and Public bank. Once the user has completed the payment details, click on the *Purchase Now* button to complete their booking. The system takes up to 45 seconds to authorize their card payment in real time. The system will then display the Itinerary screen with the Booking Number and details of the itinerary. Users are required to print out this page as the ticket.

03 Apr 2008 11:39 AM

**BUY NOW: PURCHASE**

Search | Select | Confirm | Contact | Payment | History

You are almost finished. Please enter your creditcard information on this page. When you have completed the payment details, click the PURCHASE NOW button.

As a security measure, the word "PURCHASING" indicated on this page means booking is confirmed and your credit card charge is in queue. Please do not attempt to book again. If for any reason, your credit card charge is declined, our Call Centre staff will get in touch with you.

TOTAL PRICE	
Total Price (details)	RM2.00 MYR
Total Paid	0.00 MYR
Total Amount Due	552.98 MYR

**Direct Debit Payment**

Please select the bank for your direct debit payment..

Maybank2u  
 RHB BANK  
 Public Bank

**PURCHASE NOW**

**Figure 2.28**  
**The Purchase screen**

### Advantages of using Airasia.com

- User friendly because the steps for purchasing a ticket are simple and direct.
- Users are able to check the schedule and fares for the specified route.
- Reliable and convenient method of payment.
- Trip availability is listed clearly in the table. Users are able to find out their destination just by clicking on the option button.

### Disadvantages of using Airasia.com

- Online cancellation of ticket is not available in this web site.
- Online booking changes are unavailable.

## **2.10.4.2 North America**

### **2.10.4.2.1 Greyhound Lines, Inc**



Greyhound Lines, Inc. is the largest provider of intercity bus transportation, serving more than 3,100 destinations with 16,000 daily departures across North America. The company serves a diverse customer base.

**Greyhound.com** (Greyhound, 2006) is the web site for the Greyhound Lines, Inc. This web site allows the user purchase the bus ticket, and check the schedule and bus fare through Internet. Greyhound.com does not have a reservation system. The user has an option of purchasing tickets online and picks them up at the station before boarding. This process, called "Will Call" ticketing, requires the users order tickets at least two hours in advance of departure. In addition, the user also can purchase tickets online and have them delivered by mail. This process, called "Tickets by Mail", requires a valid U.S. address and a valid credit card issued by a U.S. bank for purchases at least ten days in advance.

In order for a user to purchase a ticket, a selection on the departing and arriving destination, type of ticket (one-way or round trip), date of departure and type of passenger is required as Figure 2.29.

The screenshot shows a 'BUY TICKETS' form. At the top, there are radio buttons for 'One-Way' (selected) and 'Round Trip'. Below that are fields for 'From' and 'To' with dropdown menus. Under 'Departing', the date is set to April 3, with a 'Show All' button. Under 'Returning', the date is also set to April 3, with a 'Show All' button. There are dropdowns for 'Adults' (1), 'Children (2-4)' (0), 'Children (5-11)' (0), and 'Seniors (62+)' (0). A red 'CONTINUE ▶' button is at the bottom right.

**Figure 2.29**  
**Buy Tickets form**

Once all the information is filled in, Figure 2.30 shows the discount the user need to select. There are a few types of discounts available, namely, U.S. Military discount, Veterans Advantage discount, Companion Fare discount and Student Advantage discount. Once selected, the schedule screen will be displayed.

The screenshot shows a 'TICKET CENTER' page. On the left, a sidebar has links for Home, Tickets, Locations, Travel Deals, Travel Information, and Products & Services. It also includes 'Travel Tips' about calling for assistance. The main area has tabs for Locations (selected), Discounts (highlighted in blue), Schedules, Fares, and Purchase. Under 'Confirm Locations', it shows 'From: Athens, GA' and 'More than one match for "ATHENS."'. Under 'Discounts And Fare Specials', it lists options like 'No discount', 'U.S. Military, 10% Off', and 'Veterans Advantage Discount Card' with an input field for 'Expiration' (set to 4/2006). A 'Coupon code' input field is also present. A note below says 'Travel Information for customers with disabilities.' At the bottom, there are buttons for 'SCHEDULES ▶' and 'LOCATIONS'.

**Figure 2.30**  
**The Discount form**

Then the user selects the preferable schedule, as displayed in Figure 2.31. Then the user clicks on the *Fares* button to proceed to the fares screen.

<b>GREYHOUND</b> :: Home :: <b>Tickets</b> :: Locations :: Travel Deals :: Travel Information :: Products & Services	<b>TICKET CENTER</b>	① Locations ② Discounts ③ Schedules ④ Fares ⑤ Purchase <b>Do you want a round trip? If you do, please return to Step 1 and select "Round Trip."</b>	<b>YOUR ITINERARY</b>
		Select Departure Schedule for Wednesday, May 3, 2006 <a href="#">?</a> Select Departs Arrives Duration Transfers Carrier Schedule <input checked="" type="radio"/> 04:50pm 03:25pm 1d, 23h, 35m 3 SES <b>0203</b> <small>d=day h=hour m=minute</small>	+ One-Way + Departing: May 3, 2006 + 1 Adult + Miles: 1545 + From: <a href="#">Athens, GA</a> + To: <a href="#">Bagley, MN</a>
<b>Travel Tips</b> Call ahead for scheduling and price information or visit the Web site to find out travel options. 		<b>FARES ▶</b>  <a href="#">Printer Friendly Version</a>	
		<a href="#">◀ LOCATIONS</a> <a href="#">◀ DISCOUNTS</a>	
 <small>© Greyhound Lines, Inc. All rights reserved. <a href="#">Family of Companies</a> · <a href="#">Privacy Policy</a> · <a href="#">Company</a> · <a href="#">Contact Us</a> · <a href="#">Sitemap</a></small>			

**Figure 2.31**

### The Schedule form

The fares screen displays the fare types which the user selects as in Figure 2.32. The user must also select whether the credit card holder is traveling or otherwise. Once that is done, the user is required to click on the purchase button.

<b>GREYHOUND</b> :: Home :: <b>Tickets</b> :: Locations :: Travel Deals :: Travel Information :: Products & Services	<b>TICKET CENTER</b>	① Locations ② Discounts ③ Schedules ④ <b>Fares</b> ⑤ Purchase <b>Select Fare Type</b> <a href="#">?</a> Purchase Fare Type <a href="#">?</a> Qty Passenger <a href="#">?</a> Each Total <a href="#">?</a> <input checked="" type="radio"/> Standard 1 Adult \$155.50 \$155.50 <input type="radio"/> 7-Day Advance Purchase 1 Adult \$79.00 \$79.00	<b>YOUR ITINERARY</b>
		+ One-Way + Departing: May 3, 2006, 04:50pm on schedule 0203 + 1 Adult + Miles: 1545 + From: <a href="#">Athens, GA</a> + To: <a href="#">Bagley, MN</a>	
<b>Travel Tips</b> Greyhound does not limit the number of seats available on a schedule. 		<a href="#">Can I get a lower fare?</a>	
		<b>PURCHASE ▶</b>  <a href="#">Printer Friendly Version</a>	
		<a href="#">◀ LOCATIONS</a> <a href="#">◀ DISCOUNTS</a> <a href="#">◀ SCHEDULES</a>	
 <small>© Greyhound Lines, Inc. All rights reserved. <a href="#">Family of Companies</a> · <a href="#">Privacy Policy</a> · <a href="#">Company</a> · <a href="#">Contact Us</a> · <a href="#">Sitemap</a></small>			

**Figure 2.32**

### The Fares form

The user must fill the required information when purchasing a ticket by giving the passengers information, billing information and mailing address if the user wants the ticket to be mailed to them, as shown in Figure 2.33. User will then click on the *Buy Now* button to confirm the purchase.

**TICKET CENTER**

**Passenger Information**

Cardholder: First Name: Last Name: Fare Quote: \$155.50 Fare Class: ADULT

**Billing Information**

Address: City: State: ---Select State--- Postal Code: Phone: Email:

Required for email confirmation  Put me on your mailing list. ([Privacy Policy](#))

Credit Card: Select Card: Card No.: CVV2/CID: Expires: 4 [2006]

**Ticket By Mail Service**

Mailing Tickets To Another Address? (Enter only if different from credit card billing address) U.S. addresses only, please.

Name: Address: City: State: ---Select State--- Postal Code:

**Purchase Price**

Subtotal:	\$155.50
Standard Mail Fee:	\$4.00
Total:	<b>\$159.50</b>

Cancellation/Exchange penalties apply. [More details](#).

**YOUR ITINERARY**

- + One-Way
- + Departing: 5/3/2006 at 04:50p on schedule 0203
- + Miles: 1545
- + From: [Athens, GA](#)
- + To: [Bagley, MN](#)

**Questions?**  
Call us at 1-800-846-0754

Greyhound Lines, Inc.  
350 N. St. Paul Street  
Dallas, Texas, 75201  
USA

**BUY NOW ▶**

[LOCATIONS](#) [DISCOUNTS](#) [SCHEDULES](#) [FARES](#)

**Figure 2.33**  
**The Purchase form**

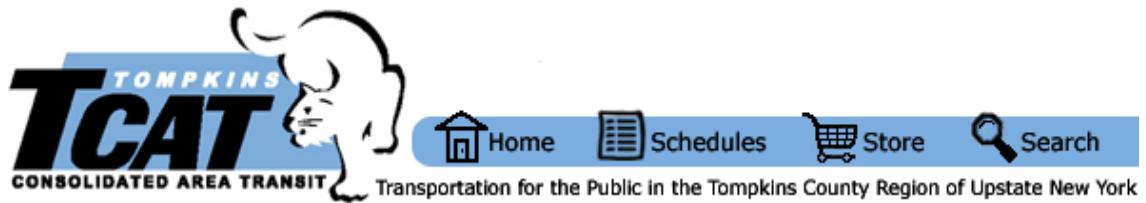
### Advantages of using Greyhound.com

- Greyhound.com has a flexible system, it has the ability to add extra sections depending on the availability of buses, drivers and the number of passengers.
- Fares, schedule and purchasing ticket online are available.
- Online Greyhound station and location information are available.

### Disadvantages of using Greyhound.com

- There are no seat reservations. Boarding and seating occurs on a first-come, first-served basis.
- No reservation and cancellation facilities are available.

#### **2.10.4.2.2 Tompkins Consolidated Area Transit**



Tompkins Consolidated Area Transit (TCAT) consists of two Para transit services which are ADA Paratransit service and Gadabout. TCAT ADA (Americans with Disabilities Act) Para Transit Services provides door-to-door, demand-responsive transportation for people with disabilities. Service runs the same hours and in the same areas as the TCAT bus system. Gadabout is a nonprofit, door-to-door, demand-responsive service for people aged sixty or older and for disabled residents of Tompkins County (Tcatbus, 2006).

TCAT does not offer online ticket reservation or cancellation in this website via **tcatbus.com**. The most attractive feature in this website is trip planning. This feature is used to help the users to plan their trip. The users need to enter their requirements like when, where and which transportation mode they want to travel into the “Plan A Trip” form. After filling in the form, the users need to submit it and get the trip result. The “Plan A Trip” form is shown as Figure 2.34.

The screenshot shows the tcatbus.com website with the following details:

- Header:** TCAT logo, "TOMPKINS CONSOLIDATED AREA TRANSIT", "Transportation for the Public in the Tompkins County Region of Upstate New York".
- Search Bar:** "Stops: A Lot #1" with a "Go" button, "Schedules: Route 10" with a "Go" button.
- Navigation:** Home, Schedules, Store, Search.
- Left Sidebar (Commuter Login):**
  - Tuesday May 30, 2006  
737 Willow Ave.  
Ithaca, NY 14850  
607.277.RIDE
  - E-Mail Address: \_\_\_\_\_
  - Password: \_\_\_\_\_
  - Want to create a profile?  
[Forgot Password?](#)
  - [Login](#)
  - Business Login**
  - [Plan A Trip](#)
  - [News](#)
  - [Stops](#)
  - [Routes](#)
  - [My Commute](#)
  - [Community](#)
  - [Survey](#)
  - [Links](#)
  - [Fares](#)
  - [Help](#)
- Plan A Trip Form:**

**Where do you want to go?**

Origin:

Destination:

**When do you want to travel?**

Day:

Time:  3  AM

Fare type:

Sort results by:

Maximum transfers:

I need a bike rack  
 I will be using a wheelchair on the bus

[Search](#)
- Select Origin and Destination:**

Search:  [Show Me](#)

OR

Show Popular Stops

Select as origin  
 Select as destination

<input type="checkbox"/> <input checked="" type="checkbox"/> Collegetown (City of Ithaca)
<input type="checkbox"/> <input checked="" type="checkbox"/> Collegetown / Dryden Rd.
<input type="checkbox"/> <input checked="" type="checkbox"/> Schwartz Performing Arts
<input type="checkbox"/> <input checked="" type="checkbox"/> Cornell Campus
<input type="checkbox"/> <input checked="" type="checkbox"/> B-Lot #1
<input type="checkbox"/> <input checked="" type="checkbox"/> Dairy Bar
<input type="checkbox"/> <input checked="" type="checkbox"/> Statler Hall
<input type="checkbox"/> <input checked="" type="checkbox"/> Uris Hall
<input type="checkbox"/> <input checked="" type="checkbox"/> Uris Hall Across Street
<input type="checkbox"/> <input checked="" type="checkbox"/> Vet School
<input type="checkbox"/> <input checked="" type="checkbox"/> Ithaca City Downtown
<input type="checkbox"/> <input checked="" type="checkbox"/> Aurora St. - Commons
<input type="checkbox"/> <input checked="" type="checkbox"/> Cayuga & State St.s - Commons
<input type="checkbox"/> <input checked="" type="checkbox"/> Green St. - Commons
<input type="checkbox"/> <input checked="" type="checkbox"/> Seneca & Tioga Sts - Commons

**Figure 2.34**

The “Plan A Trip” form

### Advantages of using tcatbus.com

- The users can check the schedule for the specified route.
- Trip availability is listed clearly in the table. Users can find out their destination just by clicking on the option button.
- Fares and schedule of bus ticket are available.
- Users can use the trip planning feature in this website to plan their trip.

### Disadvantages of using tcatbus.com

- Seat status information is unavailable.
- Online reservation and cancellation bus ticket is not available in this web site.
- Static data.

## **2.10.4.3      Hungary**

### **2.10.4.3.1    The Volánbusz Transport Company Ltd.**



The Volánbusz Transport Company Ltd. is a Budapest based, 100% state owned public transport provider and operator. It is the biggest of the Hungarian coach companies.

The main activity of Volánbusz is scheduled public transport. As the location of the headquarters is in the capital, Volánbusz operates most of the international and domestic coaches from Budapest (Volanbusz, 2006).

In the domestic and international distance coaches a digital pre-purchase and seat-reservation system operates, and advances are made for the lines in the area.

Online Bus Ticket via **volanbusz.hu** bookings form is shown as Figure 2.35. User is asked to select a start location of their journey and the desired travel dates for their journey. Once the destination and travel dates have been selected, the users must indicate the numbers of passengers intend to book the tickets and each of the passenger's date of birth has to be filled in the form.

International timetables >> Online booking

Search Services and fares Data of passengers Confirmation Payment

! Before purchasing the ticket please read our [online booking guide](#).

**1 Select destination and travel dates**

Start location: Budapest [select location](#)

Destination location: Sofia [select location](#)

Journey type:

return  open dated return  one way

Date of the outward journey: 2006-05-08 [calendar](#)

**2 Select passengers:**

Number of passengers: 1

Passenger's date of birth:

1. passenger: 1977 October 10  having student card

**Search**

Figure 2.35

The online ticket booking form

The system will do a search according to the user specification and it will list all the possible dates as per the user specifications. Figure 2.36 shows all possible dates as per selected. User will then click on the desired date and click on the continue button.

Search Services and fares Data of passengers Confirmation Payment



**Specify your search**

Please select the most suitable service from the calendar by **clicking on the journey date**.

**Selected service:**  
Outward journey: [591] Budapest » Sofia 2006-05-17, Wednesday

**Back** **Continue**

**Outward journey:** [591] Budapest » Sofia

Operate	Mon 05.15.	Tue 05.16.	Wed 05.17.	Thu 05.18.	Fri 05.19.	Sat 05.20.	Sun 05.21.
Depart			17:00			17:00	
Arrival			10:00			10:00	

**Previous week** **Next week**

Figure 2.36

Available dates traveling form

A confirmation form will then be displayed, stating the selected journey, and the passengers details will then be asked to be filled as shown in Figure 2.37.

**1 Selected journey:**

Route: [591] Budapest ➞ Sofia  
Date of the outward journey: 2006.05.17. Wednesday 17:00  
Total: 22 500,- Ft  
Number of tickets: 1 db

**2 Passenger details:**

1. passanger: \* (name) Melisa Kaur 1977. October 10. 29 years old

**3 Buyer details:**

Name: \* Melisa Kaur  
E-mail: \* mel7077@yahoo.com  
Address: Malaysia  
Telephone: 013-3138560

**Back** **Check the booking**

\* The fields marked with asterisks are required to complete.

**Figure 2.37**  
**Confirmation form**

Finally, the confirmed ticket is displayed, stating the selected journey, passengers and details fares, buyer's details and the terms and conditions, displayed in Figure 2.38. User will then click on the payment button to proceed with the payment by credit card.

**1 Selected journey:**

Route: [591] Budapest ➞ Sofia  
Date of the outward journey: 2006.05.17. Wednesday 17:00  
Total: 22 500,- Ft  
Number of tickets: 1 db

**2 Passenger details and fares:**

Melisa Kaur	1977. October 10	29 years old	22 500,- Ft	Full price
<b>Total:</b>			<b>22 500,- Ft</b>	

**3 Buyer details:**

Name: Melisa Kaur  
E-mail: mel7077@yahoo.com  
Address: Malaysia  
Telephone: 013-3138560

**4 Conditions:**

I have read, understood and accepted the **travel conditions** Volánbusz Rt.

**Back** **Payment**

**!** On the next page you can pay with credit card. The tickets can be collected at the cashdesk of the Népliget coach station in Budapest.

**Figure 2.38**  
**Confirmation Ticket**

### **Advantages of using Volánbusz.hu**

1. Users are able to check route timing for a few weeks
2. The users can check the prices of bus tickets for certain destination.
3. A demo section is provided.

### **Disadvantages of using Volánbusz.hu**

1. No seat status information available.
2. Online cancellation is not available in this web site.
3. Seat selection is unavailable.
4. Printing out of ticket is unavailable.

#### **2.10.4.4 India**

##### **2.10.4.4.1 SPAN Group Company**



The SPAN Group Company has developed the Online Bus Ticket Reservation System via [theluxurybuses.com](http://theluxurybuses.com) that allows users to access the bus ticket bookings anyplace, anytime. Users are able to reserve seats to any destination provided and the tickets will be sent to the users through courier or e-mail (The luxury buses, 2006).

Firstly, the user has to select the pre-defined journey and the desired date of departure as in Figure 2.39.

**Welcome To Online Bus Reservation**  
**Please Select your date of departure and destination to proceed ahead with the booking.**

Journey :

Journey Date :

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

[Check Status](#)

**Figure 2.39**

**Journey and date departure screen**

Once the date has been selected, user will be given the status of the bus reservation as in Figure 2.40. Once satisfied, user will then proceed to the seat reservation screen, Figure 2.41. Users are able to select their desired seat for the journey.

**CURRENT STATUS**

From	To	Coach	Departure	Arrival	Fare	
Delhi	Jammu VOLVO	AC	30/05/2006 1830	31/5/2006 0700	Rs. 850	

[Click here to continue...](#)  **Online Booking**

**Figure 2.40**

**The current status screen**

Booking Detail						
From	To	Coach	Departure Time	Arrival Time	Distance	Fare
Delhi	Jammu VOLVO	AC	30/05/2006 1830	31/5/2006 0700	575	Rs. 850
Capacity		VOLVO - 41 seats, Sleeper - 27 seats				
Select preferred Seats to Book...						
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5		
<input type="checkbox"/> 6	<input type="checkbox"/> 7	<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input type="checkbox"/> 10		
<input type="checkbox"/> 11	<input type="checkbox"/> 12	<input type="checkbox"/> 13	<input type="checkbox"/> 14	<input type="checkbox"/> 15		
<input type="checkbox"/> 16	<input type="checkbox"/> 17	<input type="checkbox"/> 18	<input type="checkbox"/> 19	<input type="checkbox"/> 20		
<input type="checkbox"/> 21	<input type="checkbox"/> 22	<input type="checkbox"/> 23	<input type="checkbox"/> 24	<input type="checkbox"/> 25		
<input type="checkbox"/> 26	<input type="checkbox"/> 27	<input type="checkbox"/> 28	<input type="checkbox"/> 29	<input type="checkbox"/> 30		
<input type="checkbox"/> 31	<input type="checkbox"/> 32	<input type="checkbox"/> 33	<input type="checkbox"/> 34	<input type="checkbox"/> 35		
<input type="checkbox"/> 36	<input type="checkbox"/> 37	<input type="checkbox"/> 38	<input type="checkbox"/> 39	<input type="checkbox"/> 40		
<input type="checkbox"/> 41						

**Figure 2.41**

### **The booking details and seat selection screen**

Once the users have selected the desired seat, a confirmation form will appear. User is requested to fill in their personal information to process the payment, Figure 2.42. After filling in the personal information, the user will click on the submit button, to proceed to the payment form.

<b>From</b>	:	Delhi	<b>To</b>	:	Jammu VOLVO
<b>Coach Type</b>	:	AC	<b>Journey Date</b>	:	30/05/2006
<b>Preferred Seats</b>	:	19,	<b>Total Seats</b>	:	1
<b>Fare</b>	:	Rs. 850/-	<b>Total Amount</b>	:	Rs. 850/-

---

**Please Fill your Personal Information below and submit (All \* marked fields are mandatory)**

* First Name	<input type="text" value="Melisa"/>
* Last Name	<input type="text" value="Kaur"/>
* E-Mail	<input type="text" value="mel@yahoo.com"/>
* Address	<input type="text" value="abc"/>
* City	<input type="text" value="abc"/>
* State	<input type="text" value="abc"/>
* Country	<input type="text" value="malaysia"/>
* Contact No.	<input type="text" value="123123"/>
* Fax No.	<input type="text" value="123123"/>

**Figure 2.42**

## **Personal Information form**

A confirmation form will then appear, Figure 2.43. User will be asked to check the form, and once satisfied, the user will be asked to proceed.

**Please Check the information provided by you before confirming ticket.**

The Luxurybuses.com			
<b>Reserved</b>	<b>:</b>	<b>1 Seats</b>	<b>Seat(s) No.</b>
<b>Name Mr./Ms.</b>	<b>:</b>	<b>Melisa Kaur</b>	<b>Phone</b>
<b>Date Of Journey</b>	<b>:</b>	<b>30/05/2006</b>	<b>Fax</b>
<b>Journey</b>	<b>:</b>	<b>Delhi to Jammu VOLVO</b>	<b>Coach Type</b>
<b>Rate Per Pax</b>	<b>:</b>	<b>Rs. 850</b>	<b>Total Amount To Be Paid **</b>
<b>Address</b>	<b>:</b>	<b>abc-abc[abc,malaysia</b>	<b>Email-ID</b>

**Mode Of Payment : Credit Card**

**\*\* Only Basic Fare is Indicated. The Fares are subject to Service Charges as mentioned in the Fare List (Do check the Home Page for Fare List)**

**Note :** Only Master/Visa Credit card accepted.

**Confirm Ticket**
 **Cancel Ticket**
 **Edit Ticket**

**Figure 2.43**  
**Final Confirmation form**

User will then be prompted for their credit card details for the payment process, as shown in Figure 2.44.

User Detail			
<b>Booking ID</b>	<b>:</b>	<b>1478</b>	
<b>Reserved</b>	<b>:</b>	<b>1 Seat(s)</b>	<b>Seat No(s)</b>
<b>Name Mr./Ms.</b>	<b>:</b>	<b>Melisa Kaur</b>	<b>Phone</b>
<b>Date Of Journey</b>	<b>:</b>	<b>30/05/2006</b>	<b>Email-ID</b>
<b>Tour Details</b>	<b>:</b>	<b>Delhi to Jammu VOLVO by AC coach</b>	<b>Address</b>
<b>City,State</b>	<b>:</b>	<b>abc,abc</b>	<b>Country</b>
<b>Rate Per Pax</b>	<b>:</b>	<b>850 Rs.</b>	<b>Total Amount To Be Paid</b>

**Card Detail**

Card Type :	<input style="border: 1px solid #ccc; padding: 2px; width: 100%; height: 20px;" type="button" value="Master Card"/>
Card Holder's Name:	<input style="width: 100%; height: 20px;" type="text" value="Melisa Kaur"/>
Card Number:	<input style="width: 25px; height: 20px;" type="text"/>
Card Expiry Date:	<input style="width: 25px; height: 20px;" type="text"/> / <input style="width: 25px; height: 20px;" type="text"/>

**Figure 2.44**  
**Payment details form**

### **Advantages of using theluxurybuses.com**

- a. The users can check the schedule for the specified route.
- b. Trips availability is listed in the table.
- c. Fares, schedule and purchasing ticket online are available.
- d. Seat status information is available.

### **Disadvantages of using theluxurybuses.com**

- a. Online reservation and cancellation bus ticket is not available in this web site.

## **2.11 Comparison between Existing Bus e-ticketing Systems**

Five online ticketing systems in Malaysia, namely Plusliner.com, Supercoach.com, Theticketing.com, Airasia.com and Aeroline.com had been analyzed. Among these five systems, the ticketing system of Plusliner.com is the best one because it includes most of the features as a user-friendly and informative ticketing system. It also provides a demo section to assist the consumers who is first time using this web site to make a reservation or purchasing bus ticket whereas the ticketing system of the Aeroline.com provides the least functionality, which only allows users to check the schedule and fare for the specific route.

Besides the online ticketing in Malaysia, three online ticketing systems from other countries had been analyzed. The ticketing system of Greyhound.com is the best one among these three overseas ticketing systems. The ticketing system of the Vista.com and Tcatbus.com only provide the function that checks on the schedule and fare rate of the specific route.

As one of the research objectives is to have a ranking system for the bus operators, there is none was found on this element in any of the existing e-ticketing system. With this, an introduction of a star ranking system for bus operators through monthly sales performance, bus operator's popularity and track record of traffic law offences will be in the Online Bus Ticketing System web portal.

The summary of all the general features of each online ticketing system has shown at Table 2.2. To summarize, all of these individual online ticketing systems provides facilities to check schedule, fare rate, company background and objectives, online reservation/purchasing tickets/ payment and printing out of reservation or ticket.

**Table 2.2: Summary of the features available between the existing online ticketing systems**

Characteristics of the existing online ticketing systems	Plusliner.com	Supcoach.com	Theticketing.com	Aeroline.com	Airasia.com	Greyhound.com	Tcatbus.com	Voloanbusz.hu	theluxurybuses.com
Web Page Design	Attractive	Attractive	Moderate Attractive	Moderate Attractive	Attractive	Attractive	Moderate Attractive	Moderate Attractive	Moderate Attractive
Loading And Response Time	Medium	Quick	Quick	Medium	Quick	Quick	Medium	Medium	Medium
User Interactivity	High	Moderate	Moderate	Moderate	High	High	Moderate	Moderate	Moderate
Online Registration	✓	✓	✓	X	✓	X	X	X	X
Online Payment	✓	✓	✓	X	✓	✓	X	X	X
Online Reservation/ Purchasing	✓	✓	✓	X	✓	✓	X	X	X
Online Cancellation	X	X	X	X	X	X	X	X	X

**Table 2.2, Continued**

Print Out Reservation	√	X	√	X	√	√	X	X	X
Company Information	√	√	√	√	√	√	√	√	√
User Instruction	√	X	√	X	√	√	X	X	X
FAQ/ Help section	√	√	X	√	√	X	√	X	√
Schedule	√	√	√	√	√	√	√	√	√
Fare Rate	√	√	√	√	√	√	√	√	√
Terminal Location Map	√	√	X	√	X	X	√	X	√
Seat Map	√	√	X	X	X	X	X	X	X
Seat Status	√	X	X	X	X	X	X	X	X
Other Web Site Linkage	X	X	X	X	X	√	√	X	√
Ranking	X	X	X	X	X	X	X	X	X

Note: √ = Yes

X = No

## **2.12 Conclusion**

The chapter concludes with an overview of literature review on Online Bus Ticketing System, identification of element needed in developing an Online Bus Ticketing System web portal.

In this chapter the electronic commerce and the security issues and payment methods for the online system have been discussed. Overview on Puduraya Bus Terminal and the problem that occurs at this terminal were also discussed.

The public transportation in Malaysia, which includes bus, train, taxi and airplane were also explained in this chapter. In addition, this chapter also included the definition of ticketing system and the activities involved in a ticketing system. Furthermore, analysis on existing manual, computerized and online ticketing system were also discussed.

The conclusion is that there is not any web portal that has e-ticketing for combined all bus operators in Malaysia and possibly in overseas. Therefore, a suggestion is made for a web portal combining all bus operators in Malaysia into a single portal. This system must allow the booking and purchase of bus tickets by customers and bus operator's administrators alike. This system must also give a star rating to each bus operator based on monthly sales, popularity of bus operators and traffic law offences to provide better services to the customer.

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

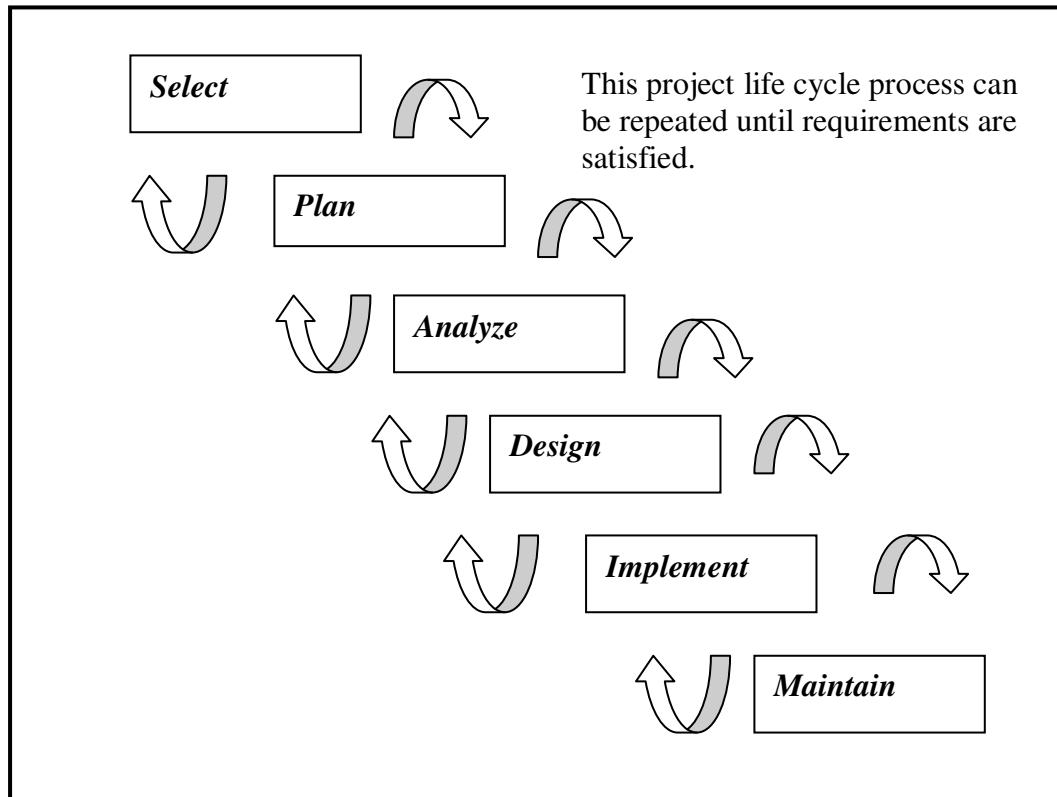
It is important to fulfill the planning for the implementation phase. This can only be done if proper methodology is selected. Methodology is important to make sure all project life cycle activities are being carried out without any shortcuts. Methodology helps the system developers to take one step at a time towards accomplishing the full system.

This chapter focuses on the public awareness and perception of an Online Bus Ticketing System in Malaysia. One fact-finding method that is used to gather information is the questionnaire method. Based on the results obtained from the survey further clarification and conclusion were made.

The following section discusses on the choice of methodology towards the implementation of Online Bus Ticketing System in Malaysia.

#### **3.2 Choice of Methodology**

The methodology that might be useful is the project life cycle and prototype. The project life cycle methodology and prototyping is a methodology that allows users to review all phases until the users are satisfied with the Online Bus Ticketing System web portal.



*Source: (Whitten, 2001)*

**Figure 3.1**  
**Waterfall model**

Waterfall model with Prototyping is used as a model of Online Bus Ticketing System web portal. Waterfall model consists of stages that are cascading from one to another. One development stage should be completed before the next begins. The Waterfall model presents a very high-level view of activities taken place during development, and it suggests to developers the sequence of events they should expect to encounter (Pfleeger S.L., 2001). However, many shortcomings with the Waterfall model have been found. The biggest problem is the Waterfall model does not reflect how the software is really developed. Secondly, the model provides no guidance on how to handle changes that are likely to occur during development. Thirdly, it fails to treat software as problem-solving process. The Waterfall model only presents a manufacturing view of software development (Curtis, B., Krasner *et al.*, 1987).

To control the thrashing, enhancing the understanding of the activities and sub-process should be included in the Waterfall model which is shown in Figure 3.1. Prototyping is such sub-process. A prototype is a partially developed product that enables customers and developers to examine some aspect of the proposed system and decide which is suitable or appropriate for the finished product. Requirements prototyping is to ensure that the requirements are feasible and practical, if not revisions are made at the requirements stage. Design prototyping helps developer access alternative design strategies and decide which is best for a particular project.

Thus major problems in the requirement are addressed and fixed well before the requirements are officially validated during system testing (Pfleeger S.L., 2001). Validation ensures that the system has implemented all of the requirements, so that each system function can be traced back to a particular requirement in the specification. System testing also verifies the requirement. Verification ensures that each function works correctly and as needed. This means, validation makes sure the developer is building the right product according to the specification, and verification checks the quality of the implementation.

The **Selection** phase is where an Online Bus Ticketing System application should be selected based upon passengers and bus operator priorities. After conducting a complete research on the application that is selected, the next is on identifying the problems.

**Planning** is an important phase where an Online Bus Ticketing System plan is drafted out and changes are made so that a plan can be followed without any more changes during the

final phase. The plan is done so that there is progression or action taken on the applications selected. Questionnaires have been conducted to get a whole picture of customers' responses mainly bus ticket buyers toward an emerging Online Bus Ticketing System web portal. The existing ticketing system within Malaysia and other countries also have been analyzed. The plan is then followed strictly so that the system can be put into operation.

The next phase after the planning phase is on **Analyzing** the current and new procedures of the system. Analysis is important to gather information from the existing e-ticketing system. Feasibility study is conducted to find out whether it is beneficial to carry out the new system. Studying the existing e-ticketing system and the procedures involved is what the feasibility study is concerned with.

The requirement is then derived from this phase. After the analysis phase, the next step is to **Design** the system based on the requirements selected in the analysis phase. Design can be constructed easily by having a prototype system. Prototype system is either a workable or non-workable system that has the screen design with the important features included. So the customers and bus operators will test the prototype system to see whether they are satisfied with the requirements.

Based on the feedback obtained from the user the necessary changes are made. The next step is the **Implementation** phase where the process of changeover takes place where the existing e-ticketing system is converted into an Online Bus Ticketing System web portal. Before the changeover takes place, there are few activities that need serious consideration, otherwise the implementation will fail. Activities such as testing, training and evaluation

are looked into before the new system can be replaced. Another activity that is carried out is the post implementation activities as to review the system to see whether the system produces the expected results and meets the required quality. The last phase is the **Maintenance** phase for modification and enhancement purposes. It is important that continuous assessment is carried out for better services in the future.

These are all the phases of project life cycle that can be taken into consideration before a project is successfully implemented.

### **3.3 Research Methodology**

The main purpose of research methodology is to extract the benefits and problems of Online Bus Ticketing Systems in Malaysia. The following will further explore on research methodology that is used to complete the research.

Various methods can be adopted to gather information from a variety of sources such as sampling, research and site visits, observation of the work environment, questionnaires, interviews, prototyping and joint requirements planning (Whitten J.L *et al.*, 2002).

Not all the fact-finding methods are suitable to adopt. The methods are selected based on the research purpose. The procedure that had been followed to accomplish the project's objective by first identifying the purpose of the dissertation and further moving into depth where the purpose, obstacles, benefits, suggestion and recommendation on Online Bus Ticketing System implementation in Malaysia will be discovered.

### **3.3.1 Fact Finding**

The fact-finding methods that have been selected for this research project consists of, observation, interview and questionnaires. Once information is gathered a prototype is developed as to support the findings. Development of the prototype web portal of Online Bus Ticketing System is developed to support the objectives of the research. The following will be the research methodologies discussed in detail.

#### **3.3.1.1 Observation**

Observation is the first method used to gather information regarding the development of an Online Bus Ticketing System web portal. For this project, Hentian Puduraya was visited to observe the buying habits of passengers and also observe the selling of tickets by the bus operators. From the observation, it is found that the human traffic is extremely high and there are too much of chaos.

#### **3.3.1.2 Interview**

Interview is the second method used to gather some information regarding an Online Bus Ticketing System web portal. Interviews were conducted with the bus operator's personnel and with the public to find facts, verify facts, clarify facts, generate enthusiasm, and identify ideas and opinions. A set of interview questions was prepared to ask the interviewee to respond to a series of questions.

The interview is divided into open and closed-ended questions so that sufficient information can be gathered.

### **3.3.1.3 Questionnaire**

The next method is to conduct a survey through questionnaires. The questionnaires were distributed to bus operators that are using the Online Bus Ticketing System applications to perform their daily task and also to the customers who uses these existing online ticketing services to perform a bus ticket purchase.

### **3.3.2 Prototype**

A prototype is a functionally representative rendition of a system that is fabricated late in the development cycle, an original model on which later improved models is based. The development of a prototype web portal of the Online Bus Ticketing System serves as the basis for evaluation, demonstration, and further development for improvement.

In the next chapter, the survey and the development of the prototype web portal of Online Bus Ticketing System is discussed.

## **3.4 Questionnaire Analysis and Result**

Questionnaire (Appendix B) was distributed to the public to gather their feedback. The questionnaire is divided into 3 sections. Section 1 gathers information about the respondent and their background; Section 2 gathers information on the respondent's experience on

internet usage, experience on purchasing on an online bus ticket and lastly Section 3 gathers information about the respondent's suggestions on the development of an Online Bus Ticketing System web portal.

A total of 50 copies were distributed. The target audiences were public who uses bus services from Puduraya Bus Terminal. The questionnaires were distributed by hand to the public.

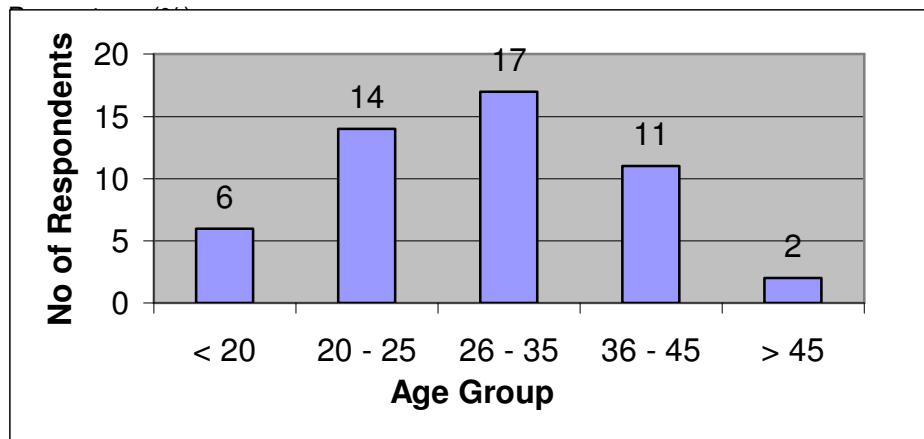
### **3.4.1 Public and bus operators' perception towards Online Bus Ticketing System**

The sampling technique that was used to distribute is the convenience and purposive samples. The convenience samples are opened to the public who are willing to participate and the purposive samples are to those individuals who appear knowledgeable and interested in the subject area. All 50 questionnaires were responded by the public.

Questionnaires were distributed to all ranges of age so as to obtain feedback from different groups of people.

Based on the questionnaires distributed as mentioned above, the group age where the questionnaires were distributed were below 20 age group (12% or 6 people), followed by 20 to 25 age group (28% or 14 people) and followed by 26 to 35 age group (34% or 17 people). The next was 36 to 45 age group (22% or 11 people) and lastly above 45 age group

(4% or 2 people). Refer to Figure 3.2, below on the feedback obtained from different age groups of people.



**Figure 3.2**  
**Age Distribution of Respondents**

The respondents were asked on the purpose they are in Puduraya Bus Terminal on that day, whether to purchase a bus ticket, waiting for a bus or waiting for a passenger. 44% of the passengers are in Puduraya Bus Terminal to purchase a bus ticket, 48% are waiting to board a bus and 8% are waiting for a passenger.

The next question that had been asked to the respondents is whether have they conducted an over the counter bus ticket purchase before and the respond was all respondents have purchased through such method. 98% or 49 out of 50 respondents responded that they will take between 45 minutes to more than 1 hour to purchase a bus ticket using this method (this is a time fame between leaving the house to purchasing a bus ticket). This time can be reduced tremendously if a collaborated system is developed for purchasing a bus ticket.

The respondents then are asked to rate the condition of Puduraya Bus Terminal, with the rating ranging from very good to very bad. The following Table 3.1 is the percentages gathered from the responses.

**Table 3.1**  
**Respondents view on condition in Puduraya Bus Terminal**

	Very Good	Good	Medium	Bad	Very Bad
Human Congestion	-	-	-	<b>24%</b>	<b>76%</b>
Air Environment	-	-	-	<b>28%</b>	<b>72%</b>
Self Safety	-	-	-	<b>30%</b>	<b>70%</b>
Traffic	-	-	-	<b>20%</b>	<b>80%</b>
Convenience to Purchase Tickets	-	-	-	<b>24%</b>	<b>76%</b>
Travel/ Bus Information Acquiring	-	-	-	<b>30%</b>	<b>70%</b>

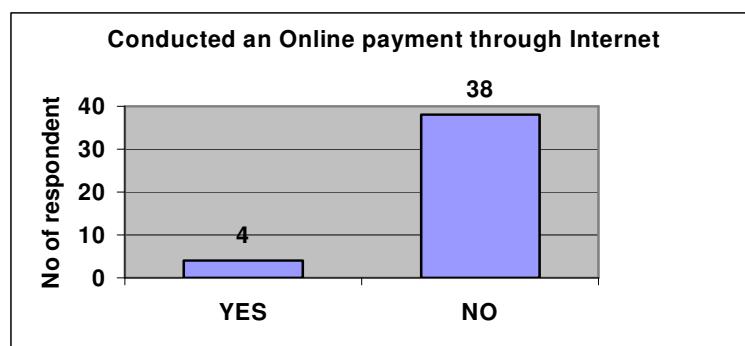
None of the respondents chose any of the condition on Puduraya Bus Terminal as very good, good or medium. All of the respondents have chosen bad and very bad for the condition in Puduraya Bus Terminal. This may be due to the condition in Puduraya is at a very bad state because of the human congestion and also the traffic congestion. The condition in Puduraya Bus Terminal can be improved if an Online Bus Ticketing System web portal is developed as to ease the congestion in Puduraya Bus Terminal.

Most of the respondents have Internet access either at home or in the office. There are 16% or 8 out of 50 who claim that they do not have Internet access and 84% or 42 respondents

have Internet access. Out of these 42 respondents who have Internet access claim that they surf on the Internet more than 2 hours per week. 2.4% or 1 respondent surf between 2 to 4 hours per week, 26.2% or 11 respondents surf between 5 to 6 hours per week and 71.4% or 30 respondents surf more than 6 hours per week. Most of the respondents normally use the Internet for email purposes and to search for specific information. The age groups utilize the computer or Internet the most are the 20 to 45 age group. This group uses the Internet for Email, general information retrieval and search for specific information.

The remaining respondents use the Internet for shopping, banking and for other purposes. Majority of the respondents selected email, general information retrieval and use Internet to search for specific information.

The next question refers to whether the respondents have ever conducted an online payment through the Internet. Figure 3.3 shows that 9.5% out of 42 respondents have conducted an online payment before and 90.5% have not conducted an online payment through the Internet.



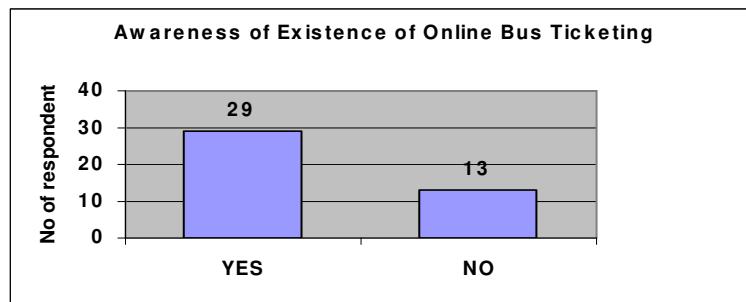
**Figure 3.3**

**Respondents who have conducted an Online Payment through Internet**

Based on the finding, people are still not confident on using the Internet for financial transaction such as shopping and banking purposes. It is important that the Malaysian

government encourages more people to use Internet for shopping, paying bills and banking purposes. This is also one way of promoting e-shopping and e-banking in Malaysia. There is a need for the government to instill in the minds of user that e-transactions are secure.

The next section in the questionnaire is on the experience of respondents on purchasing an Online Bus Ticket. The next question in this section refers to whether have the respondents heard about Online Bus Ticketing System before. Out of the 42 respondents who have internet access, 69% or 29 of them have heard of existing bus e-ticketing system and 31% or 13 of them have not, please refer to Figure 3.4. The 29 out of 42 of respondents will proceed with the next question.



**Figure 3.4**  
**Awareness of Existence of bus e-ticketing systems**

The next question is on the awareness of respondents on existing bus e-ticketing system provided by a few bus operators in Malaysia. Out of the 29 respondents that have heard of bus e-ticketing system, 13 respondents or 44.8% are aware of the existing bus e-ticketing System is being provided by bus operators in Malaysia and only 3 respondents or 23% have used this bus e-ticketing system to purchase a bus ticket. The rest 10 respondents have heard of bus e-ticketing system but have not purchased an online bus ticket before giving reasons of not trusting online bus ticketing systems, do not trust online payments, lack of information, not user friendly, slow page downloads, lack of security and lacking in the

understanding of e-commerce. On the other hand, 16 respondents or 55.2% are not aware that bus e-ticketing system is being provided by bus operators in Malaysia. From this, it is suggested that the government and bus operators need to advertise more or use other media as a tool to educate the public on the benefits of bus e-ticketing systems. This will then promote and encourage the public to use the Online Bus Ticketing Systems.

The 3 respondents who have used the existing bus e-ticketing system to purchase a bus ticket were then asked to evaluate the system, please refer to Table 3.2 on the responds. This question was asked to gather information from the respondent point of view about the existing bus e-ticketing systems. The question was measured in terms of criteria such as services; reliable information, whether the existing bus e-ticketing system services are user-friendly, cost-effective, convenient payment method and whether the web sites were informative.

**Table 3.2**  
**Effectiveness of Online Bus Ticketing System**

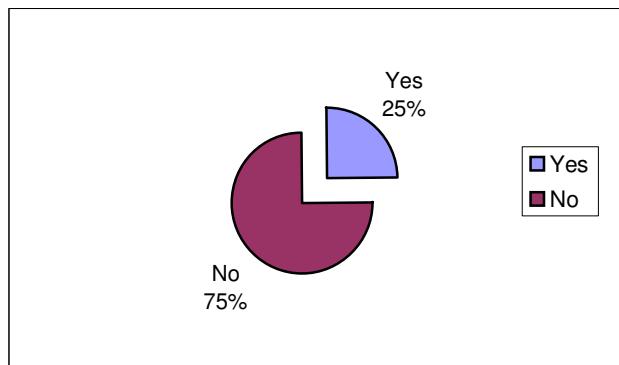
<b>Do you agree that:</b>	<b>YES</b>	<b>NO</b>
Online bus ticketing is more efficient compared to buying a bus ticket over the counter	3	-
Online bus ticketing is user friendly	2	1
Online bus ticketing web sites are informative	2	1
Online bus ticketing is cost and time effective	3	-
Online bus ticketing is more reliable	-	3
Online bus ticketing payment is convenient	3	-

With reference to question above, all 3 respondents agree that the existing bus e-ticketing is more efficient compared to buying a bus ticket over the counter, it is cost and time effective and convenient. Ironically, all respondents are in the opinion that existing bus e-ticketing system is not reliable. An Online Bus Ticketing System must be reliable on identification of data. Identification is crucial to make communication between computers and computer-systems possible. An Online Bus Ticketing System should be reliable by providing up to date information to its clients. As this will then promote more customers to use the services. Only 2 out of the 3 respondents are in the opinion that the existing bus e-ticketing system is user-friendly and the websites are informative. Services provided in an Online Bus Ticketing System must be user-friendly as to fulfill public's request and response. It is suggested that to achieve the effectiveness of Online Bus Ticketing System, services provided by all bus operators have to be more effective across their traditional boundaries and collaborate with other bus operators, stakeholders and their customers. In this context, informative means providing all crucial information, easy to use and it is interactive. To elaborate, informative includes information that is written and illustrated in such a manner that it makes the viewer to see and know further on the information in the web page. At the same time the web sites must be easy to use and there must be positive interaction between customer and the bus operator administrator. The informative element includes readability. This means the text and graphic elements used must make the web page easy to read.

Online Bus Ticketing Systems potential is huge as the services can be provided 7 days in a week and round the clock. In short, it is the next revolution in bus ticketing in Malaysia where these functions allow closer relationship between the user and the bus operators. Online Bus Ticketing System is defined as providing information on services provided, as

well as the ability to conduct bus ticketing transactions via the Internet and it is also cost effective compared to the traditional ways of obtaining information.

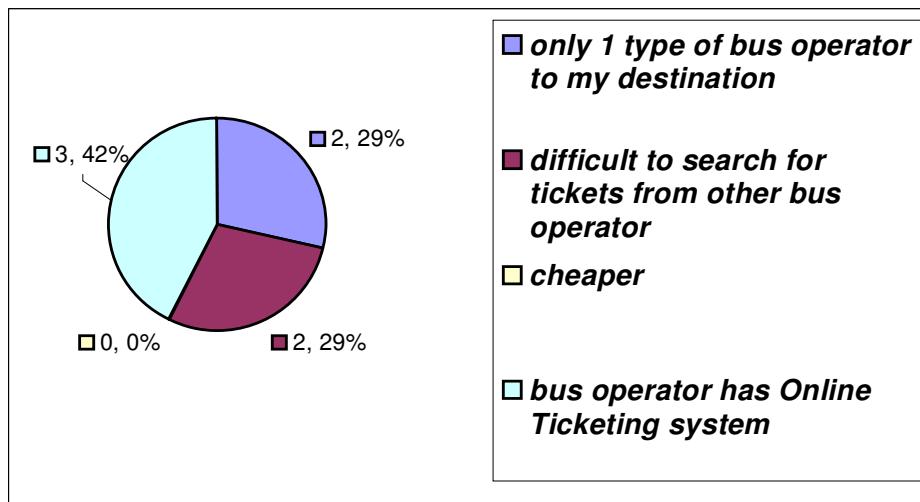
1 of the 3 respondents is satisfied with the services provided in the existing Online Bus Ticketing System and the rest are not satisfied as in Figure 3.5, but all 3 respondents will recommend others to purchase bus tickets via online.



**Figure 3.5**

**Satisfaction of services provided in the existing Online Bus Ticketing Systems**

The next section of the questionnaire is on the respondents suggestions for the future of Online Bus Ticketing System. The question is on whether the respondent only uses the same bus operator for their traveling purposes. This question is targeted for the respondents who have not heard of Online Bus Ticketing System (13 respondents), respondents who are not aware of existing online bus ticketing being provided by bus operators in Malaysia (16 respondents) and respondents that have used the existing online bus ticketing (3 respondent). Out of these 32 respondents, 25 respondents says they do not use only 1 bus operator for their traveling purpose. The remaining 3 of them responded that they use the same bus operator because the bus operator has an Online Bus Ticketing System, 2 of the respondents says, that there is only 1 bus operator to their destination and another 2 of them responded that it is difficult to search for tickets from other bus operators, refer to Figure 3.6.

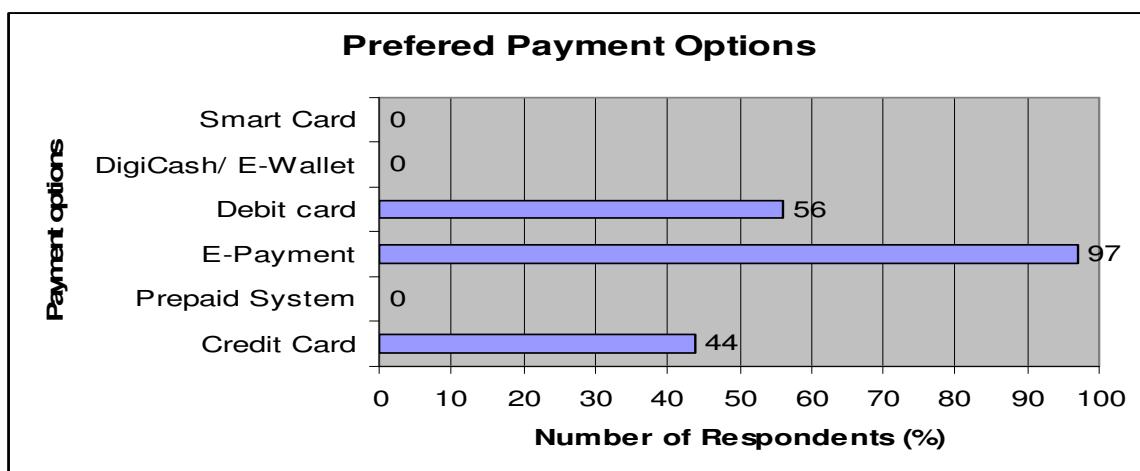


**Figure 3.6**

#### Reasons for using services from 1 type of bus operator

All the above 32 respondents who are actually connected to the cyber world agree that if there is a portal combining all express bus operators into a single system, it will be better than the current method of purchasing a bus ticket and 30 of the respondents or 93.75% will use this portal to purchase a bus ticket.

The next question was asked on the preferred payment option when the respondents purchase a bus ticket from this future Online Bus Ticketing System web portal. Referring to Figure 3.7, the data has been tabulated for the 32 respondents.



**Figure 3.7**

#### Preferred Payment options for future Online Bus Ticketing System

Based on the tabulated data from the analysis, most of the respondents suggested that the E-payment or Direct Banking (97%) is the most preferred choice followed by Debit Card and finally payment through Credit Card (44%). Other payment options as Smart Card, Digi Cash and Prepaid systems are not popular with the respondents. This might be due to lack of awareness or understanding of these payment options to the respondents.

Next, the respondents are asked on the features that they feel should be available in the Online Bus Ticketing System web portal. The respondents are allowed to choose more than one answer. The option that has the most respond is fast downloading and response time of the system, followed by scheduling, fare rates and seat maps being included in the system. The next is the bus terminal location map for easy access for users, online registration for members, seat status to show the vacant and booked seats, followed by the flexibility of online payment, online cancellation and Frequently Asked Questions (FAQ) or help section to guide users on the process on purchasing an online bus ticket. Ticket printing feature should be available in the system followed by online booking and purchasing and user instruction. Bus operator information should also be displayed in the system together with the web site links for easy access to the individual bus company web sites. The system should also be user interactive and lastly the system should have an attractive web page design.

The respondents are then asked on other information that they would like to see in the future Online Bus Ticketing System web portal where majority of them want to view the bus operators information, latest news of Puduraya Bus Terminal, the facilities around Puduraya Bus Terminal and finally about taxi information.

The respondents were also asked if it is important to rank bus operators' in Malaysia as how hotels and airliners are rated base on criteria that are related to standard of services provided. All 32 respondents responded yes to the suggestion of awarding star ranking to these bus operators'. This shows that the Malaysian public are more aware of their rights to deserve the best service as par as the price they are paying for the services acquired.

The respondents are also asked to answer on how this ranking would help them as a consumer. Majority of the respondents chose all available answers in the questionnaire which are, to be able to choose the best bus service provider, road safety and security reasons, confidence in services provided and to get the best deals that can be acquired against their buying power.

Finally, the respondents are asked to select the criteria to determine the ranking of a bus operator. Majority respondents choose all top three (3) answers in the questionnaire which are bus operator's sales performance, popularity of a bus operator through public polling system and also bus operators' traffic offences track records. On the other hand, the respondents are not to keen on the in-bus services provided but the ability of a bus operator to be sensitive on customer's needs, popularity and good business track record.

Based on the findings and analysis conducted, the finding is that majority of the respondents are aware of the existing Online Bus Ticketing Systems. Online Bus Ticketing System must provide a fully integrated system that have check and balance between the customers and bus operators so that both parties can achieve their individual objectives. For those who have lack of knowledge about Online Bus Ticketing services, the governing

bodies and bus operators have to promote these services using other medium such as using banners, advertising on newspapers or magazines.

### **3.5 Interview Questions and Results**

An interview has been conducted on September 15, 2006 for 2 bus operators at Puduraya bus station, namely Plusliner Sdn. Bhd. and Eltabina Express Sdn. Bhd. The main objective of this interview is to understand the bus operators operations in the ticketing unit and to analyze the acceptance, potential and opportunities in implementing the Online Bus Ticketing System web portal. The interview questions were prepared, is base on open-ended and closed-ended questions. Below is the summary of the interview for both the bus operators. The full interview question and answer is attached in Appendix B.

#### **3.5.1 Interview with Plusliner Sdn. Bhd and Eltabina Express Sdn. Bhd**

The interviewees, Mr. Heri Buhtamin who is the supervisor of Plusliner Sdn. Bhd was interviewed at 1.30 pm for about one hour and Mr. Salehan Mohd. Basir who is the manager of Eltabina Express Sdn. Bhd was interviewed at 2.30 pm for about one hour. Below is the summary of answers from both of the interviewees.

##### **Question 1:**

How does your company conduct the bus ticket selling, booking and purchasing process?  
Could you please explain in details?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Over the counter sale and a computerized sales system.	Conducts the booking and purchasing process manually.
Top management sets the trip schedule for the busses	Top management will fix the trip schedule and issues standard tickets with ticket serial number.

### **Question 2:**

Will there be any report or statistic generated daily?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Computerized summary reports, i.e. trips of the day, how many passengers abort the buses and the amount collected for the day.	The counter clerk has to manually calculate the total amount of the ticket sold and send the daily report to the management.

### **Question 3:**

How is the bus schedule planned?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Planned by the top management	Fixed by the top management.
Bus schedule for particular destination is fixed, but, during the peak season, total trips per day for each destination will be increased to fulfill customers demand.	Extra trips will be provided to the customers on Friday, Saturday, Sunday and during the peak season.

**Question 4:**

Does your company have a fix schedule for the bus or is it changed regularly?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Provides fixed services from North-South Expressway	Provides fixed services to destinations.
Provides bus charter service to customers.	

**Question 5:**

Does your company appoint agents to sell your tickets? If yes, how many of them are situated in the Klang Valley area. How do they communicate with the central office so that there is no over-lapping of ticket sales? Have your company ever over sold tickets on a given bus?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
No agents appointed.	Yes, agents are appointed. These agents call the central office and check the ticket availability and do the purchasing.
Never over sold bus tickets	Have encountered over-selling the tickets, but are able to handle it immediately by transferring the passenger to another bus operator.

**Question 6:**

Are your staff computer literate and are they using computers to do their daily duties?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Training will be provided for all staff	Staffs have some basic for computer like use the MS Office.
Staff must be knowledgeable in computing	Staffs especially the counter clerk does not conduct their daily duties using computer.

**Question 7:**

Does your company have an Online Bus Ticketing System? If yes, how is the respond from the public and why you think the respond is such?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Yes and the respond are not as expected.	No, do not have an Online Bus Ticketing System at the moment.

**Question 8:**

If there is a single system combining all the bus operator's activities, do you think it will benefit the public?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Yes, it will benefit the public.	Yes, it will benefit the public if there is a single system combining all the bus operator's activities.

**Question 9:**

If your company has an existing Online Bus Ticketing System, do you think the functions are adequate? If no, what are the additional functions you think should be included?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Satisfied with the current online e-ticketing system that is offered by Plusliner.	Do not have any Online Bus Ticketing System.

**Question 10:**

If your company does not have an existing Online Bus Ticketing System, what are the functions you expect from an Online Bus Ticketing System?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Not applicable.	Functions like seat availability, schedule and fare rates, reservation and purchasing of bus tickets, company promotions, and FAQ sections.

**Question 11:**

Do you think Online Bus Ticketing System is reliable in handling the purchasing of bus ticket online and thus reducing the human congestion in Puduraya?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Yes, it will, because the condition is Puduraya is quite bad.	Not sure as this new in Malaysia

**Question 12:**

What type of payment methods will you prefer in an Online Bus Ticketing System?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
E-payment which using the e-banking because this method is simple and direct.	Prepaid system, where the customers directly purchase the card from station counters.

**Question 13:**

Do you think by having a collaborated Online Bus Ticketing System web portal will ease the ticketing process in the operation unit?

<b>Plusliner Sdn. Bhd</b>	<b>Eltabina Express Sdn. Bhd</b>
Yes, a collaborated Online Bus Ticketing System will ease the ticketing process.	Yes, it will ease the ticketing process in the operation unit.

**3.6 Conclusion**

From this chapter, it can be concluded that the public and bus operators are ready to move forward for the utilization of an Online Bus Ticketing System web portal. It is just not merely enough to implement efficient online sales and purchase of bus tickets, but, other important issues that are related to Decision Support System and Management Information

System that will benefit both customers and bus operators must also be taken into consideration.

On Decision Support System, the system will able to retrieve bus information based on user's preference, i.e. bus ranking. On Management Information system, the system is able to generate various reports for the benefit of the bus operators.

On purchasing an online bus ticket, the system should give adequate security and assurance to the public, so that the layman would feel secure of using the Online Bus Ticketing System web portal. About the issues of being cost effective, reliable and people oriented, the public should use the services or utilize the services and provide feedback to the bus operators on further improvement.

However, serious issues still remain such as bad condition in Puduraya where there is human congestion, bad air environment, lack of self safety, traffic congestion, inconvenience to purchase bus tickets and lack of travel/ bus information acquiring. Based on the findings derived from the survey, the respondents highlighted the issues above as the cause of resistance to purchase a bus ticket in Puduraya.

Other issues that need to be handled include training, educating the customers, encouraging and motivating the customers to use the Online Bus Ticketing System web portal when it is developed.

Finally, the system must also be able to be a check and balance element between the bus operators and the public. This can be achieved by incorporating Decision Support System

and Management Information System in the system. The bus operator must provide the best service to customer based on customers' preference and if the customer is satisfied (the customers' objective is met) then the bus operator can be assured of repeated customer (the bus operators' objective is met) and the reaction is otherwise if the services is not to the customer's expectation and the cycle continues.

## **CHAPTER 4**

### **SYSTEM ANALYSIS**

#### **4.1 Introduction**

System Analysis is a phase which is conducted before the development of the Online Bus Ticketing System web portal. System Analysis shows the requirement or a description of the needs and desires for an information system. A requirement may describe functions, features, and constraints. Thus, system requirement defines the services provided by the system and prescribes constraints for its operation (Whitten J.L *et al.*, 2002). There are two types of requirement, functional requirement and non-functional requirement. Both these requirements will be discussed later in the chapter.

#### **4.2 Description of the Proposed System**

In efforts to improve the existing bus e-ticketing systems in Malaysia, observation on the problems and opportunities from the existing e-ticketing sites both in Malaysia and overseas had been conducted. With that, it is recommended an integrated system of solutions that attempts to rectify many of the existing problems in the current bus e-ticketing and propose an innovative way to enhance the services provided in the bus e-ticketing system.

Therefore, the goal of the proposed Online Bus Ticketing System web portal is to provide a revolutionary way to interact effectively in a one stop venue. Furthermore, with this system, customers will be able to obtain a wider choice of bus tickets since they can reach a wider range of bus operators.

The proposed system named “EzBuz.com” will consist of an integrated system which includes Decision Support System for the customer and Management Information System for the bus operators. The decision support systems allow customers to choose a bus ranking they wish do booking for, which in return will display the bus listed in that ranking. It will also contain important features such as a secure login, forum to enable both customers and administrators from bus operators to communicate and share knowledge regarding bus operations matters. Despite these features, the web site will also have an administrator function to enable efficient maintenance of the site.

In short, with the proposed system, bus operators can now involve in making bus ticketing purchase transactions convenient, cost effective and finally can do away with the manual/conventional methods of selling bus tickets. Therefore, the proposed system will be superior and function as a catalyst in the competitive business environment regardless of the geographic barricades among the bus operators.

### **4.3 Intended Users**

Based on the analysis through the interviews and surveys, the public (as customers), bus operators and a governing body (JPJ) are identified as the main users of the system. This is because this system can only be successful when there are customer to purchase and bus operators to sell their services. As for the governing body, the Jabatan Pengangkutan Jalan (JPJ) will update the monthly traffic offences for each bus operators in order for the star ranking of bus operator to be calculated and displayed in the system.

### **4.4 Brief Overview of the Proposed System Functions**

This system function can be divided into two sections, the Administration section and the Customer section. In the Administration section, there will be three main activities taking place. The first is the handling of system administrative matters, whereby, the administrator will be responsible on updating of bus schedule information, feedback activities, forums, FAQ's, and staff profile. The second activity is sale of ticket by the administrator them self (which is over the counter ticket sale). Here the activity is the same as in the customer module except there will not be member registration activity and only cash transaction is allowed. The third activity is the Authority activity. Since one of the element which will be used to rate the bus operator's standard ranking is track record on traffic offences, only the Road Transport Authority will be allowed to input the data. This is done so the validity of the data will not be questionable.

In the Customer module, the customer will be able to view the home page that will allow the customer to search on the bus details for the desired destination based on the preferred search detail. After searching, a list of bus operators will be displayed based on the search detail requested. The customer will then choose any of the results from the search option and then the system will allow the customer to continue with the booking, seat selection, payment activity and printing out of the booked ticket provided if the customer is a registered member and if the customer is not a member the system will indicate the customer to do so. There will also be a booking cancellation feature for a customer to cancel a booked ticket. In this Customer section, a customer will also be invited to vote for their favorite bus operator which will be an element for rating the standard of the bus operator. In this module the customer will also be provided information such as latest news, promotions, forums and FAQ about the Online Bus Ticketing System web portal.

The main specialty of this Online Bus Ticketing System is to offer a ranking feature to its customers. This is the feature that will be the difference compared to other bus ticketing systems available. The ranking for each bus operator will be derived based on three criteria as been mentioned previously. These criteria are user polling, monthly ticket sales and monthly bus summonses.

#### **4.5 Functional requirement**

Functional requirement is a function or feature that must be included in an information system to satisfy the business needs and user acceptance (Whitten J.L et al., 2002). System

Administrators and Customers (members and non-members) will use this proposed Online Bus Ticketing System web portal. A clear and detail functional system requirements for this system of both the Administrator section and Customer section are described as following.

#### **4.5.1 Administrators**

The System Administrator can access all the functions in this system, which includes the bus operator information module, bus information module, member and staff account module, purchasing and cancellation module and the reports module. There will also be an Authority module which can only be accessed by an authorized governing body personnel.

The functional requirements for the administrators' section are as following.

##### **4.5.1.1 Bus Company Information**

###### **(a) Home**

This is the home page of the administrator section which displays the company profile and also the promotions that is currently available.

###### **(b) Feedback**

The system administrator can view, add, edit, search and delete the feedbacks given by the users. These feedbacks included the suggestion or comments given by the customers and the administrator can reply these feedbacks by uploading the feedbacks on the website

**(c) Forum**

The administrators are allowed to view and post message to the discussion area (containing post and reply messages) for customers to express their interests and opinions.

**(d) Frequent Asked Questions (FAQ)**

The system administrator can view, add, edit, search and delete the company's FAQ. The FAQ includes the information about payment method, the maximum seat can be booked, the company's web transaction security and so on.

**(e) Latest News**

The system administrator can view, add, edit, search and delete the company latest news. These latest news includes the changes of the departure time for a particular trip, the information about the extra trip during the peak season, the changes of fare rates and so on.

**4.5.1.2 Bus Information**

The system administrator can view, add, edit, search and delete the company's bus information. The bus information includes bus type, bus registration number, total seat of bus, departure time, bus destination, bus departure date, and so on.

#### **4.5.1.3 Member Account and Staff Profile**

##### **(a) Member Account**

The member account includes the registered member profile. The system administrators are authorized to view and search the member profile. The member profile includes the member's name, member ID, age, occupation, address, telephone number, e-mail address and so on.

##### **(b) Staff Profile**

The system administrator can view, add, edit, search and delete the bus operator's staff profile. The bus operator's staffs are the administrators, counter clerks, managers, officers and so on. The staff profile includes their name, position, age, address, e-mail address, telephone number and so on will be stored in database.

#### **4.5.1.4 Purchasing and Booking Cancellation**

##### **(a) Purchasing**

The system administrator and counter clerk will use this module when a customer directly purchases a ticket from the counter. Ticket Sales is one of the criteria for the determination of star ranking of a bus operator.

The higher the Ticket Sales, the higher the standard. The quantum will be derived by the number of ticket sales and not by the sales volume by currency. Two types of data will be needed, that is, ticket sales extracted from the sales report and

number of seats available for sale (will be obtained from the bus information). The formula is as below:-

$$\frac{\text{Ticket sales of a bus operator}}{\text{Total seats available for sale}} \times 100$$

The standard will be rated as follows:-

- i. Ticket Sales below 84% will be ranked as Three (3) stars
- ii. Ticket Sales from 85% to 94% will be ranked as Four (4) stars
- iii. Ticket Sales from 95% and above will be ranked as Five (5) stars

#### **(b) Booking Cancellation**

This page will allow the administrators to cancel a booking by inserting the booking number.

#### **4.5.1.5 Report**

The system administrator can view, search and generate the bus operator report. There are many types of reports can be generated such as daily sales report, monthly sales report, trip report and cancellation report.

#### **(a) Trip Report**

The system administrator can view, search and generate the company's trip report by inserting the required details, such as a trip's destination, departure date, departure time and the bus number. This report contains the ticket number and also

the seat number. This trip report can be used by the driver to check against the tickets when customers aboard the bus.

**(b) Daily Sales Report**

The system administrator can view, search and generate the company's daily sales report by inserting the required details like trip's departure date and the bus number.

The daily sales report contains the sales in the whole day for the bus operators.

**(c) Monthly Sales Report**

The system administrator is able to generate a monthly sales report by inserting the required details. This report will show the accumulated sales for the selected month for all busses for a particular bus operator.

**(d) Cancellation Report**

The cancellation report can be generated by the administrator to check against the cancelled bookings.

**4.5.1.6 Authority**

The authority module is for the governing bodies to insert the traffic law offences data of a particular bus operator. This will be another criterion that will determine the ranking of a bus operator.

The summonses received by each bus operator will be reset on a monthly basis. The calculation for the summonses ranking will be as follows:-

- i. 0 to 10 summonses will be ranked as Five (5) Star
- ii. 11 to 20 summonses will be ranked as Four (4) Star
- iii. 21 and above summonses will be ranked as Three (3) Star.

#### **4.5.2 Customers**

The customers can access some of the functions in this system, which includes the main page module, registration module, bus schedule and details module, booking module, payment module, ticket module, booking cancellation module and polling module. The functional requirements for the customers section are as following.

##### **4.5.2.1 Main Page**

###### **(a) Home**

This section allows the customers to select the departure and return journey based on the preferred origin and destination, journey date and preferred bus ranking. The customers will also be able to view the promotions that are available by the bus operators. For registered users, they are able to login into the system from this module. A senior citizen member is entitled to a 30% discount of the ticket price, but can only purchase a maximum of 2 tickets.

**(b) Loyalty Points**

This function will accumulate points for each successful transaction made by members. A member will accumulate points from each RM50.00 of purchases made. With the accumulated points, a member can redeem by purchasing bus tickets in the future. Each loyalty point can redeem RM1.00 worth of ticket. A member must have enough loyalty points to purchase a ticket.

**(c) Contact Us**

The system will display all the bus operator contacts with links to the bus operator web sites.

**(d) Feedback**

The customer can view feedbacks given by other users and add a feedback on their own. These feedbacks can be replied by other members or even the administrators.

**(e) Forum**

The users (members and non-members) are allowed to view and post a message to the discussion area (containing post and reply messages) for public to express their interests and opinions

**(f) Frequently Asked Questions (FAQ)**

This page will display all FAQ which will be posted by the administrators. The users are only able to view these FAQ.

### **(g) User Polling**

This feature will accept user polling on the best bus operator in their opinion. This will be one of the criteria to rank a bus operator. User polling will automatically reset on monthly basis.

The formula for User Polling is as follows:-

$$\frac{\text{Number of polls obtained by a bus operator}}{\text{Total Polls Received}} \times 100$$

The rating will then be determined as below-

- i. 80% and above will be rated as Five (5) star
- ii. 65% to 79% will be rated as Four (4) star
- iii. 64% and below will be rated as Three (3) star

#### **4.5.2.2 Registration**

##### **(a) Member**

This module will allow the user to register as a member and be able to do bookings from this system. The user must provide personal particulars into the registration form such as name, user ID, password, age, address, e-mail address and contact number.

##### **(b) Senior Citizen**

In the registration form, the member age will be calculated. If a members age is 55 years and above, the system will automatically categorize this member as a senior

citizen. The benefit of a senior citizen is a discount of 30% off the published ticket price, but the senior citizen is only able to book a maximum of two tickets per trip.

#### **4.5.2.3 Bus Schedule and Details**

The user is able to view the bus details and fares in this module after selecting the journey details and bus ranking that will be a decision criterion for a customer. The user then can proceed to book the tickets from this form. Both a member and a non member can view this form. The system will display busses that are scheduled to depart on the specified date given by the customer and in return the system will show all busses availability, namely, *Available*, *Limited* or *Sold-out*. The criteria used for this function is-

- i. ***Available*** when there are 26% to 100% of seats available on a particular bus
- ii. ***Limited*** when there is only 25% of seats available on a particular bus
- iii. ***Sold-out*** when there are no available seats on a particular bus

#### **4.5.2.4 Booking**

##### **(a) Booking**

This module can only be used by a member. The booking module will display the details of the bookings done and the total amount. User is asked to confirm the booking to continue to the seat selection.

##### **(b) Seat Selection**

The member will then required to make a seat selection based on the number tickets

to be purchased. The seating chart varies from the types of buses, namely, *Double Decker*, *VIP* and *Super VIP*.

#### **4.5.2.5 Payment**

The payment module will allow a member to select the type of payment method, i.e. online banking, credit card or loyalty points. If a member selects online banking, then the banks details and links will appear for the user to proceed with the payment. If a member selects credit card, then the type of card has to be selected and the card details will be requested. If a member wants to deduct their loyalty points, then there must be enough points to deduct for a purchased ticket. A member obtains 1 loyalty point for each RM50.00 spent. Each loyalty points can then be deducted for RM1.00 from the ticket price.

#### **4.5.2.6 Ticket**

The ticket will then be displayed with a ticket number for future correspondence. The member can then print the ticket for their journey.

#### **4.5.2.7 Booking Cancellation**

This page will allow the users to cancel a booking by inserting the booking number.

#### **4.6 Bus Operator Ranking**

As explained earlier, the bus operator ranking is determined by three criteria, namely, monthly user polling, monthly ticket sales and number of summonses received for the month. Each criterion has its individual derivation which determines its deciding factor as mentioned earlier. The final derivation for the bus operator ranking that will be displayed in the system is:-

$$\frac{(\text{User polling rank} + \text{Ticket sales rank} + \text{Summonses received rank}) / 3) \times 100}{5}$$

The rate derived from the above calculation will determine the bus operator's ranking. This is done based on the below quantum:-

- i. 80% and above will be ranked as FIVE (5) star
- ii. 65% to 79% will be ranked as FOUR (4) star
- iii. 64% and below will be ranked as THREE (3) star

#### **Example:-**

<b>User polling</b>	<b>5 star</b>
<b>Ticket sales</b>	<b>4 star</b>
<b>Summonses received</b>	<b>3 star</b>

$$\frac{(5 + 4 + 3) / 3) \times 100}{5} = 80\%$$

**Therefore, the above bus operator will be ranked as a Five (5) star operator.**

## **4.7 Non-functional requirement**

Non-functional requirement is a description of the features, characteristics, and attributes of the system as well as any constraints that may limit the boundaries of the proposed solution (Whitten J.L *et al.*, 2002). Such constraints usually narrow down the selection of programming language, operating system platform or implementation techniques.

The Online Bus Ticketing System web portal must ensure certain web application qualities such as ease of use, user-friendliness, correctness, functionality, reliability, response time, security, robustness as well as maintainability. The following lists the non-functional requirement of the system.

### **(a) Ease of Use**

The system should be simple and easy to use. Documentation and user manual should be provided to the users, to ensure that the users are able to use and operate the system by themselves. Help sections or user instructions should also be provided throughout the system in order to guide users when they encounter any problems.

### **(b) Maintainability**

Maintainability is the ease with which a program can be corrected if an error is encountered, adapted if its environment changes, or enhanced if the customer desires a change in requirement (Pressman S. Roger, 2001). In order to make the

system easily maintained, the programs must be easily understandable by the maintenance programmer and easily modified and tested when updating is done to meet new requirements, rectifying a deficiency or correcting errors.

**(c) Reliability**

Reliability is the extent to which a program can be expected to perform its intended function with requirement precision (Pressman S. Roger, 2001). This system should be reliable, where it does not produce dangerous or costly failure when it is used in a reasonable manner. Furthermore, this system should perform all its services and functions accurately and in timely manner. This quality is essential as it indicates how far users will have confidence in the implementation of this Online Bus Ticketing System web portal.

**(d) Robustness**

Robustness refers to the ability of the system to be able to handle or continue in operation when faced with unexpected circumstances such as handling improper data. The system should be robust enough to handle anticipated or unanticipated error.

**(e) Response Time / Speed**

The system should be able to process any transaction at the highest speed and avoid unnecessary interaction. As a low response time, the users may feel frustrated and decide not to use this system.

**(f) Security**

This system should have security measures to minimize the risk of data exposure to unauthorized people. Only the authorized users with the correct login and password are allowed to access and manipulate the data kept in the database.

**(g) User-Friendly**

A user-friendly interface enables the users who are with or without technical background able to operate and use this system. A user-friendly system will satisfy users and allow interaction with this website and able to utilize this system to the maximum.

**(h) Functionality**

The most important function stressed in this system is the searching and retrieving capability. This is because the web application deals with data retrieval from the existing database. Besides, manipulation and browsing features as well as applications domain-related features is also taken into account.

**(i) Correctness**

Correctness refers to the degree to which the software performs its required function. Thus, programs for the system must be operating correctly for the user to retrieve the desired outputs. To ensure this system quality, numerous testing and trial-and-errors is carried out.

## **4.8 Conclusion**

Overall, this chapter covers on the recommendation and also on the suggested guidelines for the implementation of an Online Bus Ticketing System web portal.

It is not possible to implement Online Bus Ticketing System web portal without the help from the public, bus operators and the governing bodies. It also depends on the availability of bus operator's financial resources to support the project in terms of publicity and awareness.

The proposed suggestion acts only as a guideline as many other factors can be considered during implementation of an Online Bus Ticketing System web portal.

The suggested framework can ensure that the project will be successful because the activities are carried out step by step before other activities can go ahead. This is very important to ensure consistency and consensus among all the parties involved in the system development, as these will then reduce problems during implementation.

## **CHAPTER 5**

### **SYSTEM DESIGN AND IMPLEMENTATION**

#### **5.1 Introduction**

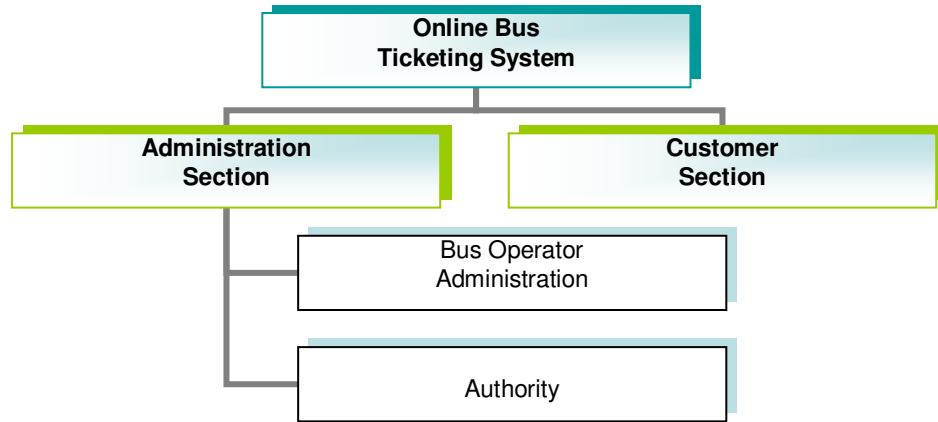
This chapter is on system design which is completed before the development of the Online Bus Ticketing System web portal. System design is defined as those tasks that focus on the specification of the detailed computer-based solution (Whitten J.L *et al.*, 2002). The purpose of the design phase is to transform the system requirements statement from the requirements analysis phase into design specifications for construction.

#### **5.2 System Functional Design**

##### **5.2.1 Structure Design**

The Structure Design of Online Bus Ticketing System web portal shows a bird's eye view of the entire system. Generally the Online Bus Ticketing System web portal allows easy accessibility to obtain information. Customer can browse the web portal to obtain various types of information such as bus schedule information, promotions, latest news, forums, feedback and star rating for bus operators. On the other hand the Administrator would be able to assess the system to update the portal on bus schedule information, promotions, latest news, forums, feedback and report generation.

A structure diagram has been created for the Online Bus Ticketing System web portal. The main system of the Online Bus Ticketing System web portal is divided into 2 major sections, Administrator section and Customer section as shown in Figure 5.1.

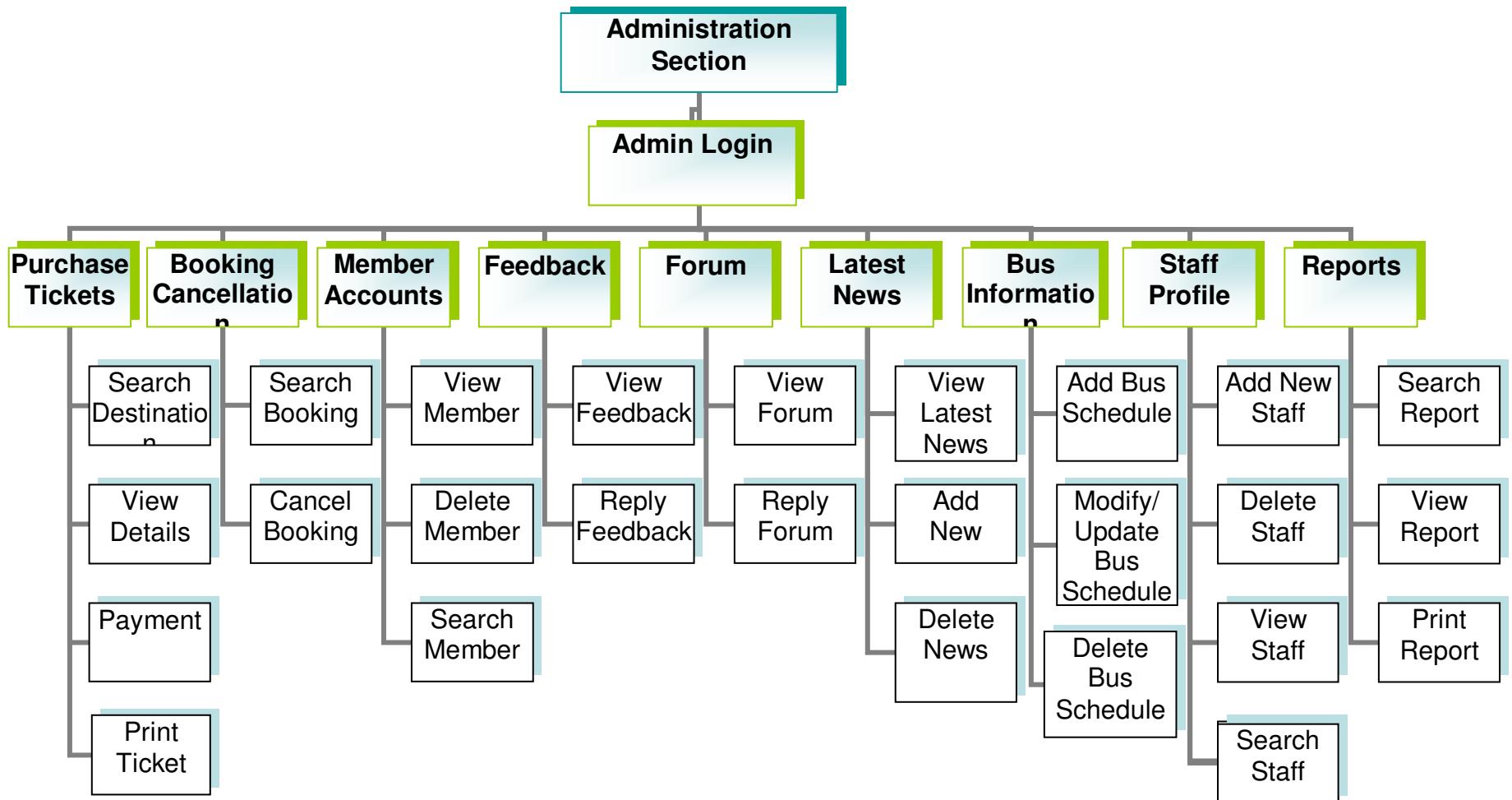


**Figure 5.1**  
**Structure design of Online Bus Ticketing Main System**

### **5.2.1.1 Structure Chart for Administrator Section**

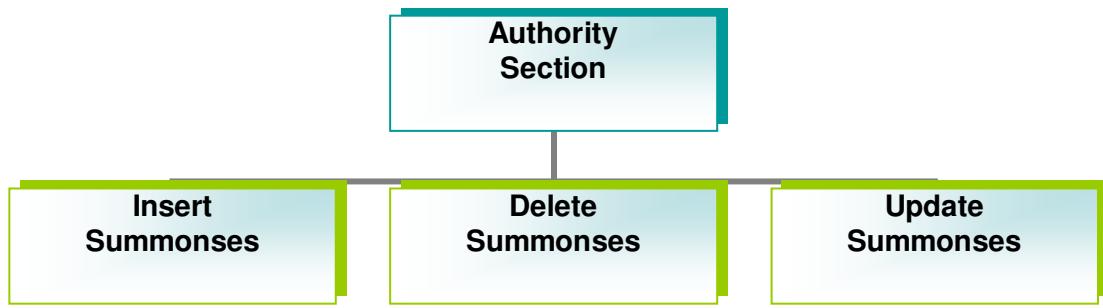
For the Administrator section, there are 9 modules which are further divided into sub-modules. The modules are bus operator contact information, about the bus operator, bus information, forum, feedback, FAQ, latest news, bus information, member accounts, staff profile, purchase ticket, booking cancellation, reports and Authority links.

The structure chart for Administrator section is shown in Figure 5.2, structure chart for Authority module in Figure 5.3.



**Figure 5.2**  
**Structure chart for Online Bus Ticketing System Administrator Section.**

### **5.2.1.1.1 Structure Chart for Authority Module**



**Figure 5.3**

**The Structure Chart for the Online Bus Ticketing Authority Module**

### **5.2.1.2 Structure Chart for Customer Section**

For the Customer section, there are 6 modules, consisting of Home, contact us, about us, forum, FAQ, booking cancellation and user poll. The structure chart of the Customer section is shown in Figure 5.4.

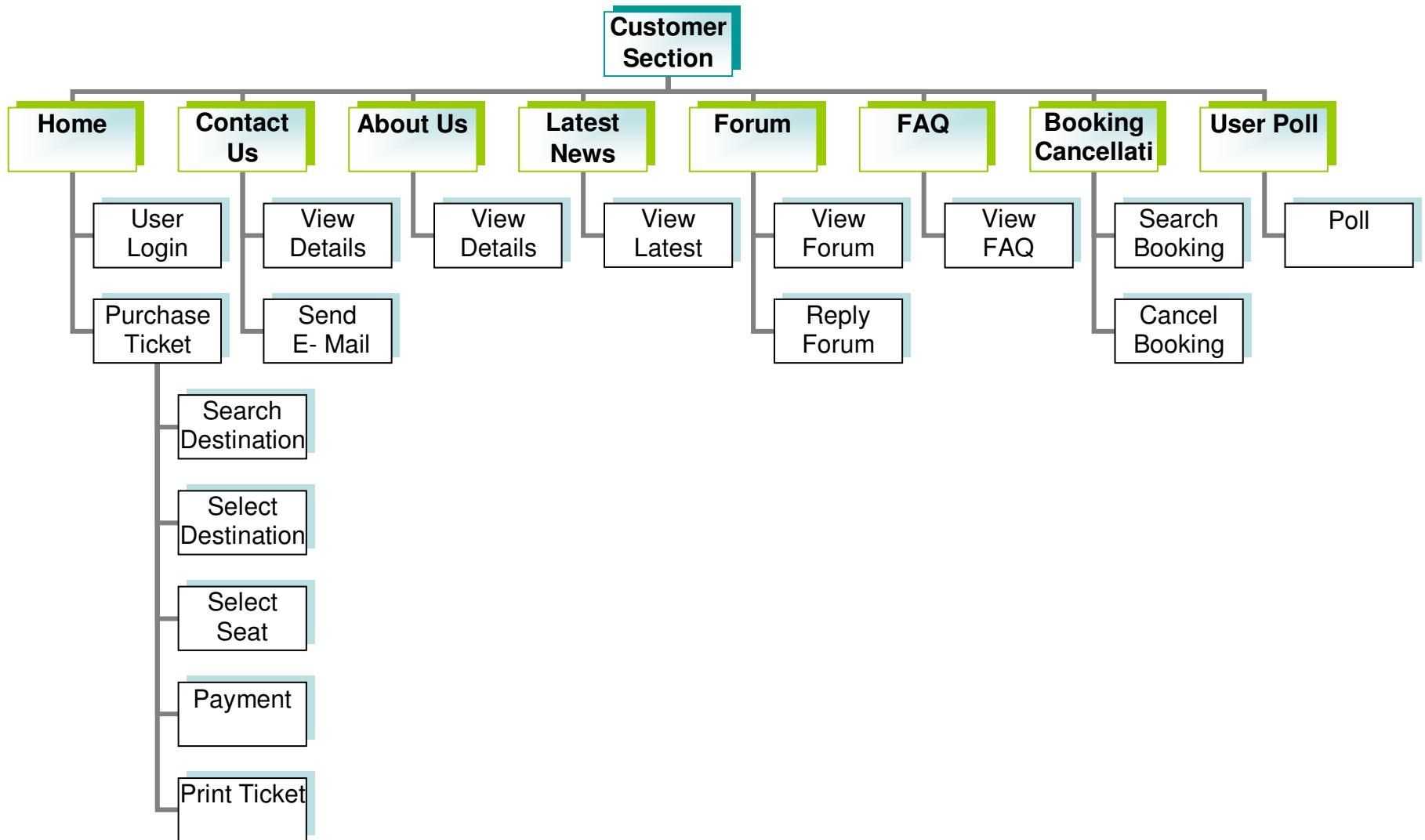


Figure 5.4

The Structure Chart for the Online Bus Ticketing Customer Section

### 5.2.2 Data Flow Diagram

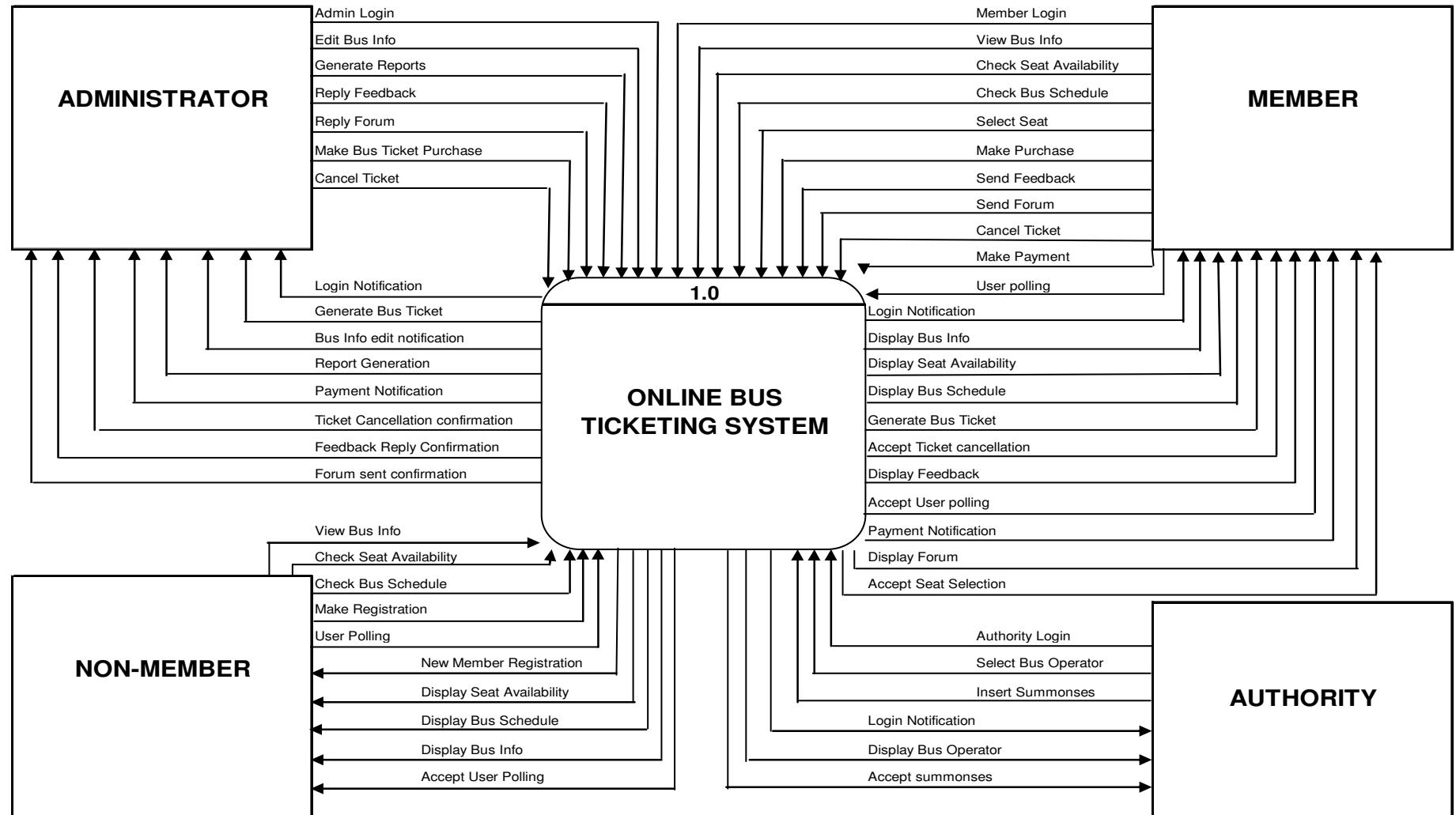
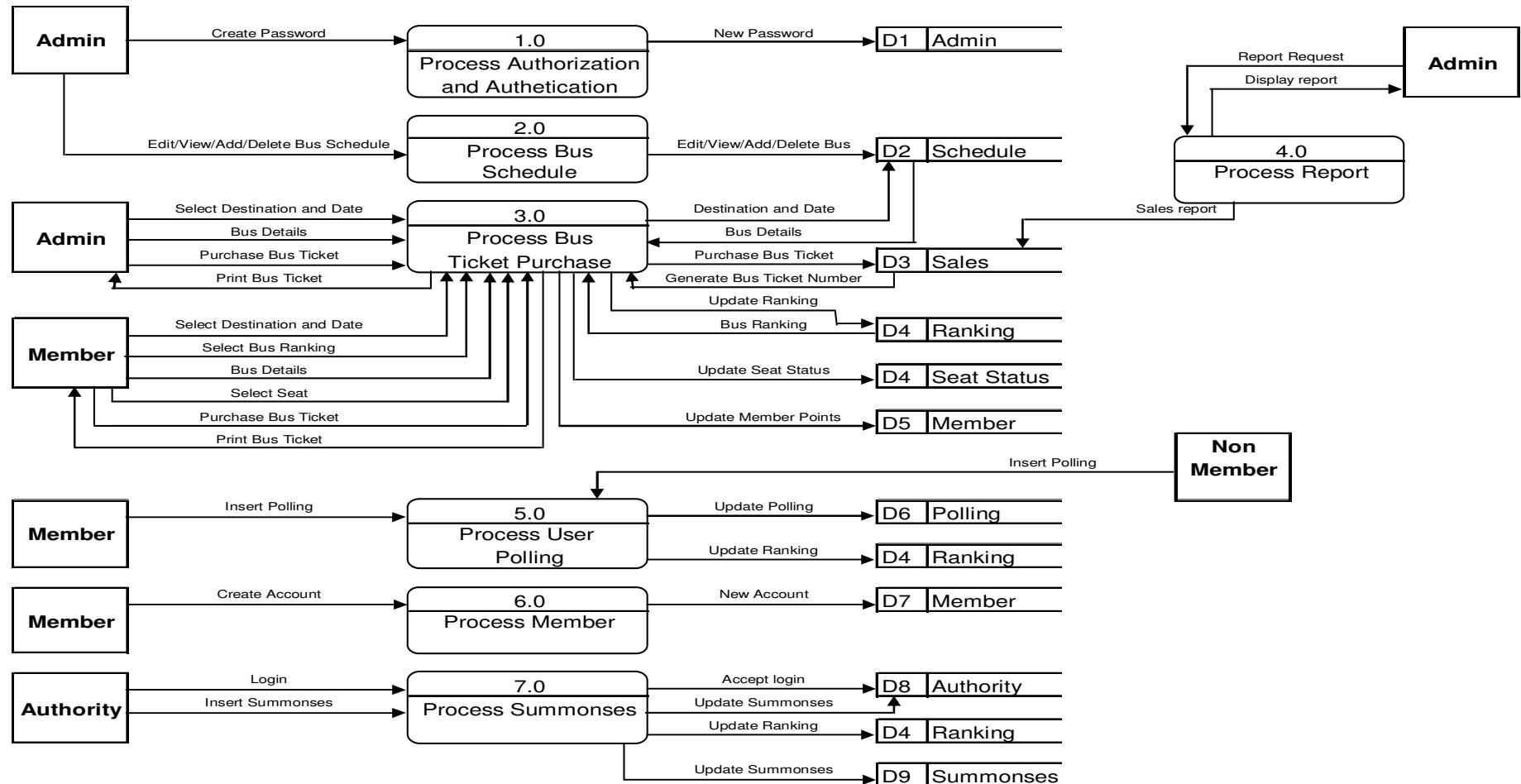


Figure 5.5  
The Online Bus Ticketing System Context Diagram

### 5.2.2.1 Data Flow Diagram 0



**Figure 5.6**  
Data Flow Diagram 0 for Online Bus Ticketing System

## 5.3 Database Design

### 5.3.1 Data Dictionary

The database consists of 18 tables and the structures of the tables are shown as following-

#### i. Table Name: Schedule

Field	Type	Size	Description
<b>id</b>	Int	11	Bus ID
fld_provider	varchar	255	Bus Provider
fld_bustype	varchar	255	Bus Type
fld_busregnumber	varchar	255	Bus registration number
fld_origin	varchar	255	Bus Origin
fld_destination	varchar	255	Bus destination
fld_seats	Int	15	Number of seats
fld_sold	Int	15	Number of seats sold
fld_available	Int	15	Number of seats available
fld_onwardj	varchar	255	Onward journey date
fld_onwarddate	varchar	255	Onward journey time
fld_adultfare	varchar	255	Adult fare
fld_child	varchar	255	Child fare
fld_rorigin	varchar	255	Bus return origin
fld_rdestination	varchar	255	Bus return destination
fld_rdate	varchar	255	Bus return journey date
fld_rtime	varchar	255	Bus return journey time
fld_rseats	Int	10	Bus return journey seats
fld_rsold	varchar	10	Bus return journey sold
fld_available	varchar	10	Bus return journey tickets available
star	Varchar	50	Bus star rating

#### ii. Table Name: Seats Status

Field	Type	Size	Description
<b>id</b>	Varchar	150	Seat ID
totalseats	Varchar	150	Total number of seats
selectedseats	Varchar	150	Selected seats

**iii. Table Name: Admin**

Field	Type	Size	Description
<b>id</b>	Varchar	150	Company ID
fld_companynamne	varchar	255	Company name
fld_username	varchar	255	Company Username
fld_password	varchar	255	Company Password
fld_companydescription	Text	255	Company description

**iv. Table Name: Authority**

Field	Type	Size	Description
<b>id</b>	Varchar	150	Authority ID
username	Varchar	100	Authority user name
Pass	Varchar	100	Authority password
Post	varchar	100	Authority position
contactno	varchar	100	Authority contact number
icnumber	varchar	100	Authority IC number

**v. Table Name: Ranking**

Field	Type	Size	Description
<b>id</b>	varchar	150	Ranking ID
busop	varchar	100	Bus Operator Name
percentage	varchar	100	Ranking percentage
busopstar	varchar	100	Bus Operator star ranking
ticketstar	varchar	100	Ticket star ranking

**vi. Table Name: FAQs**

Field	Type /	Size	Description
<b>id</b>	Int	11	ID
fld_question	varchar	255	FAQ question

**vii. Table Name: Feedback**

Field	Type	Size	Description
<b>id</b>	Int	11	ID
Fld_username	varchar	255	Username

Fld_subject	varchar	255	Subject
Fld_message	varchar	255	Message

viii. **Table Name: Forum**

Field	Type	Size	Description
<b>id</b>	Int	11	ID
Fld_username	varchar	255	Username
Fld_subject	varchar	255	Forum Subject
Fld_message	varchar	255	Message

ix. **Table Name: News**

Field	Type	Size	Description
<b>Id</b>	Int	11	ID
Fld_providername	varchar	255	Bus Operator name
Fld_subject	varchar	255	Subject
Fld_message	varchar	255	Message

x. **Table Name: Places**

Field	Type /	Size	Description
<b>place_id</b>	Int	6	Destination ID
Places	Varchar	50	Destination

xi. **Table Name: Polling**

Field	Type	Size	Description
<b>id</b>	varchar	150	Polling ID
busop	Varchar	100	Bus Operator

xii. **Table Name: Replyfeedback**

Field	Type	Size	Description
<b>Id</b>	Int	11	ID
Fld_username	varchar	255	Username
Fld_subject	varchar	255	Subject
Fld_message	varchar	255	Message

**xiii. Table Name: Status**

Field	Type	Size	Description
<b>id</b>	varchar	150	ID
totalseats	varchar	150	Total number of seats
selectedseats	varchar	150	Selected seats
username	varchar	150	Username
Date1	varchar	150	Date

**xiv. Table Name: Serviceprovider**

Field	Type	Size	Description
<b>id</b>	Int	11	ID
Fld_companynname	varchar	255	Company name
Fld_username	varchar	255	User name
Fld_password	varchar	255	Password
Fld_address	varchar	255	Address
Fld_age	varchar	255	Age
Fld_contact	varchar	255	Contact
Fld_icnumber	varchar	255	IC Number

**xv. Table Name: Staff**

Field	Type	Size	Description
<b>id</b>	Int	11	ID
Fld_name	varchar	255	Name
Fld_password	varchar	255	Password
Fld_companynname	varchar	255	Company Name
Fld_address	varchar	255	Address
Fld_contact	varchar	255	Contact number
Fld_age	Int	20	Age
Fld_icnumber	varchar	255	IC Number
Fld_pos	varchar	100	Position

**xvi. Table Name: Summonses**

Field	Type	Size	Description
<b>id</b>	Varchar	150	Summonses ID
month	Varchar	100	Month
busop	Varchar	100	Bus Operator

noofsum	Varchar	100	Number of summonses
enteredby	Varchar	100	Entered by

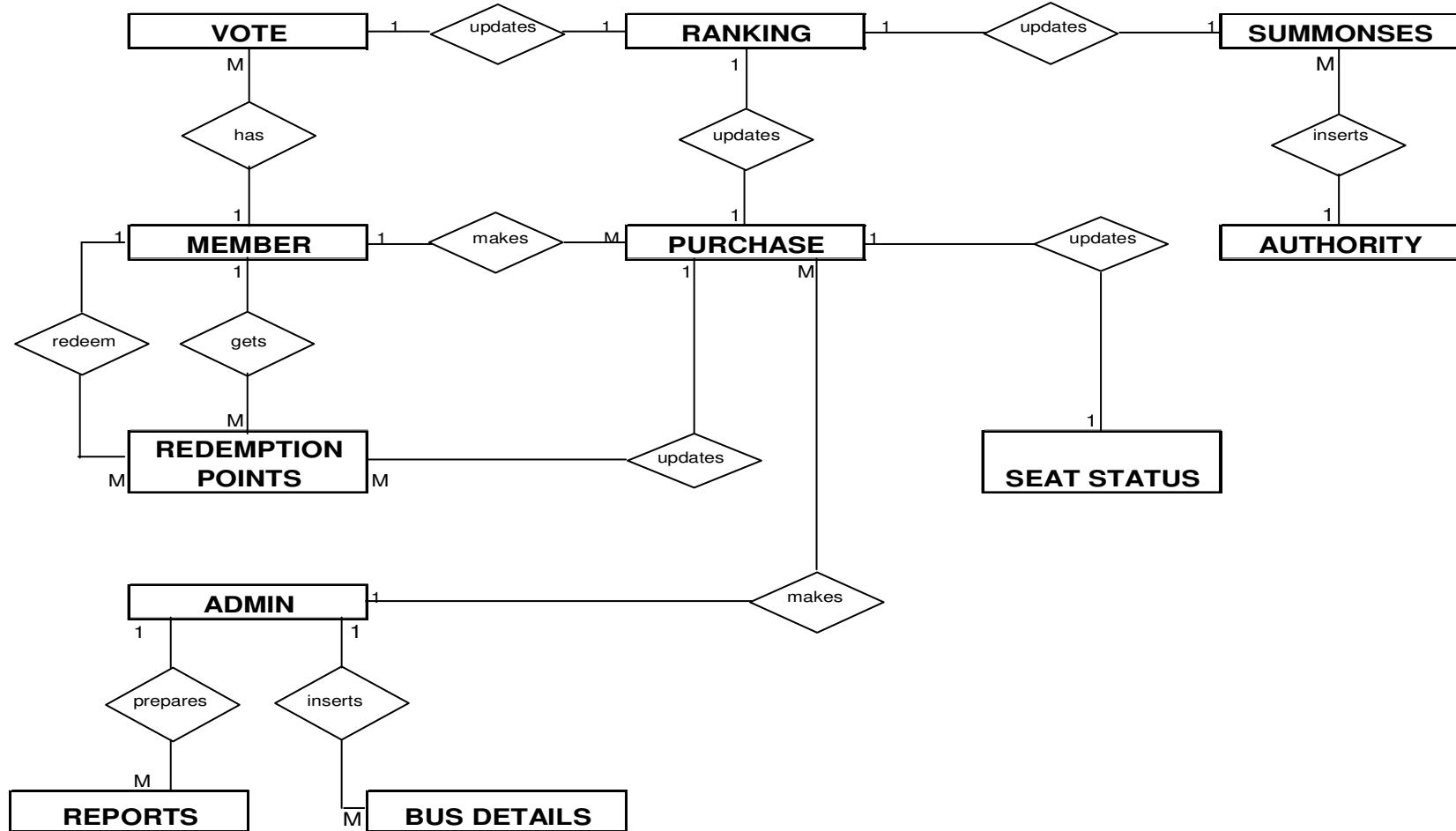
xvii. Table Name: Member

Field	Type	Size	Description
<b>id</b>	Int	11	ID number
fld_username	varchar	255	Username
fld_password	varchar	255	Password
fld_age	Int	20	Age
fld_address	varchar	255	Address
fld_contact_number	varchar	255	Contact number
fld_icnumber	varchar	255	IC number
email	varchar	100	E- Mail address
point	Int	100	Redemption point

xviii. Table Name: Sales

Field	Type	Size	Description
<b>id</b>	Int	11	ID Number
fld_ticketnumber	varchar	255	Ticket number
fld_busnumber	varchar	255	Bus number
fld_serviceprovider	varchar	255	Bus Operator name
fld_username	varchar	255	Username
fld_origin	varchar	255	Bus origin
fld_destination	varchar	255	Bus destination
fld_onward	varchar	255	Bus onward journey
fld_onwarddeptime	varchar	255	Bus onward departure time
fld_returnjdate	varchar	255	Bus return date
fld_returnjtime	varchar	255	Bus return time
fld_onwardadults	Int	10	Bus onward number of adults
fld_onwardchilds	Int	10	Bus onward number of children
fld_returnadults	Int	10	Bus return number of adults
fld_returnchilds	Int	10	Bus return number of children
fld_address	varchar	255	Address
fld_contact	varchar	255	Contact
fld_totalamount	varchar	255	Total amount
fld_payment	varchar	255	Payment
fld_cardtype	varchar	255	Credit Card type
fld_cardnumber	varchar	255	Credit Card number
fld_securitynumber	varchar	80	Credit Card security number
fld_expiry	varchar	255	Credit Card expiry

### 5.3.2 Entity Relationship Model



**Figure 5.7**  
Entity Relationship Diagram for Online Bus Ticketing System

## **5.4 Tools and Methodology used**

In this section the Tools and Methodology used in the development of the prototype system is introduced.

### **5.4.1 Software Package used**

To develop the prototype of the proposed system an appropriate software package needs to be selected. To determine suitable software, it can be identified by addressing several questions:

**(a) Familiarity: Is it familiar and easy to learn?**

This aspect concerns the Administrator and the Customer. It is best to choose a software that is familiar to the Administrator and Customer so that the both party is more comfortable to use the system and easy to learn.

**(b) Flexibility: Can the system be changed or is it easy to modify the program?**

The system needs to be changed or enhanced from time to time, as the Administrator may want to alter or modify some functions. This can be achieved depending on the type of software package and the degree of flexibility allowed.

**(c) Maintainability: Can the system be maintainable easily?**

The system should be able to be maintained easily by the Administrator. Maintainability will also reduce time and cost if the software package allows

maintainability and this would mean that the software is more reliable and efficient to use.

Thus, in choosing the tools to develop the prototype system, the above criteria are checked to ensure it is met.

### **5.4.2 Tools used**

The tools used for the development of the prototype system are important, as it would affect the effectiveness and efficiency of the system. Thus, careful consideration has been taken in choosing the appropriate tool.

#### **5.4.2.1 Software Requirement**

Hypertext Preprocessor (PHP) is an Open Source and cross-platform which is widely-used as general-purpose scripting language that is especially suited for Web Development and can be embedded into hypertext markup language (HTML). PHP is used for this system to replace static HTML pages with 'live data' from a database.

#### **5.4.2.2 Scripting Language**

Java Script is a scripting language that allows the designing of the interactive web sites. JavaScript is an open source language that anyone can use without purchasing a license.

#### **5.4.2.3 Database Management**

MYSQL is a database that enables easy searching, storing, retrieving and sorting data. MySQL server will monitor the access to the database in a multi user environment and ensure only authorized users can access. It uses SQL (Structured Query Language) which is the standard database query language around the world. MySQL can be found in commercial and open source product. It is an Open Source database (Welling, L et al., 2003).

#### **5.4.2.4 Operating System**

For this project Windows XP Professional Edition is used as the development platform since it has easy to use interface and more improved user management compared to other Windows platforms.

### **5.5     Hardware and Software Requirements**

The choosing of Hardware and Software is very important for developing a system as it has a profound impact on the quality and productivity of the system.

### **5.5.1 Requirement for System Development**

The basic software and hardware used to develop the system are as follows:

- (a) Intel Pentium III 733 MHz
- (b) 256 MB of RAM
- (c) Hard disk space
- (d) Window 2000
- (e) Internet Explore 5.0
- (f) PHP
- (g) MYSQL

### **5.6 Human Computer Interaction (HCI) Factors**

The design is created based on Human Computer Interaction factors such as user, productivity factors, organizational factors, and user interface factors.

#### **(a) The user**

In designing the site, the experience and educational background of the users have been taken into consideration.

#### **(b) Productivity factors**

The design must have good quality and at the same time have increased output and minimal error.

**(c) Organizational factors**

There is no need to provide training for the system, as the design is easy to use.

**(d) User Interface**

The use of colors, icons and command buttons, graphic and output display is important when designing the interface. All these have been included when designing the web portal.

## **5.7 Goals of User Interface (Usability Factors)**

When considering Human Computer Interaction factor in designing the framework for Online Bus Ticketing System web portal, there are several goals of user interface needs to be achieved as listed below:

**(a) Learnability**

The interface is easy to learn by the users so that even a first time users can learn it with minimal time frame.

**(b) Flexibility**

The design of the Online Bus Ticketing system supports the flexibility to add any new features in future.

**(c) Visibility**

Visibility is the goal of user interface. The framework is designed in such a way it would be able to provide informative feedback to confirm the action of users.

**(d) Forcing function**

Forcing function is essential for certain functions in order to avoid incorrect input from the users, for example, typing alphabets to insert IC Number.

**(e) Affordance**

When designing the system, the practice of affordance user interface goal is also taken into consideration. For example, a normal user will be directed to the member registration form when wanting to purchase an online bus ticket. This is important to let the users know what actions they can perform while navigating the Online Bus Ticketing System web portal.

## **5.8 Web Page Design Principles**

The principles of Web Page Design focuses mainly on the interface design of the web page. This is where all requirements of the users are translated into a detailed design. Here are the major principles (Shneiderman, 1998) that has adopted in designing the user interface of Online Bus Ticketing System web portal.

**(a) Focus on user needs**

By integrating the requirement statements and user preference, an Online Bus Ticketing System web portal is designed according to the user needs.

**(b) Maintain competitiveness**

Online Bus Ticketing System web portal will cause minimal time cost to the user. Cost means time taken to download a material such as going to the other modules applications and time taken to retrieve information. This is important, as it will indirectly affect the user's impression on the effectiveness of the functions.

**(c) Standardization**

The interface of Online Bus Ticketing System web portal has common user-interface features across other pages. This is to reduce the need for users to relearn the new design of the system.

**(d) Good graphical design**

Good graphical design means to create a consistent, pleasing and efficient look and feel for the system. With a consistent layout, users will feel eased and pleased to use the system.

## **5.9 System Implementation**

After the system design phase that discusses on how the system should be functioning, the next process will be System Implementation. System Implementation is a process that

converts the system requirements and design into program codes. This phase at time involves some modification to the previous design and describes how the initial and revised process design is put into a real working system. Therefore, huge effort will be spent in this phase to determine the success of the system and ease the process of modification, debugging, testing, verification, system integration and for future enhancement.

### **5.9.1 Guidelines on How Online Bus Ticketing System web portal can be implemented**

Following are the guidelines on how Online Bus Ticketing System web portal can be implemented.

- (a) Plan to include all bus operators and to maintain a uniform standard operation for all bus operators.
- (b) Make online ticketing available or accessible via Online Bus Ticketing System portals for the public.
- (c) Analysis of business requirements and benefits by applying ICT
- (d) Evaluate existing information flow and transactions between bus operators and the public.

This suggestion could then help in implementing Online Bus Ticketing System web portal easily without any further delay.

## 5.10 Suggested Guidelines

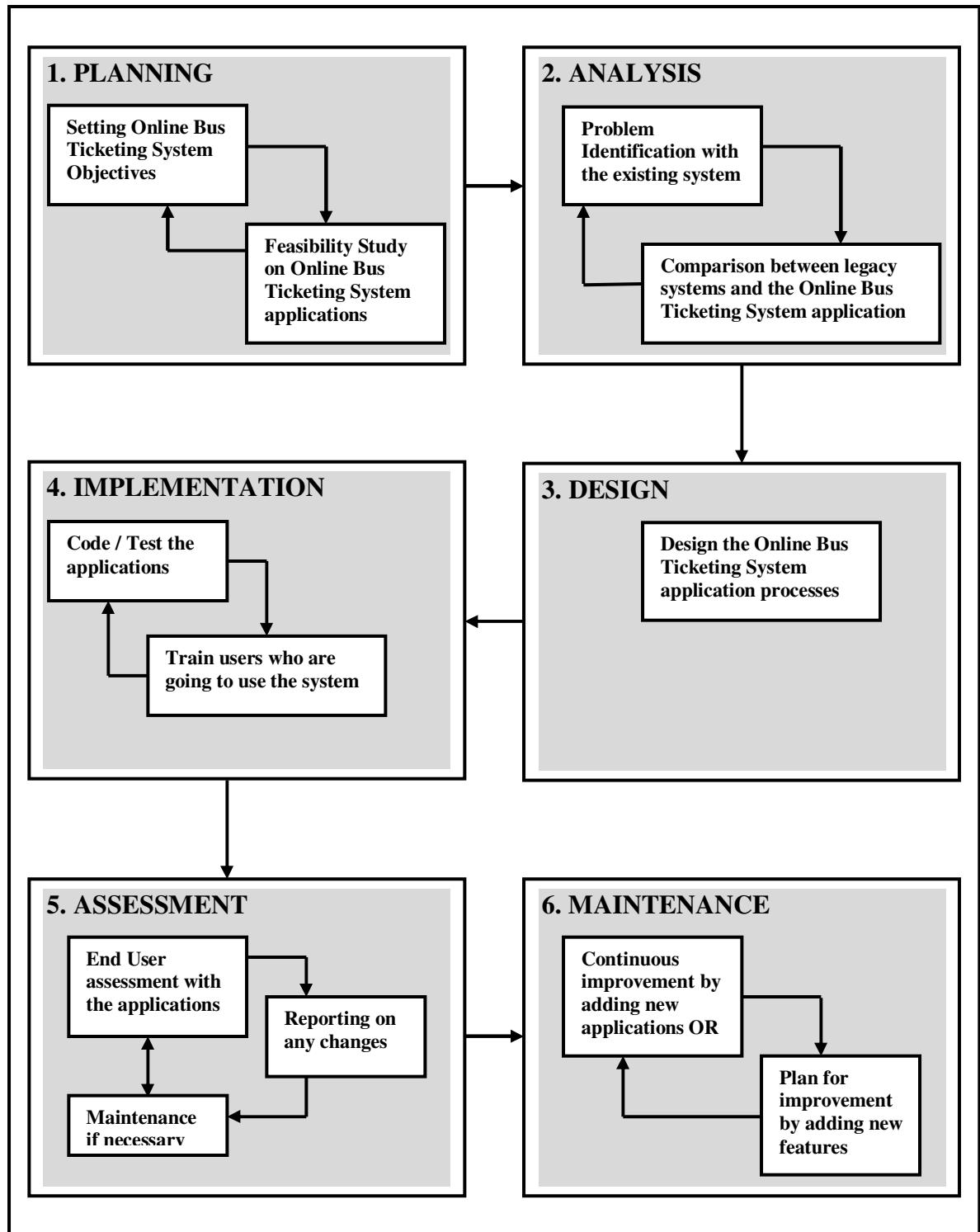


Figure 5.8

Framework for Online Bus Ticketing System web portal Implementation

## **5.11 Features and components of the Prototype**

In Chapter 4, the system is divided into smaller modules or components so that the system is easily manageable and could be developed into a working system faster and easily. It would be easy to develop the appropriate interface for the system based on the system components. The Online Bus Ticketing System web portal has two sections, namely the Administrator section and the Customer section. Both these sections have been discussed in length in Chapter 4.

## **5.12 Interface Design**

The further explanation of the interface design for the Online Bus Ticketing System web portal is attached in Appendix F (Administration section), Appendix G (Authority Section) and Appendix H (Customer section).

## **5.13 Source Codes**

The source codes for the Online Bus Ticketing System web portal is attached Appendix I, (Administration section), Appendix J (Authority Section) and Appendix K (Customer section).

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## **5.14 Conclusion**

The overall chapter covers the recommendation and the suggested guidelines on implementing Online Bus Ticketing applications.

It is an uphill task to implement e-ticketing applications without the support from the bus operators, public and the government bodies who are involve in the transportation industry.

It also depends on the availability of the resources both financial and human capital of the respected stakeholders to support this project.

The proposed suggestion acts only as a guideline as many other factors can be considered during implementation of Online Bus Ticketing System web portal applications.

The suggested framework can ensure that the project will be successful because activities are carried out step by step before other activities are allowed to go ahead. This is very important to ensure consistency of desired features and consensus among all the stakeholders involved in the development, as these will then reduce problems during implementation.

## **CHAPTER 6**

### **SYSTEM TESTING**

#### **6.1 Introduction**

Testing involves operation of a system or application under a controlled condition and evaluating the results. The controlled conditions should include both normal and abnormal conditions. Testing should intentionally attempt to make things go wrong to determine if things happen when they should not or things do not happen when they should.

#### **6.2 Testing**

Testing is the process that is carried out to ensure that the system conforms to the specification and meets the requirements of the users, namely bus operators and customers. Testing had been conducted not only in the end but also during the development of the prototype system. Functional and interface testing were carried out for the module or for the whole system. Each and every link had been checked to make sure all the links are working correctly. Interface testing is carried out to identify that the interface works correctly and faults are not created because of interface errors.

### **6.2.1 Unit Testing**

Unit Testing is to test software in terms of a unit, a module, a function, a specific section of code. This testing occurs while the software is being developed and before completion (David Fletcher, 2000).

For Unit Testing, test cases are designed to verify that an individual unit implements all design decisions made in the unit's design specification. A thorough unit test specification should include positive testing where the unit does what it is supposed to do, and also negative testing where the unit does not do anything that it is not supposed to do. Table 6.1 shows the Unit Testing for the Administrator login module.

**Table 6.1**

**Unit Testing for Administrator login module**

<b>Test Procedure</b>	<b>Output/Error</b>	<b>Analysis of Test Result</b>
Login as admin with valid login ID, password and bus company.	Admin is redirected to the admin home.	Successfully redirected to the admin home after the system checks the validity of login ID, password and bus company.
Invalid login ID, password or bus company.	Error message is displayed.	Login is denied and an error message of wrong login ID, password or bus company is displayed.
None	Message is displayed requesting the admin insert the required fields.	Login denied and a message is displayed requesting to insert the required fields.

Table 6.2 shows the Unit Testing for the Administrator Ticket Booking module.

**Table 6.2**

**Unit Testing for the Administrator Ticket Booking module**

<b>Test Procedure</b>	<b>Output/Error</b>	<b>Analysis of Test Result</b>
Search the seat availability by inserting the origin and destination, departure date and bus operator star ranking within 60 days after the current date.	System administrator is redirected to the bus schedule page, which contain the search information.	Successfully redirected the system administrator to the bus schedule page, which contain the search information. The system administrator then selects the bus and clicks on the submit button.
Search the seat availability by inserting the origin and destination, departure date, and bus operator ranking which depart date is less than the current date.	Error message will be displayed.	Access is denied to the bus schedule page, which contain the search information. An error message requesting to select the departures date from the current date only.
Search the seat availability by inserting origin and destination, the departure date, and bus operator ranking which the depart date is over 60 days from the current date.	Error message will be displayed.	Access is denied to the bus schedule page, An error message requesting to select the departures date within 60 days from current date is displayed.

### **6.2.2 Integration Testing**

Upon completion of Unit Testing, Integration Testing will begin. The purpose is to ensure the distinct components of the application still work in accordance to customer requirements. Test sets will be developed with the purpose of exercising the interfaces between the components. This activity is to be carried out by the bus operators and customers. Integration test will be complete when actual results and expected results are either in line or differences are explainable or acceptable based on the user input.

### **6.2.3 System Testing**

Upon completion of Integration Testing, System Testing will begin. During system testing, the complete system is configured in a controlled environment to validate its accuracy and completeness in performing the functions as designed. The system test will simulate production as it will occur in the “production-like” test environment and test every function of the system that will be required in production. It is also important that validation of the system meets the functional and non-functional requirements. Table 6.3 shows the Integrated Testing for the Administrator Booking Ticket module.

**Table 6.3****Integrated Testing for the Administrator Booking Ticket module**

<b>Test Procedure</b>	<b>Output/Error</b>	<b>Analysis of Test Result</b>
Search the seat availability by inserting the origin and destination, departure date, within 60 days from the current date.	System administrator is redirected to the bus schedule page, which contain the search information.	Successfully redirected the system administrator to the bus schedule page, which contain the search information. The system administrator then selects the bus and clicks on the submit button.
Makes a booking after clicking the submit button and inserts the number of adult or child, and then click the Buy Now button.	The system administrator is redirected to the booking confirmation page.	Successfully redirected the system administrator to the booking confirmation page. The system administrator could print out the ticket confirmation by clicking the Print button.

Table 6.4 shows the Integrated Testing for the Administrator Ticket Cancellation module.

**Table 6.4****Integrated Testing for the Administrator Ticket Cancellation module**

<b>Test Procedure</b>	<b>Output/Error</b>	<b>Analysis of Test Result</b>
Search the ticket to be cancelled by inserting the Booking Number.	Administrator is redirected to the Ticket Details page.	Successfully redirected the administrator to Ticket Details page.
From the Ticket Details page, administrator cancels the ticket by clicking the Cancel button.	The administrator is given a confirmation message.	Successfully cancels the ticket and a confirmation message appear.

Table 6.5 shows the Integrated testing for the Customer Booking Ticket module.

**Table 6.5**

**Integrated Testing for the Customer Booking Ticket module**

<b>Test Procedure</b>	<b>Output/Error</b>	<b>Analysis of Test Result</b>
Search the seat availability by inserting origin and destination, departure date within 60 days from the current date and finally the bus star ranking.	Customer is redirected to the Bus Schedule page, which contain the search information.	Successfully redirected the customer to the Bus Schedule page, which contains the search information. The customer then selects the bus and clicks on the Submit button.
Makes a booking after clicking the submit button and inserts the number of adult or child, selects the seat desired and then click the Buy Now button.	The registered member is redirected to the Booking Confirmation page. A non member will be asked to register.	Successfully redirected the registered member to the Booking Confirmation page. The member then clicks on the Payment button.
Makes a payment either choosing Loyalty Points Redemption, Online Banking or Credit Card payment.	The registered member is redirected to the Online Banking page or Credit Card payment page. For Loyalty Points Redemption, the points will be deducted from the Customer.	Successfully redirected the member to the Online Banking page or Credit Card payment page. The member then inserts their particulars.
System gives a confirmation message after a successful payment and allows users to print the ticket.	The member is shown a confirmation message and is given a option to print the ticket.	Successfully a confirmation message appears and member can print his ticket.

Table 6.6 shows the Integrated Testing for the Customer Ticket Cancellation module.

**Table 6.6**

**Integrated Testing for the Customer Ticket Cancellation module**

<b>Test Procedure</b>	<b>Output/Error</b>	<b>Analysis of Test Result</b>
Search the ticket to be cancelled by inserting the Booking Number.	Customer is redirected to the Ticket Details page.	Successfully redirected the customer to Ticket Details page.
From the Ticket Details page, the customer cancels the ticket by clicking the Cancel button.	The customer is given a confirmation message.	Successfully cancels the ticket and a confirmation message appear.

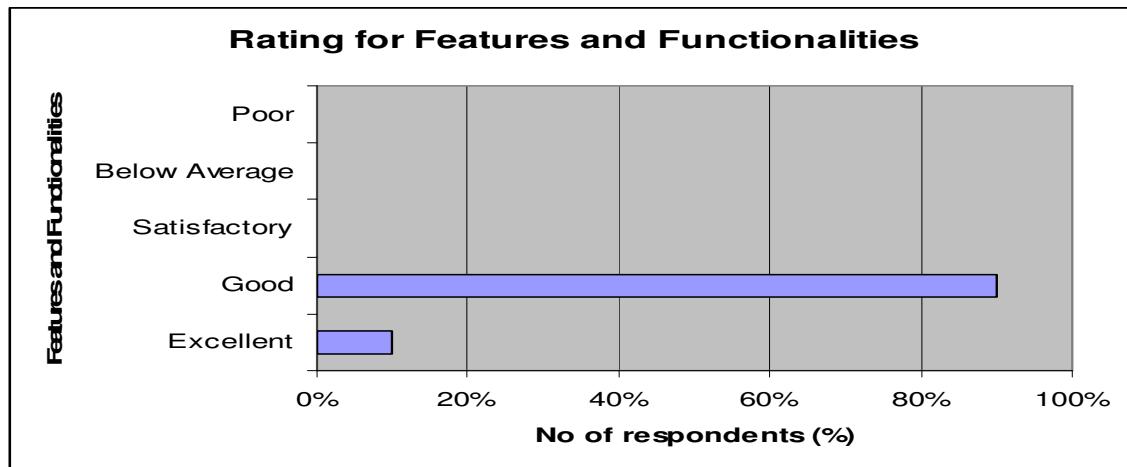
#### **6.2.4 Acceptance Testing**

Acceptance testing will give both Customers and Administrators the opportunity to verify the system functionality and usability prior to the system deployment. The users will test the system interaction with the database, using network communications, or interacting with other hardware or other applications. The system is tested with data supplied by the end users rather than simulated test data. Acceptance testing reveals errors and omissions in the system requirement definition because real data exercises the system in different ways from the test data. It also reveals requirements problem where the system's facilities do not really meet the user's need or the system performance is unacceptable. The testing process continues until the system developer and client agrees that the Online Bus Ticketing web portal is an acceptable implementation of the system requirement.

#### **6.2.4.1 Analysis of Bus Operator Administrator Acceptance Testing**

In order to conduct the testing, ten testers had been invited from bus operators in Puduraya Bus Terminal. This testing was conducted in the office of the bus operators. The testing questionnaire is attached in Appendix D. The results obtained are as below.

- **Features and Functionalities**

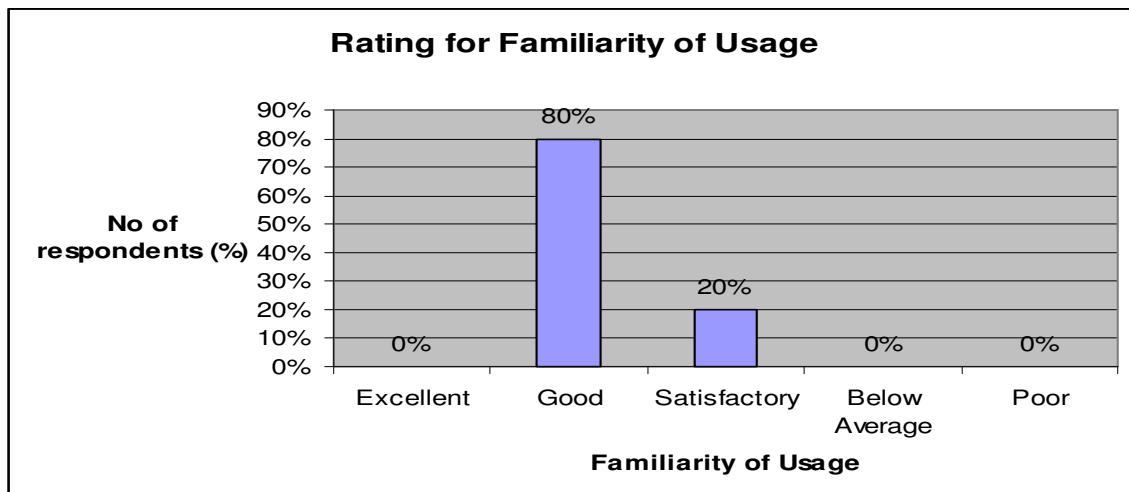


**Figure 6.1**

**Respondents who have rated the systems features and functionalities**

Based Figure 6.1, 9 of the respondents had rated the system as good and 1 had rated as excellent. This shows that the respondents are satisfied with the existing features and functionalities of the Online Bus Ticketing System web portal.

- Familiarity of Usage

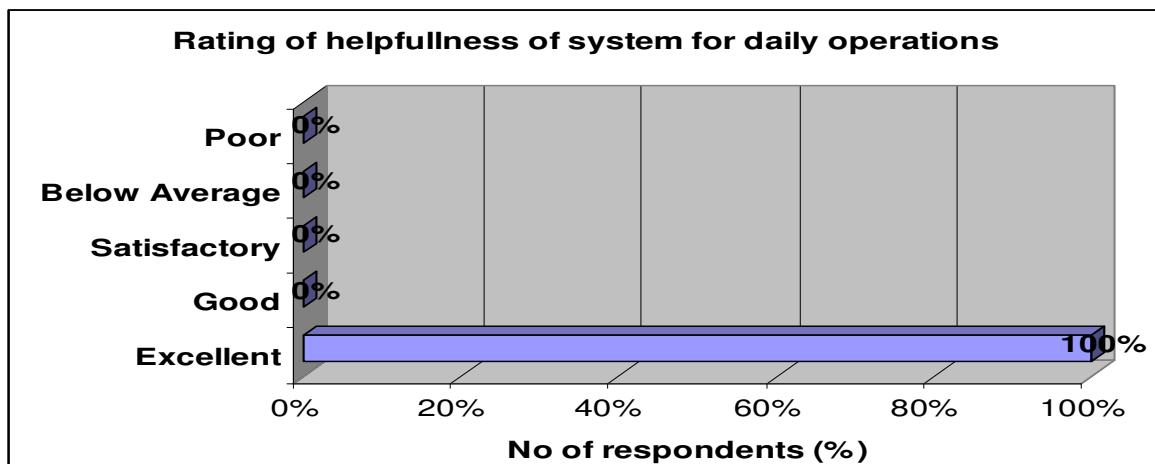


**Figure 6.2**

**Respondents who have rated the familiarity of the Online Bus Ticketing System web portal**

Based on Figure 6.2, 80% of the testers rated the familiarity of usage of the system is good and the rest as satisfactory. This shows that functions of the system are not different from the manual system and thus the objective of transforming a manual ticketing system to an online system has been met.

- Helpful in Daily Operations

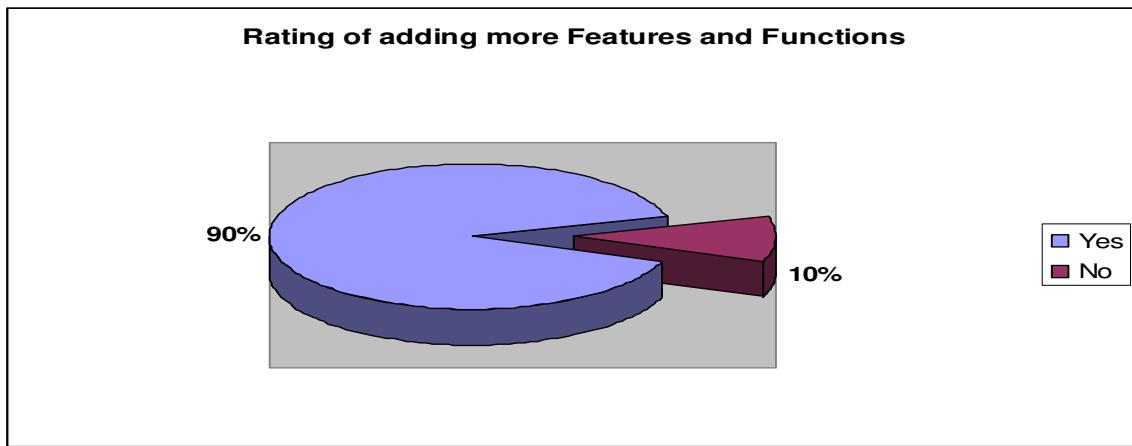


**Figure 6.3**

**Respondents who have rated the system helpfulness in their daily operations**

Based on Figure 6.3, all 10 respondents agreed that this system is helpful in their daily bus operations, thus this project's objective of assisting bus operator's operations and marketing decision through timely decision making through the deployment of Online Bus Ticketing System web portal and the phasing out of manual ticketing system has been achieved.

- **More Features and Functions**

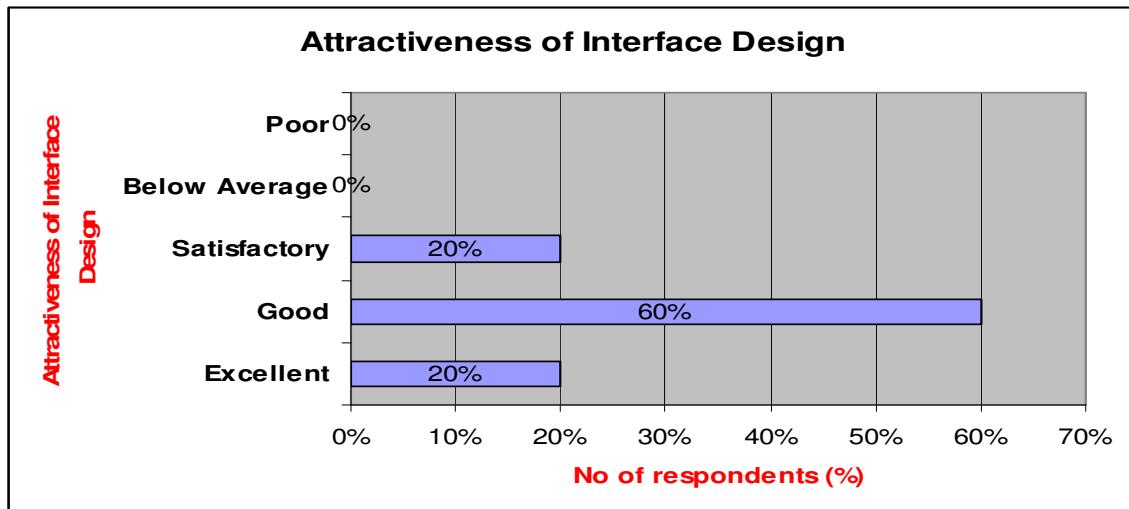


**Figure 6.4**

**Respondents who have rated for additional features and functions in the system**

Based on Figure 6.4, 90% of the respondents had agreed to include more features and functions for the Online Bus Ticketing web portal. Some of the features suggested are the inclusion of sales agents in the system and a payroll feature for staff.

- Attractiveness of Interface Design

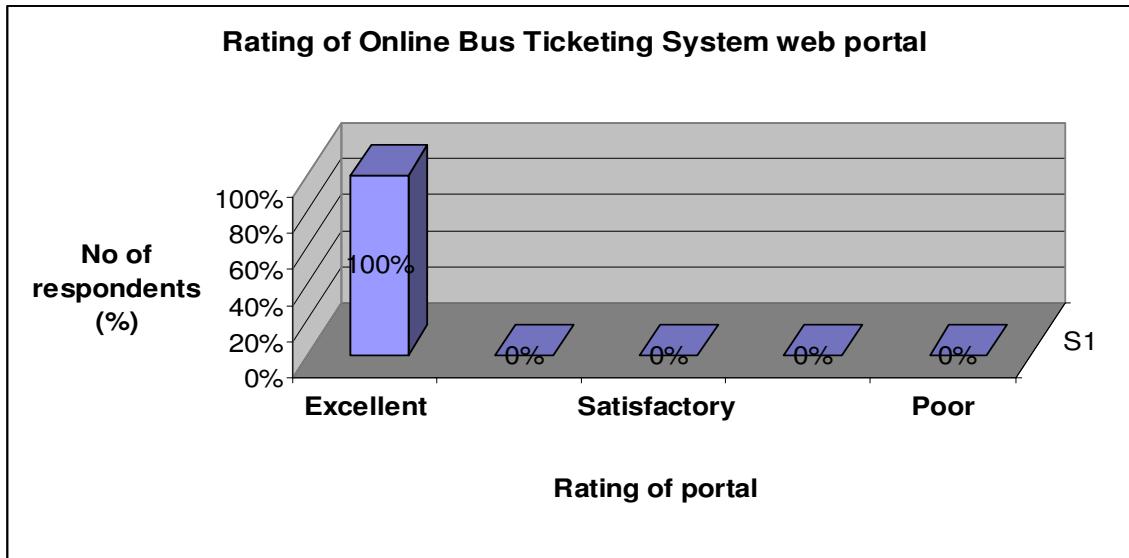


**Figure 6.5**

Respondents who have rated the Online Bus Ticketing web portal interface design

Based on Figure 6.5, 20% of the respondents have rated the interface as excellent, 60% as good and another 20% as satisfactory. From this it is depicted that this project has successfully met one of the design guidelines which is strive for consistency.

- Acceptance of the prototype



**Figure 6.6**

Respondents who have rated the Online Bus Ticketing web portal

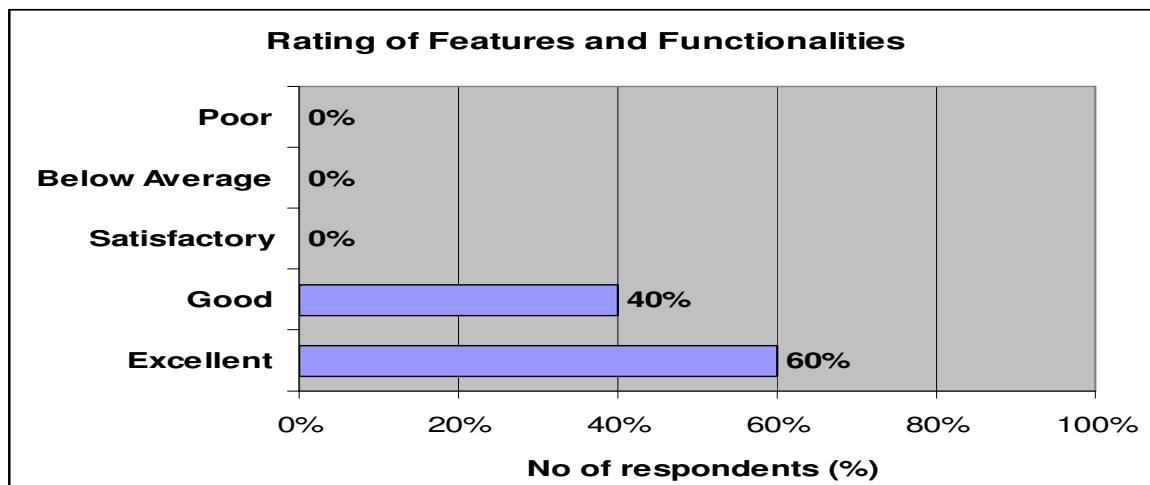
Based on Figure 6.6, all respondents have rated the Online Bus Ticketing portal as excellent, therefore the objective of developing a prototype system for an Online Bus Ticketing System web portal that will then assist in developing a real Online Bus Ticketing System web portal in future, which can be offered to the public has been achieved.

The respondents had also suggested including a function on employment vacancies in the bus transportation industry availability in the system for further improvement of the prototype.

#### **6.2.4.2 Analysis of Customer Acceptance Testing**

In order to conduct the testing, ten random customers in Puduraya Terminal had been invited to test the prototype. The results obtained are as below.

- Features and Functionalities**

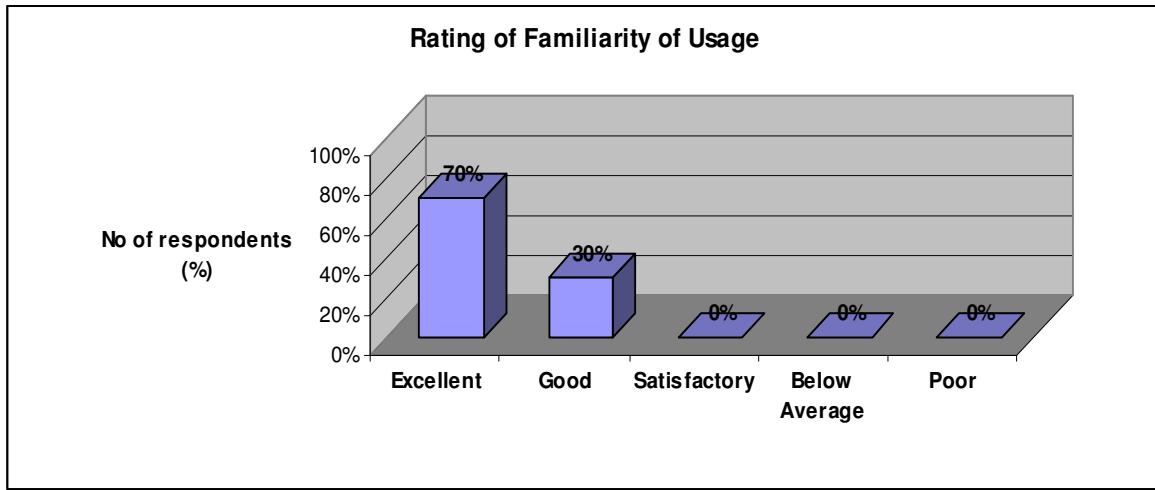


**Figure 6.7**

**Respondents who have rated the systems features and functionalities**

Based on Figure 6.7, 6 of the respondents had rated the system as excellent and 4 had rated as good. This shows that the respondents are satisfied with the existing features and functionalities of the Online Bus Ticketing System web portal.

- **Familiarity of Usage**

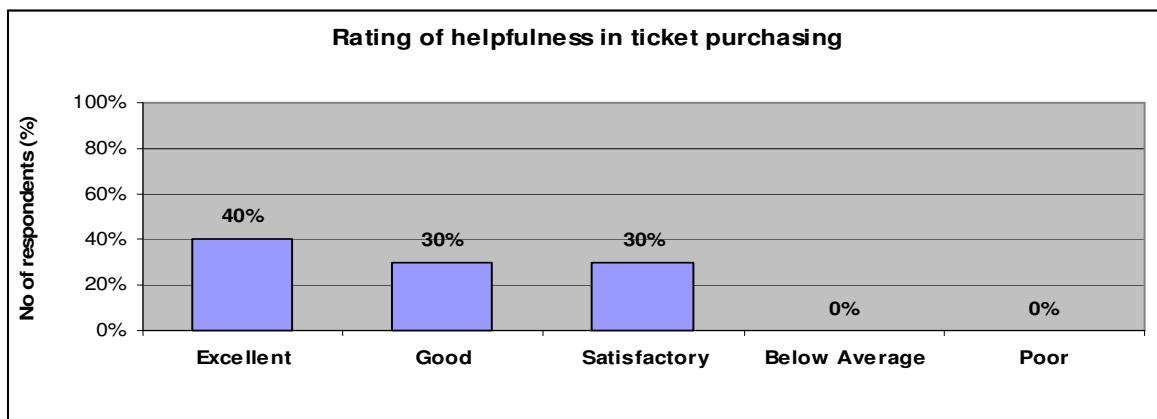


**Figure 6.8**

**Respondents who have rated the familiarity of the Online Bus Ticketing System**

Based on Figure 6.8, 70% of the testers rated the familiarity of usage of the system is excellent and the rest 30% as good. This shows that the system is easy to use and will not be an excuse for a customer to blame on the complexity of the system to use the system. This result again says that the system can take over the current manual selling of bus tickets and finally meeting this project's objective.

- **Helpful in Ticket Purchasing**

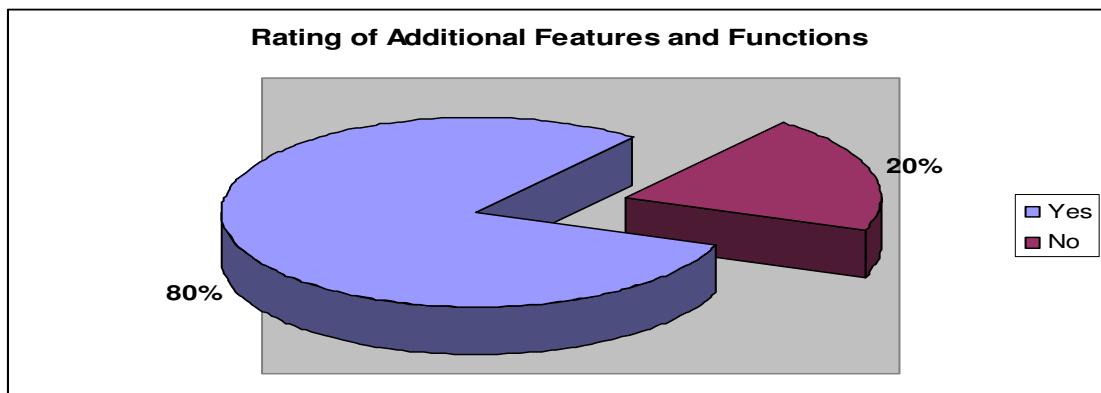


**Figure 6.9**

**Respondents who have rated helpfulness in ticket purchasing**

Based on Figure 6.9, 40% of the respondent has rated excellent on the system in assisting them during ticket purchasing where else 30% have rated good and another 30% have rated satisfactory. This is a good feedback since no one has rejected the system to be use and thus, the system can be fully deployed by the bus operators. Again this fact has proven this project's objective to agree the transformation of ticketing purchasing via the internet.

- **Additional Features and Functions**

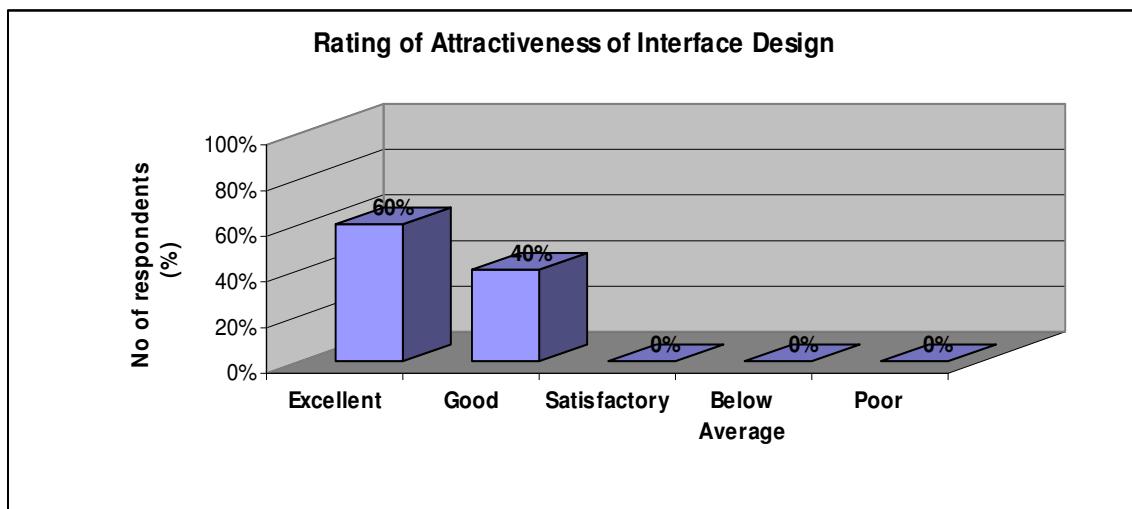


**Figure 6.10**

**Respondents who have rated for additional features and functions in the system**

Based on Figure 6.10, 80% of the respondents had agreed to include more features and functions for the Online Bus Ticketing web portal. Some of the features suggested are the inclusion of ticket reservation feature. This suggestion has been taken into consideration and will incorporate as the future enhancement.

- **Attractiveness of Interface Design**

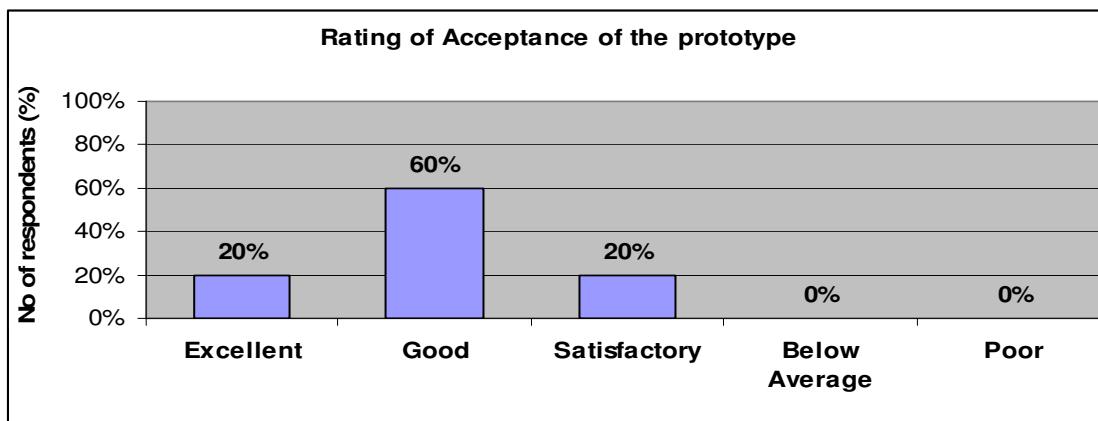


**Figure 6.11**

**Respondents who have rated the Online Bus Ticketing web portal interface design**

Based on Figure 6.11, 60% of the respondents have rated the interface as excellent and 40% as good. From this fact, it is depicted that, this system has successfully met one of the design guidelines which is strive Human Computer Interaction.

- **Acceptance of the prototype**



**Figure 6.12**

**Respondents who have rated the Online Bus Ticketing web portal**

Based on Figure 6.12, 20% of respondents have rated the Online Bus Ticketing portal as excellent, 60% have rated good and 20% have rated satisfactory therefore the objective of developing a prototype system for an Online Bus Ticketing System web portal and putting to use have been well accepted by the respondent.

### 6.3 Conclusion

The Online Bus Ticketing system web portal can further be enhanced to meet the users' requirements. All the Human Computer Interaction factors and the usability factors had been taken when designing the web portal. The web portal should allow all age groups to use and navigate easily. The web portal provides a lot of information for customers who would like to purchase a bus tickets or for those who are interested to know about the bus operators' services. Even though the web portal is able to meet the user requirements, it still has room for improvement.

## **CHAPTER 7**

### **CONCLUSION**

#### **7.1 Introduction**

This chapter discusses on the outcome of this entire research, limitations of the research and last but not least the future outcome of this research.

Finally, this chapter concludes the various issues that had been highlighted in the earlier chapters. Knowledge in terms of concept, theory, technical and practical aspects on Online Bus Ticketing System web portal had been gained.

#### **7.2 Outcomes of the research**

Based on the research objective that has been stated in the earlier chapter the following are the achievements:

The first objective has been successfully completed, which is to investigate and analyze the problems on the existing e-ticketing systems provided by individual bus operators. The problems of existing e-ticketing are clearly stated in Chapter 2 where a thorough study had been conducted by investigating existing bus e-ticketing systems in Malaysia and overseas.

Further improvement had been identified that need to be done on the existing bus e-ticketing systems.

The next objective is to identify the relevant features of various components and methods needed for an Online Bus Ticketing web portal. This objective has been highlighted clearly in Chapter 3 that includes the improvements needed on the existing e-ticketing systems through interviews and surveys. Based on the suggested information gathered, the relevant features of various components and methods needed for an Online Bus Ticketing System web portal is designed. This objective is also to assist bus operators operations and marketing decision through timely decision making via Management Information System. The system allows the system administrators to generate up to date reports from the system for future decision making.

The final objective identifies the improvements needed on the existing e-ticketing systems through interviews and surveys. With the suggested information gathered, the relevant features of various components and methods needed for an Online Bus Ticketing System web portal is designed. It also explains the involvement of Decision Support System that will provide option to a user based on the service level provided by the bus operator and thus gives power to the user to decide and choose which bus operator's services to use. This objective is very much important due to the high level of dependency that the user is having on the bus operator that could cause fatal if the services is not up to the standards drawn by the governing bodies (Jabatan Pengangkutan Jalan and Polis Diraja Malaysia). This objective explains further on the development of an Online Bus Ticketing System web portal. The tools and methodology used, user requirements and other issues on designing the system are discussed.

### **7.3 Limitations of the research**

There were few constraints that had been encountered during completing the research document. The first constrain was the inability to find any research document obtaining information on star ranking for bus operators. It was difficult to acquire any information on this area because there are no any governing bodies that award ratings to bus operators as how hotels and airliners are rated. It is discovered there are none of the bus e-ticketing sites offers star ranking for any of its bus operators.

The second constraint was on the information gathered from the public on e-ticketing in Malaysia. It is difficult to have a perfect percentage of statistics constructed. The opinion responded by public during data gathering process is too subjective and how genuine the opinion is questionable. The existence of e-ticketing in Malaysia is still new for many and those who have the knowledge of e-ticketing still do not fully utilize the services.

### **7.4 Future work of the research**

Some of the future work of the research for this Online Bus Ticketing web portal that can be taken into consideration are-

#### **(a) Language Support**

Online Bus Ticketing System web portal could be enhanced to provide more language support such as Malay language version besides the current English

language version. This will enable information to be displayed in the different language. As a result, this will broaden the usage of the system and interact with more customers.

**(b) Enhanced User Interface**

The user interface of the system can be enhanced to be more attractive, impressive and interactive when this web portal is converted to a real-time system.

**(c) Increase Administrators Task**

Administrator's task can be further enhanced to include more features to ease maintenance process. For example, analytical tools, data mining, other relevant reports and database backup are recommended to be included in this Online Bus Ticketing web portal to provide more analytical function to the company.

**(d) Common working community**

The system can also be a “newsletter” to all employers and employees who are related to bus transportation in Malaysia. Various information or news can be displayed to the targeted audience such as employment availability, bus operators' news and so on.

**(e) Incorporation of other mode of transport**

This system can also accommodate other mode of transportation in Malaysia for instance, Keretapi Tanah Malyau, Malaysian Airlines Berhad and taxi operators in Malaysia. This information will be vital especially for tourist who can plan their traveling itinerary during their vacation in Malaysia.

## **7.5 Conclusion**

Online Bus Ticketing System web portal is a system with its own strengths and limitations. A through study and implementation of an Online Bus Ticketing System web portal had been conducted. An investigation on all bus e-ticketing sites in Malaysia and overseas had also been conducted, and the discovery that there are not many of these sites offers a collaborated bus operators services and none has an awarding star ranking to their bus operators, which will be considered a niche and vital information to the customers. Thus, an introduction of the Online Bus Ticketing web portal that collaborates all bus operators and star ranking feature for bus operators in Malaysia as well as creating convenience to bus users, conducting virtual business transaction more efficiently, and over the Internet, which has already become a crucial part of our daily lives.

Overall, Online Bus Ticketing System web portal has been successfully built and has achieved and fulfilled the objectives and requirements that are stated in the project proposal. The use of web-based approach bring along many benefits include the ability to access information anywhere and at anytime of the day.

There is room for improvement on the suggested guidelines, study and implementation of Online Bus Ticketing System web portal. An important challenge is by providing awareness about a collaborated web portal of Online Bus Ticketing System in Malaysia and the introduction of star ranking for all bus operators in Malaysia. This will help to improve the country's bus transport service industry by offering the best service in terms of performance, security and safety.

Finally, the useful information provided by the respondents towards the completion of this research document is greatly appreciated.

## Appendix A

### List of Bus Companies and Taxi at Puduraya Bus Terminal

<b><u>BUS OPERATORS</u></b>	<b>COUNTER</b>	<b>PLATFORM</b>	<b>DESTINATION</b>
UTAMA EKSPRES SDN. BHD.	31	1	EAST COAST
KUALA YAKIN SDN. BHD	44	1	SOUTH
TOUR WORLD SDN. BHD.	55	1	SOUTH
CEPAT EKSPRES SDN. BHD.	6	2	NORTH
PERMATA KIARA SDN. BHD.	60	2	NORTH
SYKT. KEND. SATRIA EKS. S/B	27	2	SOUTH
SETIA EKSPRES SDN. BHD.	4	2	SOUTH
EKSPRES SEMARAK SDN. BHD.	35	2	SOUTH
ELTABINA JAYA SDN. BHD.	54	2	SOUTH
EDARAN EKSPRES SDN.BHD.	10	2	NORTH
PARKMAY BERHAD (EBBAN)	18	3	NORTH
PARKMAY BERHAD (RAYA)	34	3	NORTH/SOUTH
PARKMAY BERHAD (SRI PERAK)	20	3	NORTH/SOUTH
PARKMAY BERHAD (JELEBU)		3	NORTH/SOUTH
HASRY SDN.BHD.	22	4	SOUTH
SENANDONG TRAVEL & TOURS SDN. BHD.	52	4	SOUTH
SUPER RIA BAS TRANSPORT S/B	24	4	NORTH
FOH HUP OMNIBUS CO. BHD	~	7	NORTH
SILVER EKSPRES SDN. BHD	19	7	STAGE BUS
EMAS EKSPRES (P) SDN. BHD.	30	7	NORTH
MOHD. TAP SDN. BHD.	56	7	SOUTH
MELOR INTELINE EKSPRES S/B	38	7	SOUTH
PERKONGSIAN PER. MELAYU PERLIS	26	7	NORTH
MAJU INSAF TRAVEL & TOURS S/B	51	7	NORTH

**Appendix A: Continued**

T. HAKKIM SDN. BHD.	58	7	SOUTH
SYKT. PENGANGKUTAN AM (M) S/B	36	7	NORTH
EKSPRES NASIONAL BERHAD	15,16,17	8,9,10	ALL DESTINATIONS
RESTU MOTOR SDN.BHD.	7	11	NORTH
JEBAT EKSPRES SDN. BHD.	21	11	SOUTH
KEND. EKS. BAS KOTA S/B	2	11	NORTH
ZENWAN (M) SDN. BHD.	49	11	NORTH
SYKT. PENG. GOLDVILLE SDN. BHD.	62	11	SOUTH
MERU EKSPRES SDN. BHD.	42	11	NORTH
K.L. - SINGAPORE SDN. BHD.	14	12	SOUTH
K.L. - MALACCA EKSPRES SDN. BHD.	12	12	SOUTH
K.L. - SABAK BERNAM SDN. BHD.	13	12	NORTH
STONEWAY TRAVEL & TOURS SDN. BHD.	23	12	SOUTH
PARIT ENTERPRESE SDN. BHD.	28	13	NORTH
SUASANA JELITA SDN. BHD.	11	13	NORTH
SYKT. PENGANGKUTAN AM MELAYU	32	13	EAST COAST
TUAH WIJAYA SDN. BHD.	45	13	SOUTH
IKTISAD INDAH SDN. BHD.	57	13	SOUTH
RESORTS WORLD TOURS SDN. BHD.	43	13	EAST COAST
ZUCO SDN. BHD.	48	14	NORTH
RANGKAIAN MEWAH SDN.BHD.	46	15	SOUTH
K.L. - TG. BIDARA EKSPRES S/B	53	15	SOUTH
NAZA EKSPRES SDN. BHD.	53	15	SOUTH
NAEILA EKSPRES SDN. BHD.	59	15	SOUTH
CINTA BARU EKS. SDN. BHD.	1	16	NORTH
WARISAN MESRA SDN. BHD.	1	16	EAST COAST
PANTHER EKSSPRES (LB) SDN. BHD.	29	16	NORTH
SELAT KERIS SDN. BHD.	41	16	NORTH

**Appendix A: Continued**

KAMTAR OMNIBUS CO. SDN. BHD.	3	16	SOUTH
ANEKA JASARAMAI SDN. BHD.	8,9	17	SOUTH
SRI MAJU SARATA EKSPRES S/B	~	17	NORTH
K.L. - ALOR SETAR EKSPRES S/B	~	17	NORTH
MARZIN TRANSPORT SDN. BHD.	50	17	NORTH
EMAS EKSPRES (LB) SDN. BHD.	30	17	SOUTH
TG. MALIM - K.L. EKSPRES S/B	5	18	NORTH
HOSNI EKSPRES SDN. BHD.	33	18	SOUTH
PERKASA EKSPRES SDN. BHD.	47	18	SOUTH
SOONMIX SDN. BHD.	61	18	SOUTH
SANTERO SDN. BHD.	37	19	EAST COAST
TAIPEI HOLIDAYS RESORTS	25	19	NORTH
LEN OMNIBUS CO. LTD.	~	20, 21	STAGE BUS
THE SELANGOR OMNIBUS CO. BHD.	~	22, 23	STAGE BUS

<b><u>TAXI TRANSPORT ORGANIZATION</u></b>	<b><u>DESTINATION</u></b>
PER. PEMANDU TEKSI BHG. UTARA	NORTH
PER. PEMANDU TEKSI SELATAN	SOUTH
PER. PEMANDU TEKSI PANTAI TIMUR	EAST COAST
PERKHIDMATAN TERAJU SDN. BHD.	GENTING HIGHLANDS
GENTING HIGHLAND TAXI SERVICE SDN. BHD.	GENTING HIGHLANDS
SRI HIGHLANDS CARRIAGE SERVICE SDN. BHD.	GENTING HIGHLANDS

## **Appendix B**

### **Questionnaire (Customer)**

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#### **INTRODUCTION**

**Online Bus Ticketing Portal** initiative is similar to many other ticketing portals around the world. **Online Bus Ticketing Portal** is designed to create a paperless ticketing, and also ease the traffic congestion in bus stations, especially Puduraya Bus Terminal.

The questionnaire is divided into few sections from general questions to more specific questions such as **Section I** – on Background, **Section II** – on Experience on Internet Usage, **Section III** – on Experience on Purchasing on an existing Online Bus Ticketing system and **Section IV** – on Suggestions.

---

#### **SECTION I: BACKGROUND**

1. What age group are you?

- Below 20
- 20-25
- 26-35
- 36-45
- Above 45

2. What is the reason you are in Puduraya Bus Station today?

- To purchase a bus ticket
- Waiting for a bus
- Waiting for a passenger
- Others (please specify)\_\_\_\_\_

## **Appendix B: Continued**

3. Have you purchased an over the counter bus ticket before?

Yes

No (*Please proceed to question 5*)

4. If yes, what is the average time do you take to purchase a bus ticket (including coming to the bus station, parking, etc)?

30 minutes and below

30 minutes to 45 minutes

45 minutes to 1 hour

Above 1 hour

5. Please rate the condition of Puduraya Bus Station in the table below.

Please tick ( ✓ ) your answer.

	Very Good	Good	Medium	Bad	Very Bad
Human Congestion					
Air Environment					
Self Safety					
Traffic					
Convenience to Purchase Tickets					
Travel/ Bus Information Acquiring					

## **SECTION II: EXPERIENCE ON INTERNET USAGE**

6. Do you have a computer that has access to the Internet?

Yes, specify (home/office)

No (*Thank you for answering the questionnaire*)

## **Appendix B: Continued**

7. How long do you normally surf the Internet per week?

- < 2 hours
- 2-4 hours
- 5-6 hours
- > 6 hours

8. Why do you use the Internet for most of the time?

(You may choose more than one answer)

- General information retrieval
- Shopping
- Banking
- Email
- Search for specific information
- Other (please specify)\_\_\_\_\_

9. Have you ever conducted an Online Payment through the Internet before?

- Yes
- No

## **SECTION III: EXPERIENCE ON PURCHASING AN ONLINE BUS TICKET**

10. Have you heard of Online Bus Ticketing system before?

- Yes
- No (*Please proceed to question 17*)

## **Appendix B: Continued**

11. Are you aware of Online Bus Ticketing System being provided by bus operators in Malaysia?

- Yes
- No (*Please proceed to question 17*)

12. Have you used this Online Bus Ticketing System to purchase a bus ticket before?

- Yes (*Please proceed to question 14*)
- No (*Please proceed to the next question& thank you for answering the questionnaire*)

13. Please choose the reason why you have never used an online system to purchase a bus ticket before. You may choose more than one answer.

- Do not trust online bus ticketing systems
- Do not trust online payment
- Lack of information
- Not user friendly
- Slow page download (Slow server)
- Lack of multimedia elements / No direct interactivity
- Not enough information
- Lack of security
- Lack of understanding of e-commerce
- Others (please specify) \_\_\_\_\_

## Appendix B: Continued

14. Please choose the best relating to the existing Online Bus Ticketing system.

Do you agree that:	YES	NO
Online bus ticketing is more efficient compared to buying a bus ticket over the counter	<input type="checkbox"/>	<input type="checkbox"/>
Online bus ticketing is user friendly	<input type="checkbox"/>	<input type="checkbox"/>
Online bus ticketing web sites are informative	<input type="checkbox"/>	<input type="checkbox"/>
Online bus ticketing is cost and time effective	<input type="checkbox"/>	<input type="checkbox"/>
Online bus ticketing is more reliable	<input type="checkbox"/>	<input type="checkbox"/>
Online bus ticketing payment is convenient	<input type="checkbox"/>	<input type="checkbox"/>

15. Are you satisfied with the services provided in these web sites?

Yes

No

16. Will you recommend purchasing an online bus ticket to your friends?

Yes (*Please proceed to the next question*)

No

If No, why?

Do not trust online bus ticketing systems

Do not trust online payment

Lack of information

Not user friendly

Slow page download (Slow server)

Lack of multimedia elements / No direct interactivity

Not enough information

Lack of security

Lack of understanding of e-commerce

Others (please specify) \_\_\_\_\_

## **Appendix B: Continued**

### **SECTION IV: SUGGESTIONS**

17. Do you normally use 1 type of bus operator only for your traveling purpose?

- Yes (*Please proceed to the following question*)
- No (*Please proceed to question 19*)

18. Why do you only use the services of 1 type of bus operator to your destination?

- There is only 1 bus operator to my destination
- Difficult to search for tickets from other bus operators
- Cheaper
- The bus operator has an Online Ticketing system
- Others (please specify) \_\_\_\_\_

19. If there is a portal combining all express bus operators into a single system, do you think it will be a better than the current method of purchasing a bus ticket?

- Yes
- No

20. If there is a portal combining all express bus operators into a single system, will you use this portal?

- Yes
- No

## **Appendix B: Continued**

21. Which payment option would you prefer when purchasing an online bus ticket from this portal?

- Credit card
- Prepaid system
- E-payment (Direct Banking)
- Debit card
- DigiCash / E-wallet
- Smart card
- Others (please specify) \_\_\_\_\_

22. What are the features do you feel should be available in this Online Bus Ticketing Portal? You may choose more than 1 answer.

- Attractive Web Page Design
- Fast Loading And Response Time
- User Interactivity
- Online Registration
- Online Payment
- Online Reservation/ Purchasing
- Online Cancellation
- Print Out Reservation
- Company Information
- User Instruction
- FAQ/ Help section
- Schedule
- Fare Rate

## **Appendix B: Continued**

- Terminal Location Map
- Seat Map
- Seat Status
- Other Web Site Linkage

23. What other information would you like to see in this Online Bus Ticketing Portal?

- Bus company information
- Facilities around Puduraya
- Taxi information
- Latest news of Puduraya
- Others (please specify)\_\_\_\_\_

24. Do you think bus operators in Malaysia should be ranked (like hotels with star ranking)?

- Yes (*Please proceed to the following question*)
- No (*Thank you for answering the questionnaire*)

25. How would this ranking help you as a consumer? You may choose more than 1 answer.

- To be able to choose the best service provider
- Awareness of bus operators sales performance
- Safety and security reasons
- Confidence in services provided
- To get the best deals (value for money)
- Freedom of choice based on bus preference
- Others (please specify)\_\_\_\_\_

## **Appendix B: Continued**

26. What criteria do you think should be included to determine the classification or rank of a bus operator? You may choose more than 1 answer.

- Bus operator's sales performance
- Popularity through public polling system
- Accidents and traffic offences track record
- In-bus service, example, meal serving, cable tv, internet access, etc.
- Cheaper bus ticket
- Others (please specify) \_\_\_\_\_

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**Thank you for answering this questionnaire.**

## **Appendix B: Continued**

### **Interview Questions for Online Bus Ticketing System (Bus operators)**

Name:

Organization Name:

Position:

#### **Objectives:**

To understand the operations of the ticketing department in an express bus company. To analyze the acceptance, potential and opportunities in implementing an Online Bus Ticketing System.

1. How does your company conduct the bus ticket selling, booking and purchasing process? Could you please explain in details?
2. Will there be any report or statistic generated daily?
3. How does the bus schedule is planned?
4. Does your company have a fix schedule for the bus or is it changed regularly?
5. Does your company appoint agents to sell your tickets? If yes, how many of them are situated in the Klang Valley area. How do they communicate with the central office so that there is no over-lapping of ticket sales? Have your company ever over sold tickets on a given bus?
6. Are your staffs computer literate and are they using computers to do their daily duties?
7. Does your company have an Online Bus Ticketing System? If yes, how is the respond from the public and why you think the respond is such?

## **Appendix B: Continued**

8. If there is a single portal combining all the bus operator's activities, do you think it will benefit the public?
9. If your company has an existing Online Bus Ticketing System, do you think the functions are adequate? If no, what are the additional functions you think should be included?
10. If your company does not have an existing Online Bus Ticketing System, what are the functions you expect from an Online Bus Ticketing System?
11. Do you think Online Bus Ticketing System is reliable in handling the purchasing of bus ticket online and thus reducing the human congestion in Puduraya Bus Terminal?
12. What type of payment methods will you prefer in an Online Bus Ticketing System?
13. Do you think by having this Online Bus Ticketing System will ease the ticketing process in the operation unit?

## **Appendix B: Continued**

### **Interview with Plusliner Sdn. Bhd.**

The interviewee, Mr. Heri Buhtamin who is a supervisor of Plusliner Sdn. Bhd was interviewed at 1.30 pm for about one hour. Below are the set of answers from Mr. Heri Buhtamin.

#### **Question 1:**

How does your company conduct the bus ticket selling, booking and purchasing process?

Could you please explain in details?

#### **Answer:**

My company uses the conventional system, i.e. over the counter sale and a computerized system to conduct the booking and purchasing process. The top management will set the trip schedule for the busses. Based on this schedule, tickets can be generated for a particular trip according to the seat availability for each bus. When the customers need to purchase a bus tickets, the counter clerk need to input the data such as departure date, time, and destination into the system to check the ticket availability from the database. If the ticket is available, the clerk will print out the ticket with details such as destination, date and time of departure, date of purchase, ticket price, seat number and so on. The ticket is considered sold once it is printed out. In addition, my company also has a website, which provides more convenience to the customers to reserve and purchase their tickets.

#### **Question 2:**

Will there be any report or statistic generated daily?

## **Appendix B: Continued**

### **Interview with Plusliner Sdn. Bhd.**

#### **Answer:**

Yes. The summary reports, which contain information like how many trips of the day, how many passengers abort the buses and the amount collected for the day will be printed out by the counter clerk at the end of the day. All these reports are generated by computer. This report will be handed to officers on duty for verification and later it will be sent to the management for future analysis and updates.

#### **Question 3:**

How is the bus schedule planned?

#### **Answer:**

The bus schedule is planned by the top management. Normally, the bus schedule for particular destination is fixed, but, during the peak season like Hari Raya, Chinese New Year and public holidays, the total trips per day for each destination will be increased to fulfill customers demand.

#### **Question 4:**

Does your company have a fix schedule for the bus or is it changed regularly?

#### **Answer:**

Every day, my company provides fix services from North-South Expressway, covering major towns and cities sprawled across the Peninsular. The destinations are Pulau Pinang, Batu Gajah, Butterworth, Changloon, Kuala Perlis, Kulim, Lumut, Padang Besar, Parit Buntar, Sungai Petani, Kuala Lumpur, Johore Bahru, Seremban, Kuantan, Kuala Terengganu, Ipoh, Alor Setar, Kangar, Bukit Kayu Hitam, Kuala Kangsar, Haytai and

## **Appendix B: Continued**

### **Interview with Plusliner Sdn. Bhd.**

Singapore which attached at Appendix C. My company also provides bus charter service to customers.

#### **Question 5:**

Does your company appoint agents to sell your tickets? If yes, how many of them are situated in the Klang Valley area. How do they communicate with the central office so that there is no over-lapping of ticket sales? Have your company ever over sold tickets on a given bus?

#### **Answer:**

No, we do not have an agent representing us. If a customer wants to buy a ticket, they have to come and get it from the counter. We have never over sold bus tickets.

#### **Question 6:**

Are your staff computer literate and are they using computers to do their daily duties?

#### **Answer:**

Yes, training will be provided for all staff especially on how to use the computerized system and for every new staff hired, knowledge in computing is a must.

#### **Question 7:**

Does your company have an Online Bus Ticketing System? If yes, how is the respond from the public and why you think the respond is such?

## **Appendix B: Continued**

### **Interview with Plusliner Sdn. Bhd.**

#### **Answer:**

Yes, our company has an existing Online Bus Ticketing System and the respond is not as expected probably because the method of purchasing is still very new in Malaysia. I think the public rather come here and buy the ticket compared buying on the internet.

#### **Question 8:**

If there is a single system combining all the bus operator's activities, do you think it will benefit the public?

#### **Answer:**

Yes, I believe it will benefit the public.

#### **Question 9:**

If your company has an existing Online Bus Ticketing System, do you think the functions are adequate? If no, what are the additional functions you think should be included?

#### **Answer:**

I am quite satisfied with the current online e-ticketing system that is offered by my company. We have functions such as seat availability checking for a particular travel day, schedule and fare rate, reservation and purchasing of bus tickets, company promotions and so on.

#### **Question 10:**

If your company does not have an existing Online Bus Ticketing System, what are the functions you expect from an Online Bus Ticketing System?

## **Appendix B: Continued**

### **Interview with Plusliner Sdn. Bhd.**

#### **Answer:**

This is not applicable as my company has an online system that is currently running.

#### **Question 11:**

Do you think Online Bus Ticketing System is reliable in handling the purchasing of bus ticket online and thus reducing the human congestion in Puduraya?

#### **Answer:**

Yes, I believe it will, because the condition is Puduraya is quite bad.

#### **Question 12:**

What type of payment methods will you prefer in an Online Bus Ticketing System?

#### **Answer:**

I prefer the e-payment which using the e-banking because this method is simple and direct.

In addition, most of the Malaysians own bank accounts.

#### **Question 13:**

Do you think by having this Online Bus Ticketing System will ease the ticketing process in the operation unit?

#### **Answer:**

Yes, I think this Online Bus Ticketing System will ease the ticketing process.

## **Appendix B: Continued**

### **Interview with Eltabina Express Sdn. Bhd.**

The interviewee, Mr. Salehan Mohd. Basir who is the manager of Eltabina Express Sdn. Bhd was interviewed at 2.30 pm for about one hour. Below are the set of answers from Mr. Salehan Mohd. Basir.

#### **Question 1:**

How does your company conduct the bus ticket selling, booking and purchasing process?

Could you please explain in details?

#### **Answer:**

My company conducted the booking and purchasing process manually. The top management will fix the trip schedule and issues standard tickets with ticket serial number. The destination and price are printed on the ticket for particular trip. If the customers need to purchase a bus ticket, the counter clerk will “rubber-stamped” or write the actual date, time and seat number on the ticket. Furthermore, my company also provided the booking facilities by phone.

#### **Question 2:**

Will there be any report or statistic generated daily?

#### **Answer:**

The counter clerk has to manually calculate the total amount of the ticket sold and send the daily report to the management. The daily ticket sale account's form that attached at Appendix C must fill by the clerk daily and passed to officers on duty for verification.

## **Appendix B: Continued**

### **Interview with Eltabina Express Sdn. Bhd.**

#### **Question 3:**

How is the bus schedule planned?

#### **Answer:**

Basically, the bus schedule for particular destination is fixed by the top management. But, extra trips will be provided to the customers on Friday, Saturday, Sunday and during the peak season like Hari Raya, Chinese New Year and public holiday.

#### **Question 4:**

Does your company have a fix schedule for the bus or is it changed regularly?

#### **Answer:**

Every day, my company provides services to destinations comprising of Pulau Pinang, Butterworth, Kuala Lumpur, Johore Bahru, Ipoh, Alor Setar, Kangar, Bukit Kayu Hitam, Haytai and Singapore. These destinations are fixed.

#### **Question 5:**

Does your company appoint agents to sell your tickets? If yes, how many of them are situated in the Klang Valley area. How do they communicate with the central office so that there is no over-lapping of ticket sales? Have your company ever over sold tickets on a given bus?

## **Appendix B: Continued**

### **Interview with Eltabina Express Sdn. Bhd.**

#### **Answer:**

Yes, we have agents to sell our tickets for us. These agents are for Consortium Sdn. Bhd, SE Express Sdn. Bhd, Damai Ria Express Sdn. Bhd and TW Express Sdn. Bhd. These agents will call the central office and check the ticket availability and do the purchasing. We have encountered over-selling the tickets, but we are able to handle it immediately by transferring the passenger to another bus operator. We work hand in hand with other bus operators too.

#### **Question 6:**

Are your staff computer literate and are they using computers to do their daily duties?

#### **Answer:**

Yes. My staffs have some basic for computer like use the MS Office. But, the staffs especially the counter clerk does not conduct their daily duties using computer.

#### **Question 7:**

Does your company have an Online Bus Ticketing System? If yes, how is the respond from the public and why you think the respond is such?

#### **Answer:**

No, our company does not have an Online Bus Ticketing System at the moment.

## **Appendix B: Continued**

### **Interview with Eltabina Express Sdn. Bhd.**

#### **Question 8:**

If there is a single system combining all the bus operator's activities, do you think it will benefit the public?

#### **Answer:**

I suppose it will benefit the public if there is a single system combining all the bus operator's activities.

#### **Question 9:**

If your company has an existing Online Bus Ticketing System, do you think the functions are adequate? If no, what are the additional functions you think should be included?

#### **Answer:**

We do not have any Online Bus Ticketing System.

#### **Question 10:**

If your company does not have an existing Online Bus Ticketing System, what are the functions you expect from an Online Bus Ticketing System?

#### **Answer:**

I hope the Online Bus Ticketing System which will be developed later includes functions like seat availability, schedule and fare rates, reservation and purchasing of bus tickets, company promotions, and FAQ sections.

## **Appendix B: Continued**

### **Interview with Eltabina Express Sdn. Bhd.**

#### **Question 11:**

Do you think Online Bus Ticketing System is reliable in handling the purchasing of bus ticket online and thus reducing the human congestion in Puduraya?

#### **Answer:**

I am not sure as this new in Malaysia.

#### **Question 12:**

What type of payment methods will you prefer in an Online Bus Ticketing System?

#### **Answer:**

I preferred the prepaid system, which the customers directly purchased the card from the station counters and when they purchase the tickets online the total amount will be deducted automatically

#### **Question 13:**

Do you think by having this Online Bus Ticketing System will ease the ticketing process in the operation unit?

#### **Answer:**

Yes, I think will ease the ticketing process in the operation unit.

## Appendix C

# **Bus Schedule of Plusliner Sdn Bhd**

\* Semua pindaan atau perubahan tertakluk kepada Svarikat tanpa sebarang notis. Tambang adalah untuk perjalanan sebaik sahaja (one-way trip).

\* Untuk perjalanan Singapura, bas akan berhenti untuk pemeriksaan Imigresen & Kastam sebanyak 30 minit.

\* Kawasan rehat - UTABA : R&B Tapah / Sq. Perak / Gurup - SELATAN : R&B Pagoh / Machap

**Laluan Baru**

**Kuala Lumpur** Plusliner Sdn Bhd Mezzanine Floor, KTM Station, Jalan Sultan Hishamuddin 50050 Kuala Lumpur. Tel: 03-2710 3300

**Hatyai** Novotel Central Sukhothai 1 Saneha-Nusorn Road, Hatyai Songkhla 90110 Thailand. Tel: 0-7435-0313/0314

**Kuala Lumpur** Plusliner Sdn Bhd

Kuala Lumpur: 9.30am, 10pm, 11.00pm,  
Hatyai: 10.30am, 12.30pm, 7.30pm

(11.30pm *Ace*)  
( 1.30pm *Ice*)

NICE PLUS HOLIDAYS LTD PART 1 SANEHA-NUSORN ROAD, HATYAI, SONGKHLA 90  
(TOP MARKET PLACE, NOVOTEL CENTRAL SUKHONTHA HOTEL)

<b>TAMBANG PROMOSI</b>		
<i>Nice</i> 2	(Dewasa)	RM65.00
EKSPRES EKSEKUTIF	(Kanak-Kanak)	RM45.00
<i>Nice</i> 2	(Dewasa)	RM80.00
EKSPRES EKSEKUTIF	(Kanak-Kanak)	RM60.00

## **Appendix C: Continued**

## Appendix C: Continued

### Reservation and Purchasing form of Eltabina Express Sdn Bhd

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**Appendix C: Continued**

**ELTABINA JAYA SDN. BHD.** (247505-H)

*Eltabina Ekspres*

**WAYBILL**

(S'PORE-JB-MELAKA-S'BAN-KL-G.HIGHLANDS- IPOH-TAIPING-B'WORTH-P.PINANG-A.SETAR-KANGAR-BKH) Pergi & Baik

NO: 52800

**PEMANDU:**

BAS NO.: .....

1.....

DESTINASI: .....

2.....

MASA: .....

TARIKH: [ ]

*Senarai Tiket-tiket Pada Penumpang*

Tempat Duduk	No. Tiket
1	
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31	
32	
33	
34	

1A Driver Seat	1B	1C
2A	2B	2C
3A	3B	3C
4A	4B	4C
5A	5B	5C
6A	6B	6C
7A	7B	7C
8A	8B	8C
Toilet	9B	9C

Catitan:


.....  
*Tandatangan Pemandu*

.....  
*Tandatangan Kerani*

## **Appendix D**

### **System Evaluation (Administrator)**

---

**Tester Name:**

**Date :**

**Signature :**

---

Dear Tester,

I have designed a prototype system for Online Bus Ticketing System web portal. Below is the set of questionnaire to evaluate the prototype. I would appreciate if your good self would provide comments and suggestions in helping to evaluate the prototype system. Thank you for your precious time.

#### **Functionality and Usability**

1. Do the system functions work accordingly?
  - a. Excellent
  - b. Good
  - c. Satisfactory
  - d. Below average
  - e. Poor
  
2. Is the system familiar to use?
  - a. Excellent
  - b. Good
  - c. Satisfactory
  - d. Below average
  - e. Poor
  
3. Is the system helpful in your daily operations?
  - a. Excellent
  - b. Good
  - c. Satisfactory
  - d. Below average
  - e. Poor
  
4. Would you like to include more features and other functions to the system?
  - a. No
  - b. Yes

If yes, please comment

---

---

## **Appendix D: Continued**

5. Is the interface design attractive and easy to use for your operation?
  - a. Excellent
  - b. Good
  - c. Satisfactory
  - d. Below average
  - e. Poor
6. Overall how do you find the prototype?
  - a. Excellent
  - b. Good
  - c. Satisfactory
  - d. Below average
  - e. Poor
7. Any suggestions to improve the system further.

Comments

---

---

---

**~Thank you very much for your cooperation~**

## **Appendix D: Continued**

### **System Evaluation (Customer)**

---

**Tester Name:**

**Date :**

**Signature :**

---

Dear Tester,

I have designed a prototype system for Online Bus Ticketing System web portal. Below is the set of questionnaire to evaluate the prototype. I would appreciate if your good self would provide comments and suggestions in helping to evaluate the prototype system. Thank you for your precious time.

#### **Functionality and Usability**

1. Do the system functions work accordingly?
    - a. Excellent
    - b. Good
    - c. Satisfactory
    - d. Below average
    - e. Poor
  
  8. Is the system familiar to use?
    - a. Excellent
    - b. Good
    - c. Satisfactory
    - d. Below average
    - e. Poor
  
  9. Is the system helpful in ticket purchasing?
    - a. Excellent
    - b. Good
    - c. Satisfactory
    - d. Below average
    - e. Poor
  
  10. Would you like to include more features and other functions to the system?
    - a. No
    - b. Yes
- If yes, please comment
- 
-

## **Appendix D: Continued**

11. Is the interface design attractive and easy to use for your operation?

- a. Excellent
- b. Good
- c. Satisfactory
- d. Below average
- e. Poor

12. Overall how do you find the prototype?

- a. Excellent
- b. Good
- c. Satisfactory
- d. Below average
- e. Poor

13. Any suggestions to improve the system further.

Comments

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**~Thank you very much for your cooperation~**

## Appendix E

### Commercial Banks in Malaysia

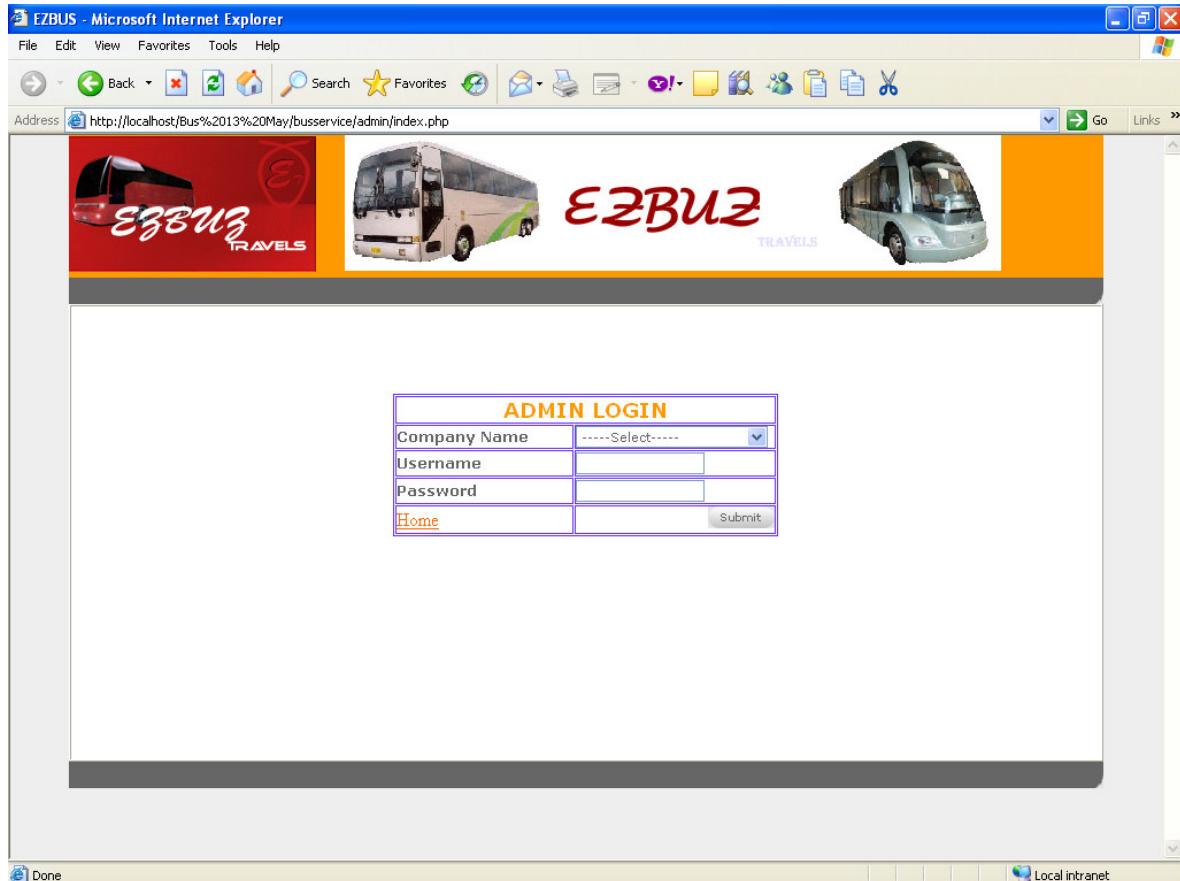
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<b>Commercial Banks</b>	<b>Ownership</b>	<b>Web site</b>
Affin Bank Berhad	Local	<a href="http://www.affinbank.com.my">http://www.affinbank.com.my</a>
Alliance Bank Malaysia Berhad	Local	AllianceOnline, <a href="http://www.alliancebank.com.my">http://www.alliancebank.com.my</a>
AmBank (M) Berhad	Local	AMDIRECT, <a href="http://www.ambg.com.my">http://www.ambg.com.my</a>
Bumiputra-Commerce Bank Berhad	Local	<a href="http://www.bcb.com.my">http://www.bcb.com.my</a> Channel-e, <a href="http://www.channel-e.com.my">http://www.channel-e.com.my</a>
EON Bank Berhad	Local	<a href="http://www.eonbank.com.my">http://www.eonbank.com.my</a>
Hong Leong Bank Berhad	Local	<a href="http://http://www.hlb.com.my">http://http://www.hlb.com.my</a> Hong Leong Online, <a href="http://http://www.hlb.com.my/inban.html">http://http://www.hlb.com.my/inban.html</a>
Malayan Banking Berhad	Local	Maybank2U, <a href="http://www.maybank2u.com.my">http://www.maybank2u.com.my</a>
Public Bank Berhad	Local	<a href="http://www.publicbank.com.my">http://www.publicbank.com.my</a> <a href="http://www.pbebank.com">PBeBank.com</a> , <a href="http://www.pbebank.com">http://www.pbebank.com</a>
RHB Bank Berhad	Local	RHB Internet Banking Service, <a href="http://www.rhb.com.my">http://www.rhb.com.my</a>
Southern Bank Berhad	Local	<a href="http://www.sbb.com.my">http://www.sbb.com.my</a> SBB Direct, <a href="http://www.sbbdirect.com.my">http://www.sbbdirect.com.my</a>
ABN AMRO Bank Berhad	Foreign	<a href="http://www.abnamromalaysia.com">http://www.abnamromalaysia.com</a>
Bangkok Bank Berhad	Foreign	-
Bank of America Malaysia Berhad	Foreign	<a href="http://www.bankamerica.com.my">http://www.bankamerica.com.my</a>
Bank of China (Malaysia) Berhad	Foreign	-
Bank of Tokyo-Mitsubishi (Malaysia) Berhad	Foreign	-
Citibank Berhad	Foreign	CitiDirect, <a href="http://www.citibank.com.my">http://www.citibank.com.my</a>
Deutsche Bank (Malaysia) Berhad	Foreign	db-direct Internet, <a href="http://db-direct.my.db.com">http://db-direct.my.db.com</a>
HSBC Bank Malaysia Berhad	Foreign	online@hsbc, <a href="http://www.hsbc.com.my">http://www.hsbc.com.my</a>
J.P. Morgan Chase Bank Berhad	Foreign	-
OCBC Bank (Malaysia) Berhad	Foreign	<a href="http://www.ocbc.com.my">http://www.ocbc.com.my</a> eCafe, <a href="http://ecafe.ocbc.com.my">http://ecafe.ocbc.com.my</a>
Standard Chartered Bank Malaysia Berhad	Foreign	<a href="http://www.standardchartered.com.my">http://www.standardchartered.com.my</a>
The Bank of Nova Scotia Berhad	Foreign	<a href="http://www.scotiabank.com.my">http://www.scotiabank.com.my</a>

## Appendix F

### Interface Design (Administrator)

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**Figure F-1**  
**Administrator Login Page**

Figure F-1 shows the Main Page of an Administrator where there is a login feature for security purpose. An administrator can login by inserting his/her name and also inserting the password. Incase of a wrong password, the system displays “*Invalid Username or Password*” error message. The administrator must then re-enter either their username or password again.

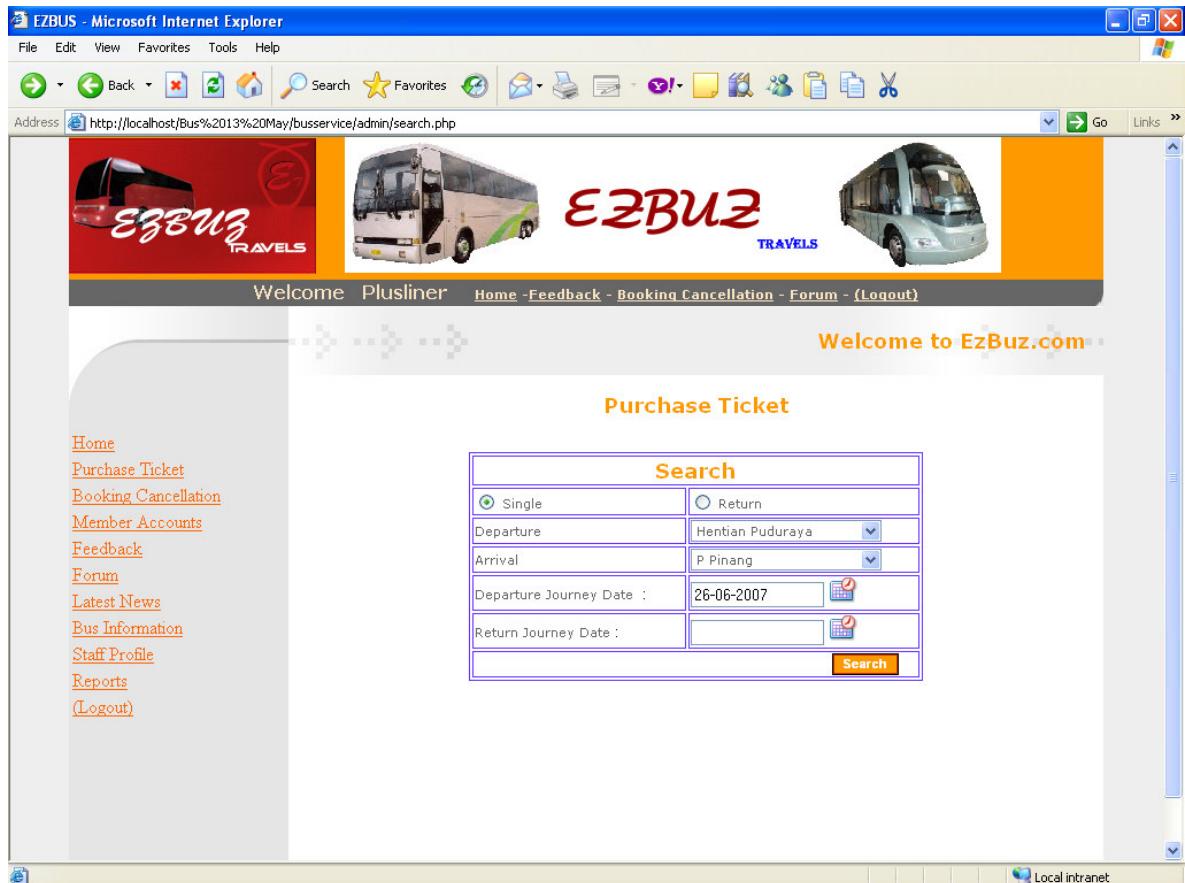
## Appendix F: Continued



**Figure F-2**  
**Administrator Home Page**

Figure F-2 shows the Administrator Home Page, which displays the main menu and has hyperlinks to each main function of the system. Basically this page describes about Online Bus Ticketing System web portal and the applications. The page has hyperlinks to individual web sites when the administrator needs to insert or edit information. This home page also displays the latest news from bus operators and the administrator is able to edit the message at any point of time.

## Appendix F: Continued

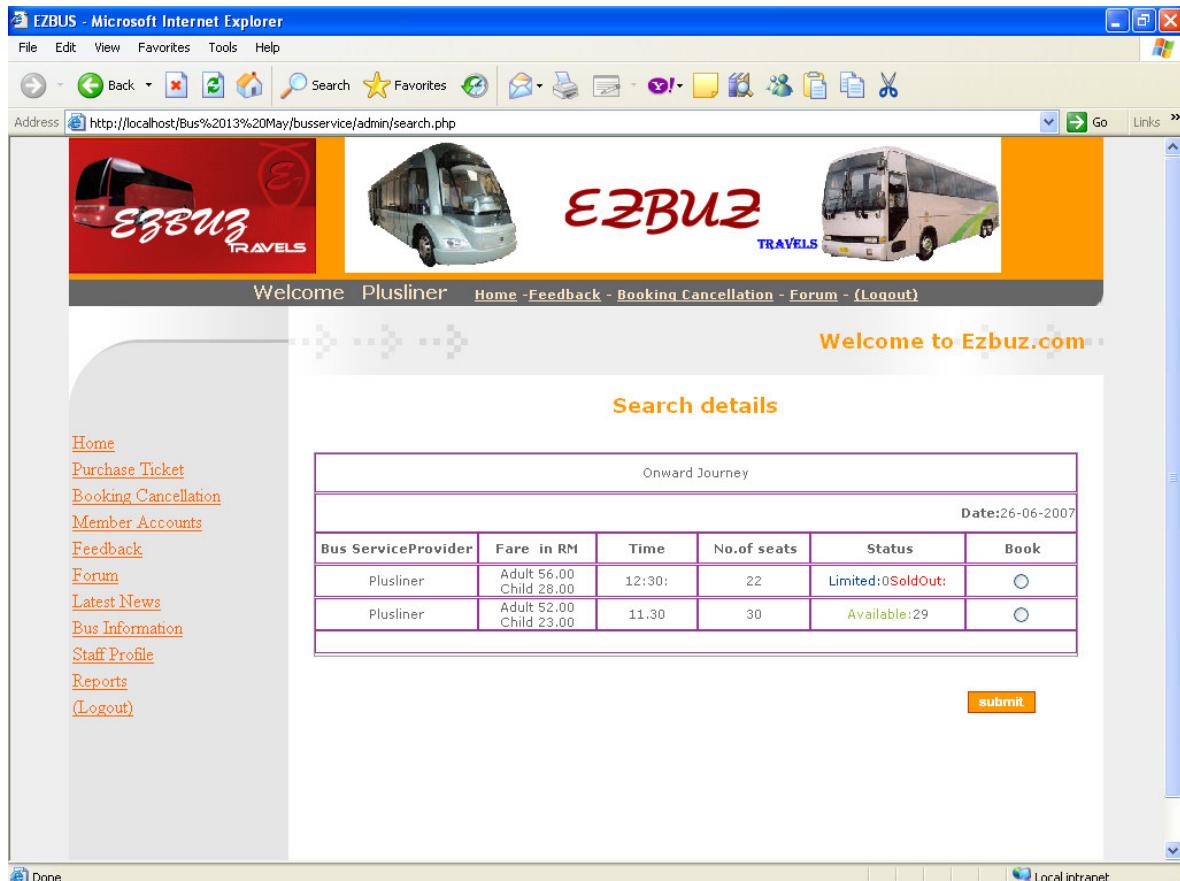


**Figure F-3**

**Administrator Purchase Ticket Page**

Figure F-3 shows the Administrator's Purchase Ticket Page where the administrator can choose either a *Single Journey* or a *Return Journey*. The administrator will then select the *Departure* and *Arrival* from a drop down list of bus terminals in various states. The *Departure Journey Date* is then inserted and the *Return Journey Date* is inserted if a return journey is selected. The Administrator will then click on the *Search* button for a list of available busses.

## Appendix F: Continued



**Figure F-4**  
**Administrator Purchase Tickets Search Details Page**

Figure F-4 shows the Administrator Purchase Tickets Search Details page, where the search details for the criteria inserted. The details shown are the Bus service provider, Fare, Departure time, Number of seats, Seat status which either *Available*, *Limited* or *Sold-out* and finally a booking radio button. The Administrator will then select the required ticket and click on the *Submit* button.

## Appendix F: Continued

**Ticket Booking**

Happy Journey

Date: 2007-05-15

Type Of Bus	Origin	Destination	Onward Date	Departure Time	Adult Fare	Child Fare	Status	No.of Adults	Childs
DoubleDecker	Hentian Puduraya	P Pinang	26-06-2007	11.30am	52.00	23.00	Available:29	2	0

Please Select the Seat(s) Required

FC	SC	1C	2C	3C	4C	5C	6C	7C	8C	9C
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
FB	SB	1B	2B	3B	4B	5B	6B	7B	8B	9B
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stair Case		<input type="checkbox"/> 3A	<input type="checkbox"/> 4A	<input type="checkbox"/> 5A	<input type="checkbox"/> 6A	<input type="checkbox"/> 7A	<input type="checkbox"/> 8A	<input type="checkbox"/> 9A	<input type="checkbox"/>	<input type="checkbox"/>

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**Figure F-5**

**Administrator Buy Ticket Page**

Figure F-5 shows the Administrator Buy Ticket page. The Administrator will select the number of passengers from the drop down list, the seats required from the seating chart as shown in Figure F-6, and click on the *Buy* button.

## Appendix F: Continued

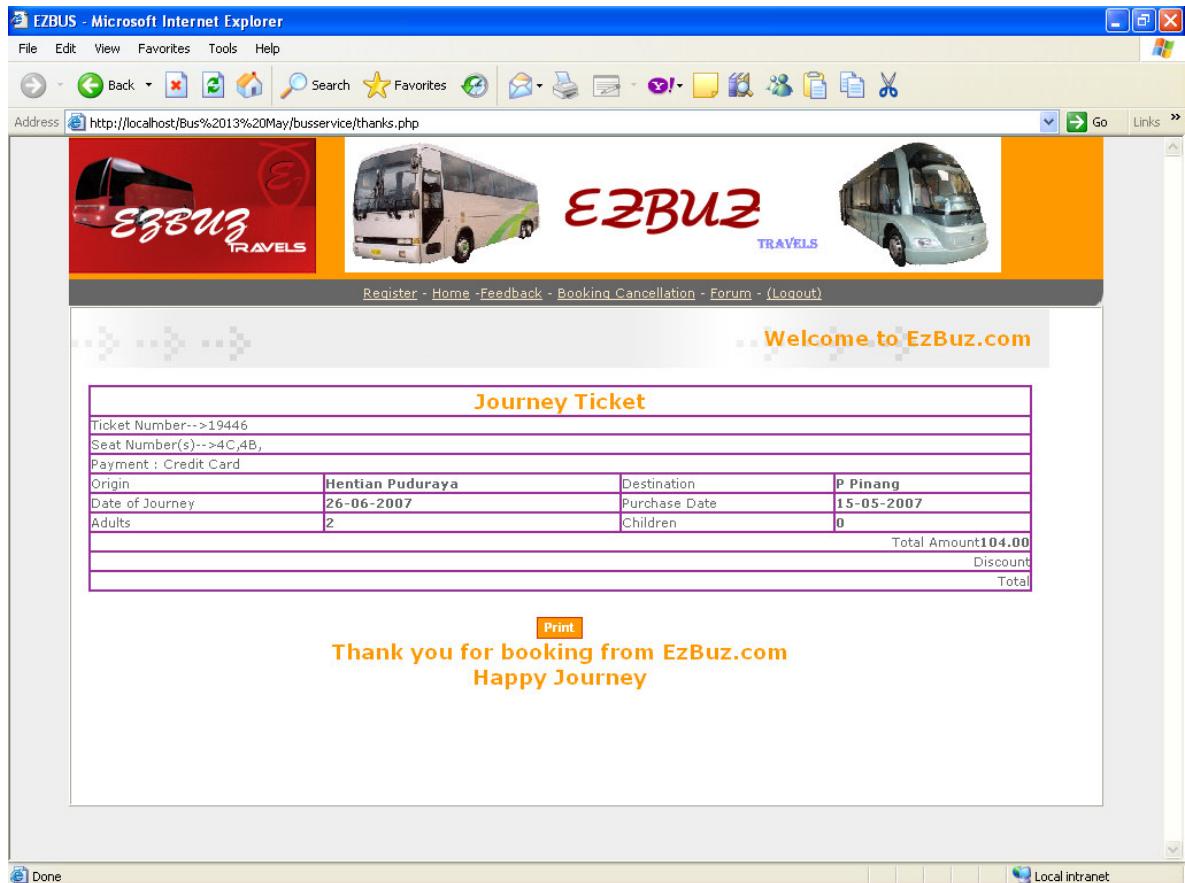
The screenshot shows a Microsoft Internet Explorer window titled "EZBUS - Microsoft Internet Explorer". The address bar displays the URL "http://localhost/Bus%20May/busservice/buytickets.php". The main content area is titled "Ticket Booking" and features a "Happy Journey" message. A table provides travel details: Type Of Bus (DoubleDecker), Origin (Hentian Puduraya), Destination (P Pinang), Onward Date (26-06-2007), Departure Time (11.30am), Adult Fare (52.00), Child Fare (23.00), Status (Available:29), No.of Adults (2), and Childs (0). Below this, a seating chart titled "Please Select the Seat(s) Required" shows a grid of seats. Seats 4C and 4B are checked. A "Buy" button is at the bottom right of the seating chart area. The copyright notice "copyright©Ezbus.com" is visible at the bottom of the page.

**Figure F-6**

### Administrator Ticket Selection Page

Figure F-6 shows the Administrator has selected the number of ticket and the seats from the seating chart.

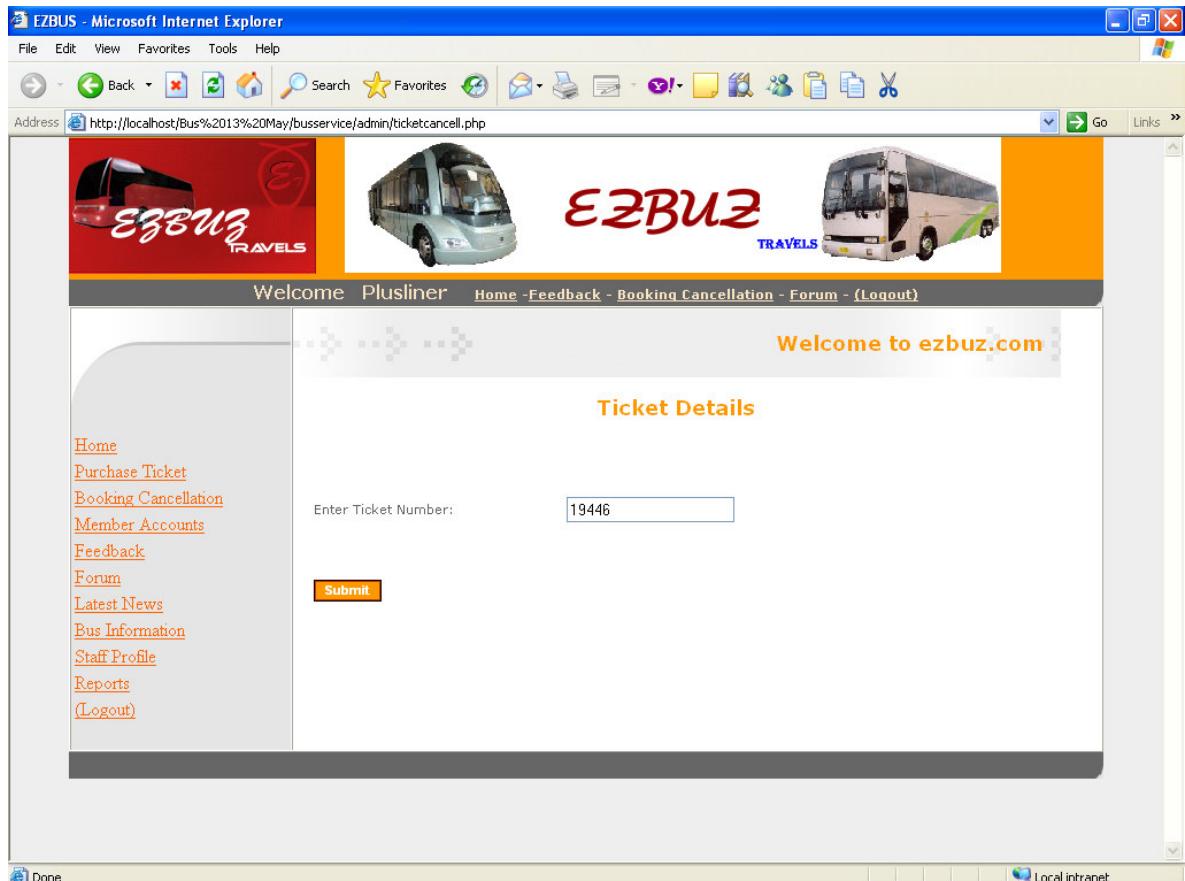
## Appendix F: Continued



**Figure F-7**  
**Administrator Ticket Page**

Figure F-7 shows the Administrator Ticket page, where an administrator is able to print the ticket for the passenger. The details displayed on the ticket are the Ticket Number, Seat Number, Payment Mode i.e. Cash or Credit Card, Origin, Destination, Date of Journey, Purchase date, Number of Adults and Children, Total Amount, Discount for Senior Citizens and Total after Discount.

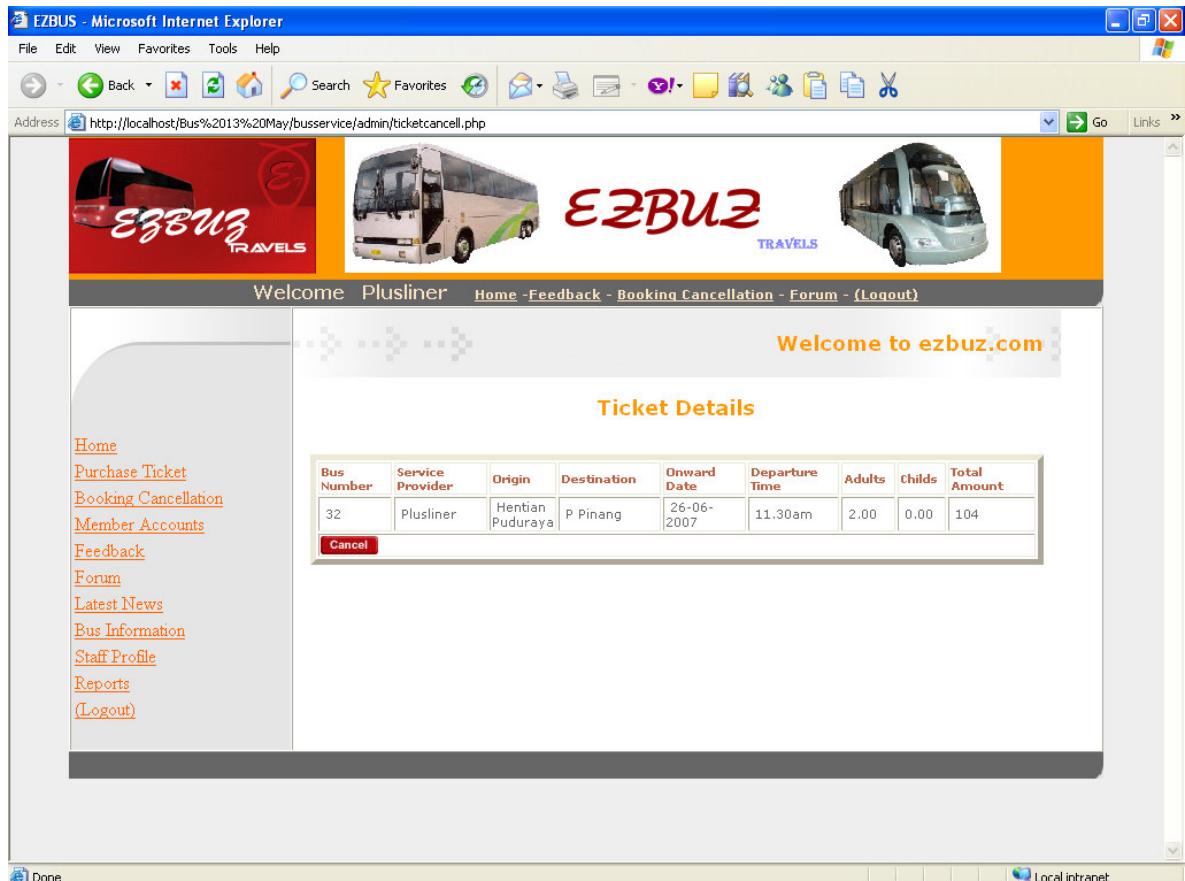
## Appendix F: Continued



**Figure F-8**  
**Administrator Ticket Cancellation Page**

Figure F-8 shows the ticket cancellation page, whereby the Administrator inserts the ticket number as in the ticket and click on the *Submit* button.

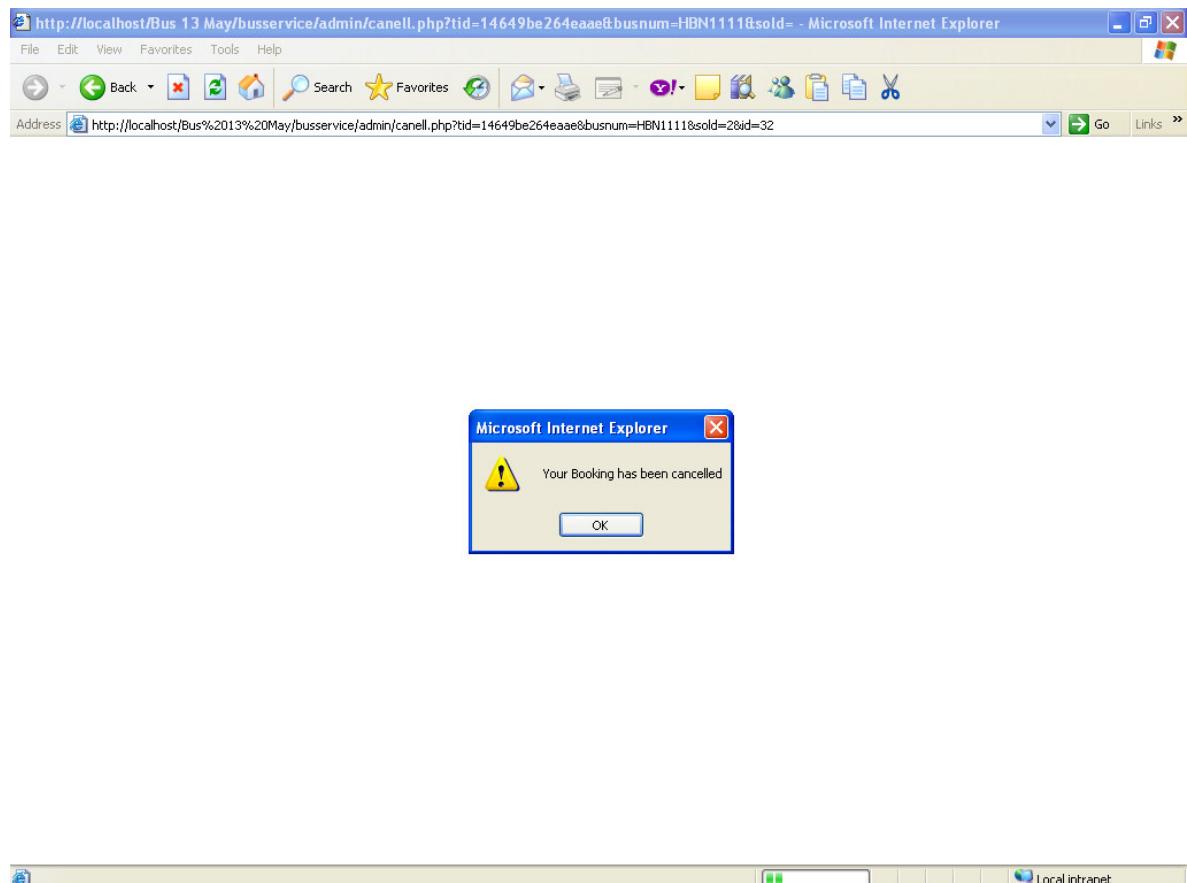
## Appendix F: Continued



**Figure F-9**  
**Administrator Ticket Cancellation Details Page**

Figure F-9 shows the ticket details based on the ticket number. The Administrator can then press the *Cancel* button to cancel the ticket.

## Appendix F: Continued



**Figure F-10**  
**Administrator Ticket Cancellation Confirmation Page**

Figure F-10 shows the Confirmation screen of the cancellation of the ticket.

## Appendix F: Continued

The screenshot shows a Microsoft Internet Explorer window displaying the EzBus Member Accounts Information page. The title bar reads "EzBus - Microsoft Internet Explorer". The address bar shows the URL "http://localhost/Bus%2013%20May/busservice/admin/memberaccount.php". The page header features the EzBus Travels logo with two bus images. The main menu includes "Welcome", "Plusliner", "Home", "Feedback", "Booking Cancellation", "Forum", "Latest News", "Bus Information", "Staff Profile", "Reports", and "(Logout)". The right side of the page displays a table titled "Member Accounts Information" with columns: Member ID, Member Name, Address, Contact No, E-Mail, Age, IC Number, and Loyalty programme. Below the table is a search form with fields for Member Id and IC Number, and a "Search" button. The status bar at the bottom indicates "Local intranet".

Member ID	Member Name	Address	Contact No	E-Mail	Age	IC Number	Loyalty programme
17	lim	54,Jalan 1, PJ	2515454	lim@hotmail.com	45	456545256565	0
14	melisa	Kuala Lumpur	09866555199	mellisa@EzBus.com	24	12345567890	60
16	ram	kelana jaya	0126565894	ram@yahoo.com	26	54565484565	0
18	suraya	ghh	456	fgg	0	677	0
19	nisha	ssd	546565	nisha@rediffmail.com	24	5667776	11
20	freyy	qwertyyy	5545555454	freddy123@yahoo.com	57	6565656651	9
21	Siti	ipoh	0126598565	siti@yahoo.com	57	500000-00-0000	1
22	Dhillon	15, Jalan Baru, Kampung Baru, Kelang	0196043031	dhillon@hotmail.com	58	491212-12-1212	0

**Figure F-11**  
Administrator Member Accounts Information Page

Figure F-11 shows the Administrator Member Accounts Information page, which allows the administrator to view all member accounts. The administrator can search for a member either by member ID or member's IC number.

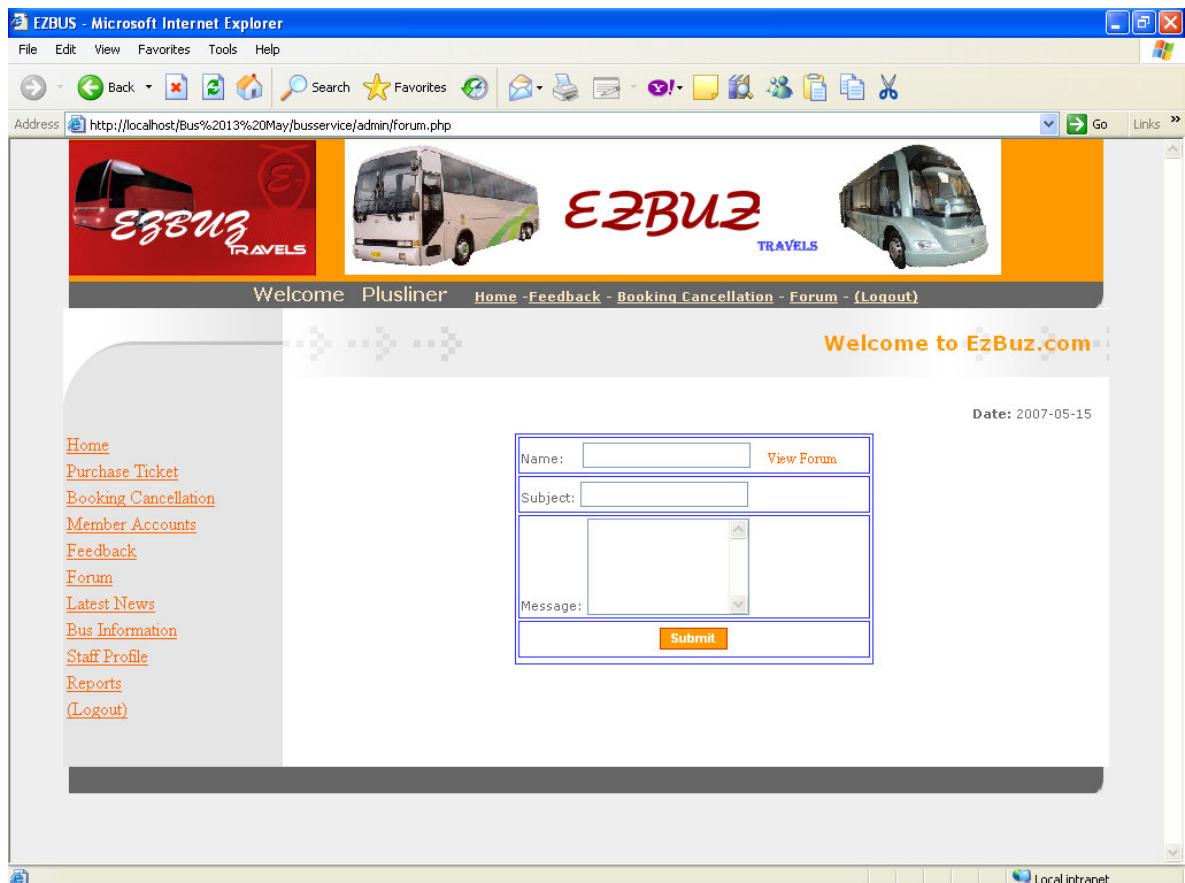
## Appendix F: Continued



**Figure F-12**  
Administrator View Feedback/ Reply Feedback Page

Figure F-12 shows the Administrator View Feedback/ Reply Feedback Page which allows the Administrator to view feedback from customers and also reply to these feedbacks.

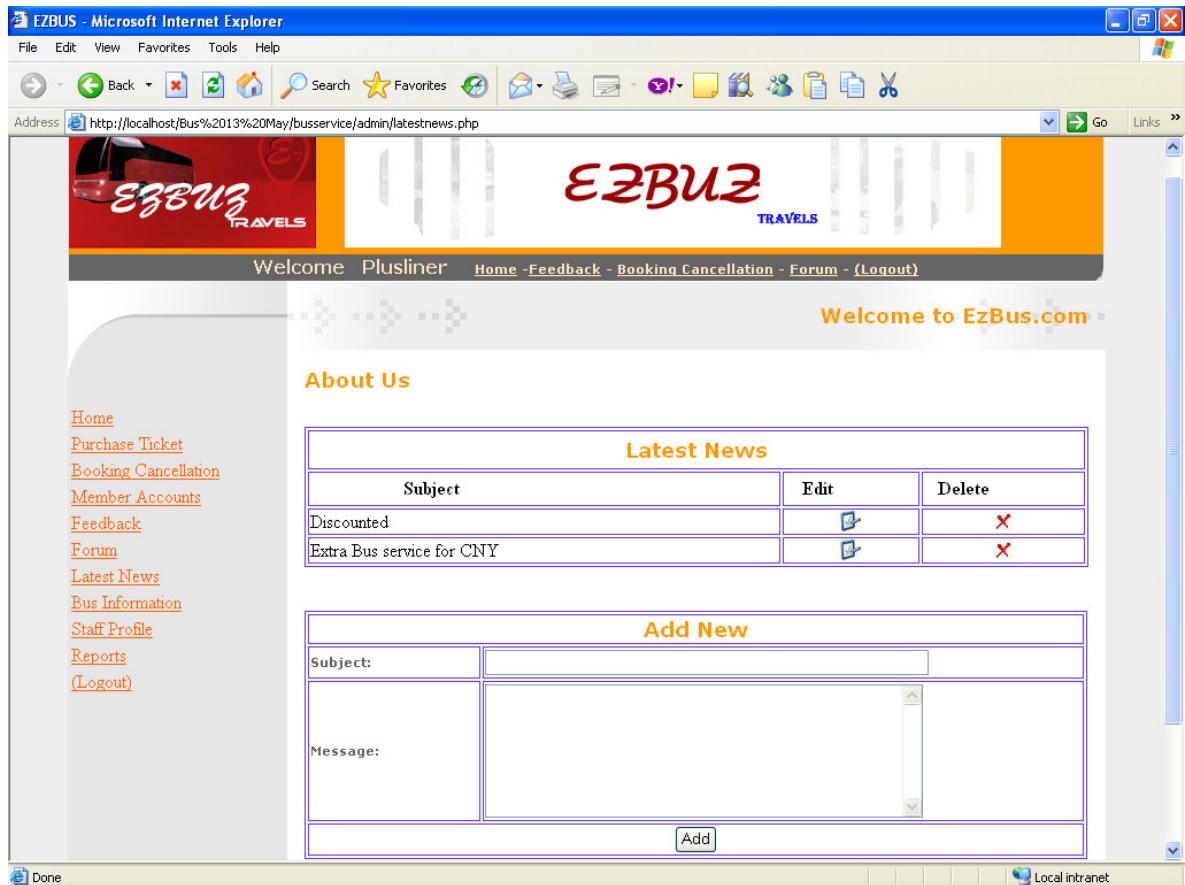
## Appendix F: Continued



**Figure F-13**  
**Administrator Forum Page**

Figure F-13 is the Administrator Forum page, which allows an administrator to participate in a forum with the users of the system.

## Appendix F: Continued



**Figure F-14**  
**Administrator Latest News Page**

Figure F-14 shows the Administrator Latest News page which allows the administrator to insert Latest news of their bus company and this will be reflected in the Home Page. The administrator is able to add latest news, edit current news or even delete news.

## Appendix F: Continued

The screenshot shows a Microsoft Internet Explorer window displaying the EzBuz.com administrator bus information page. The title bar reads "EZBUS - Microsoft Internet Explorer". The address bar shows the URL "http://localhost/Bus%2013%20May/busservice/admin/adminbusschedule.php". The page header features the EzBuz Travels logo with three images of buses. Below the header, there is a navigation menu with links: Welcome, Plusliner, Home - Feedback - Booking Cancellation - Forum - (Logout). A sidebar on the left contains links for Home, Purchase Ticket, Booking Cancellation, Member Accounts, Feedback, Forum, Latest News, Bus Information, Staff Profile, Reports, and Logout. The main content area is titled "Bus Schedules" and displays a table of bus routes. The table has columns for Type Of Bus, Bus Registration Number, Origin, Destination, No. Of Seats, Departure Date, Departure Time, Adult Fare, Child Fare, Edit, and Del. The data in the table is as follows:

Type Of Bus	Bus Registration Number	Origin	Destination	No. Of Seats	Departure Date	Departure Time	Adult Fare	Child Fare	Edit	Del
DoubleDecker	HGF5212	P Pinang	Hentian Puduraya	24	20-07-2007	9.00pm	52.00	21.00		
SuperVip	JHK 1245	Hentian Puduraya	Kuala Lumpur	22	26-06-2007	9.45pm	65.00	36.00		
SuperVip	Jhy 8562	Hentian Puduraya	P Pinang	22	26-06-2007	11.30pm	65.00	36.00		
DoubleDecker	HTR5231	Hentian Puduraya	P Pinang	24	20-06-2007	10.00am	50.00	20.00		
DoubleDecker	BHD4521	P Pinang	Hentian Puduraya	30	26-06-2007	6.30pm	53.00	26.00		
VIP	423	Hentian Puduraya	P Pinang	22	26-06-2007	12:30pm	56.00	28.00		
DoubleDecker	450	Hentian Puduraya	P Pinang	40	26-05-2007	2:10pm	45.00	22.00		
DoubleDecker	HBN1111	Hentian Puduraya	P Pinang	30	26-06-2007	11.30am	52.00	23.00		
DoubleDecker	KLM5412	P Pinang	Hentian Puduraya	30	28-06-2007	5.30pm	56.00	32.00		

**Figure F-15**

**Administrator Bus Information Page**

Figure F-15 shows the page that shows the bus listing and provides options that allow the administrator to add a new bus to the database, update a current bus or delete bus information from the database as shown in Figure F-16. The administrator must insert the bus type, i.e. *Double Decker*, *VIP* or *Super VIP*, bus registration number, number of seats, adult and child fare, origin and destination, departure date and time.

## Appendix F: Continued

The screenshot shows a Microsoft Internet Explorer window with the title bar "EzBUS - Microsoft Internet Explorer". The address bar contains the URL "http://localhost/Bus%20May/busservice/admin/busdetails.php". The page header features the EzBuz Travels logo with three bus images: a red double-decker, a white coach, and a blue minibus. Below the header, there's a navigation menu with links: Welcome, Plusliner, Home, Feedback, Booking Cancellation, Forum, and Logout. A banner on the right says "Welcome to EzBuz.com". The main content area is titled "Add / Modify / Update /Delete New Bus Details". On the left, there's a sidebar with links: Home, Purchase Ticket, Booking Cancellation, Member Accounts, Feedback, Forum, Latest News, Bus Information, Staff Profile, Reports, and Logout. The main form consists of a table with the following data:

Bus Type:	Super VIP
Bus Registration Number:	Jhy 8562
No.Of Seats:	22
Adult Fare:	65.00
Child Fare:	36.00
Origin:	Hentian Puduraya
Destination:	P Pinang
Departure Date :	26/06/2007
Departure Time:	11.30pm

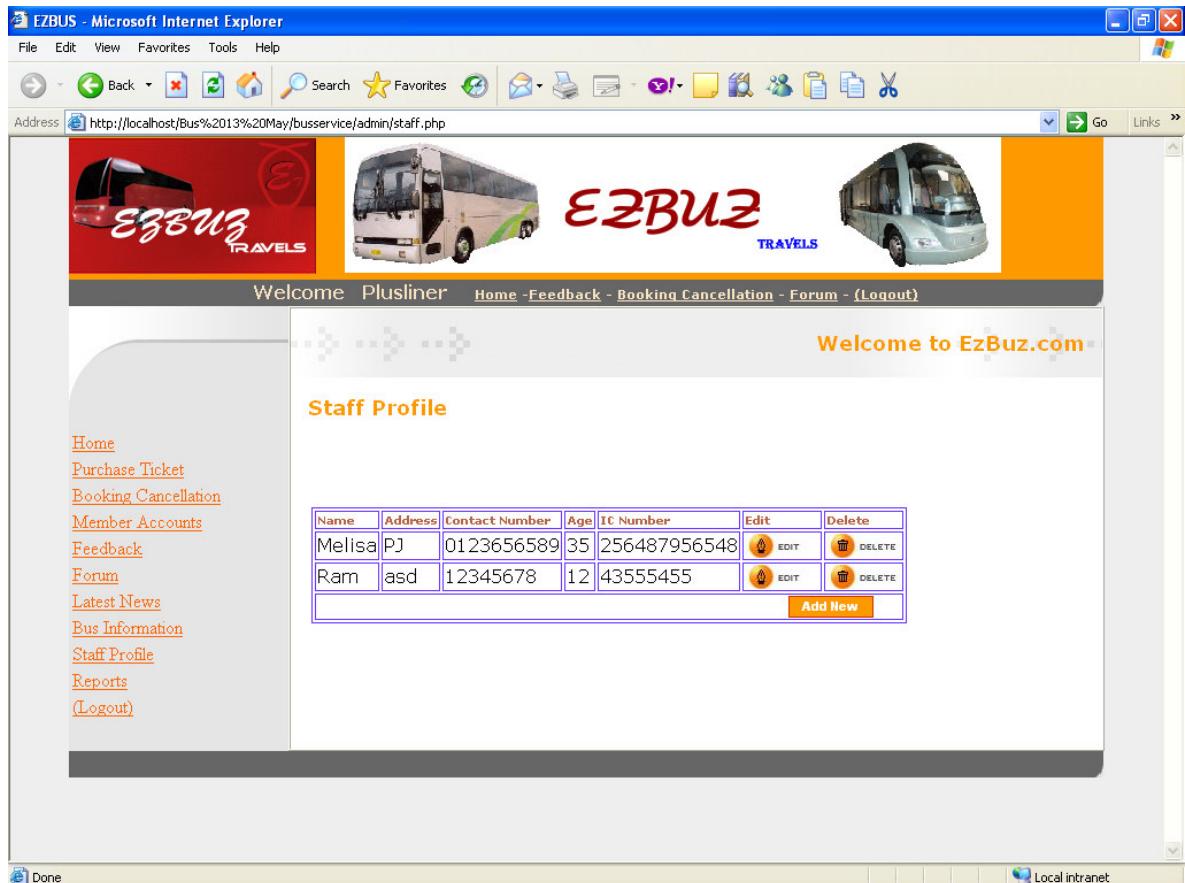
At the bottom of the form are buttons for New, Add, Update, Reset, and Delete.

**Figure F-16**

**Administrator Add / Modify / Update /Delete New Bus Details Page**

Figure F-16 displays the bus information for the administrator to add a new bus, edit the current bus information or delete bus information.

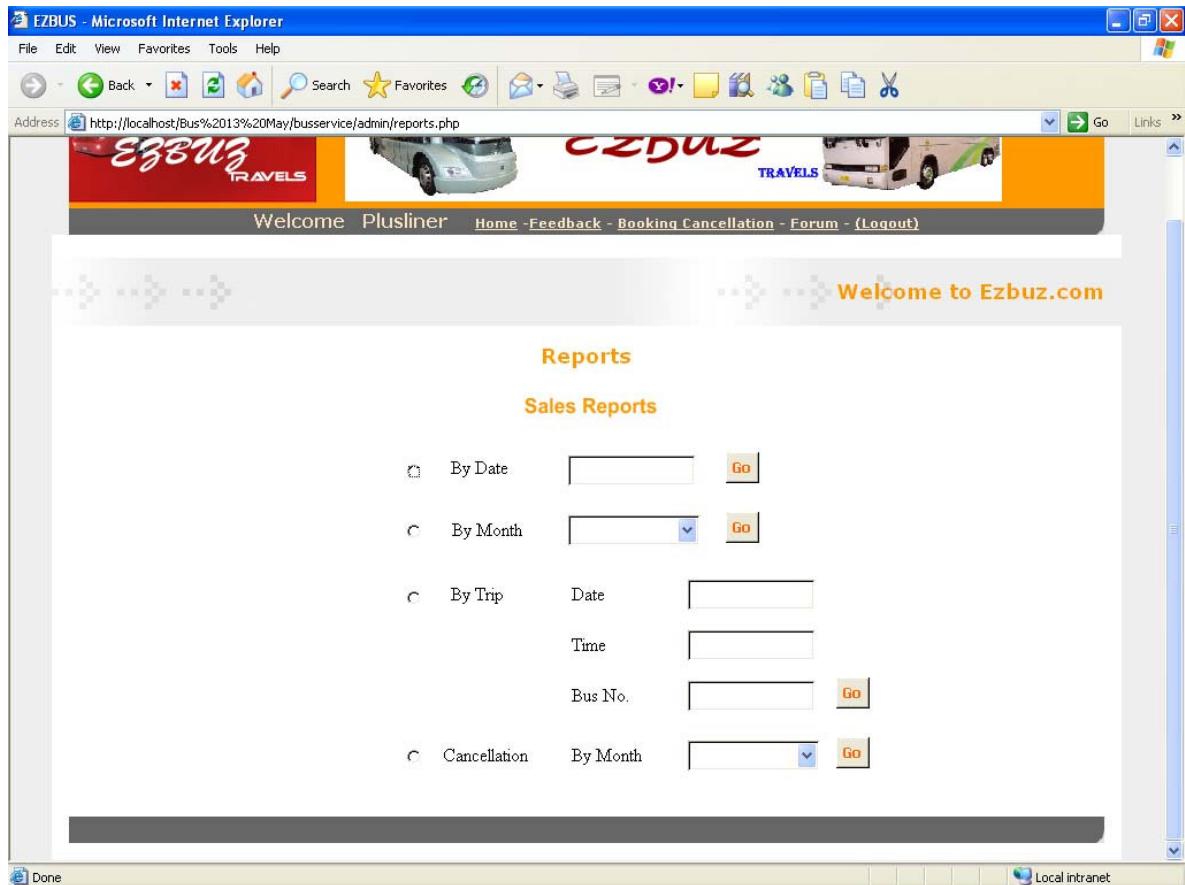
## Appendix F: Continued



**Figure F-17**  
Administrator Staff Profile Page

Figure F-17 is the Administrator Staff Profile Page, which displays the staff profile for a particular bus operator. An administrator can add, edit or delete a staff account. Only a registered staff can use this function.

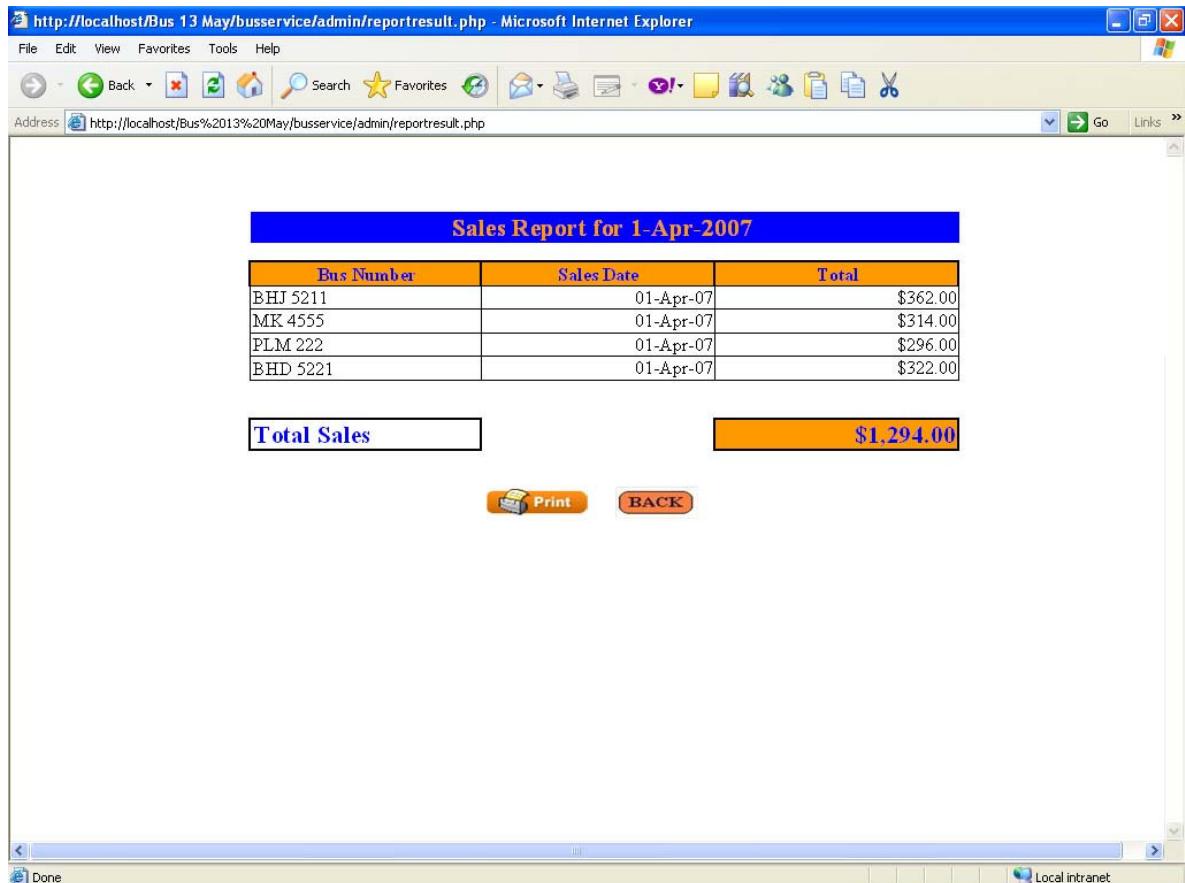
## Appendix F: Continued



**Figure F-18**  
**Administrator Reports Page**

Figure F-18 shows the page that allows the administrators to generate reports from the system. The reports which can be generated are sales reports which are sorted by date, month, trip and cancellation reports.

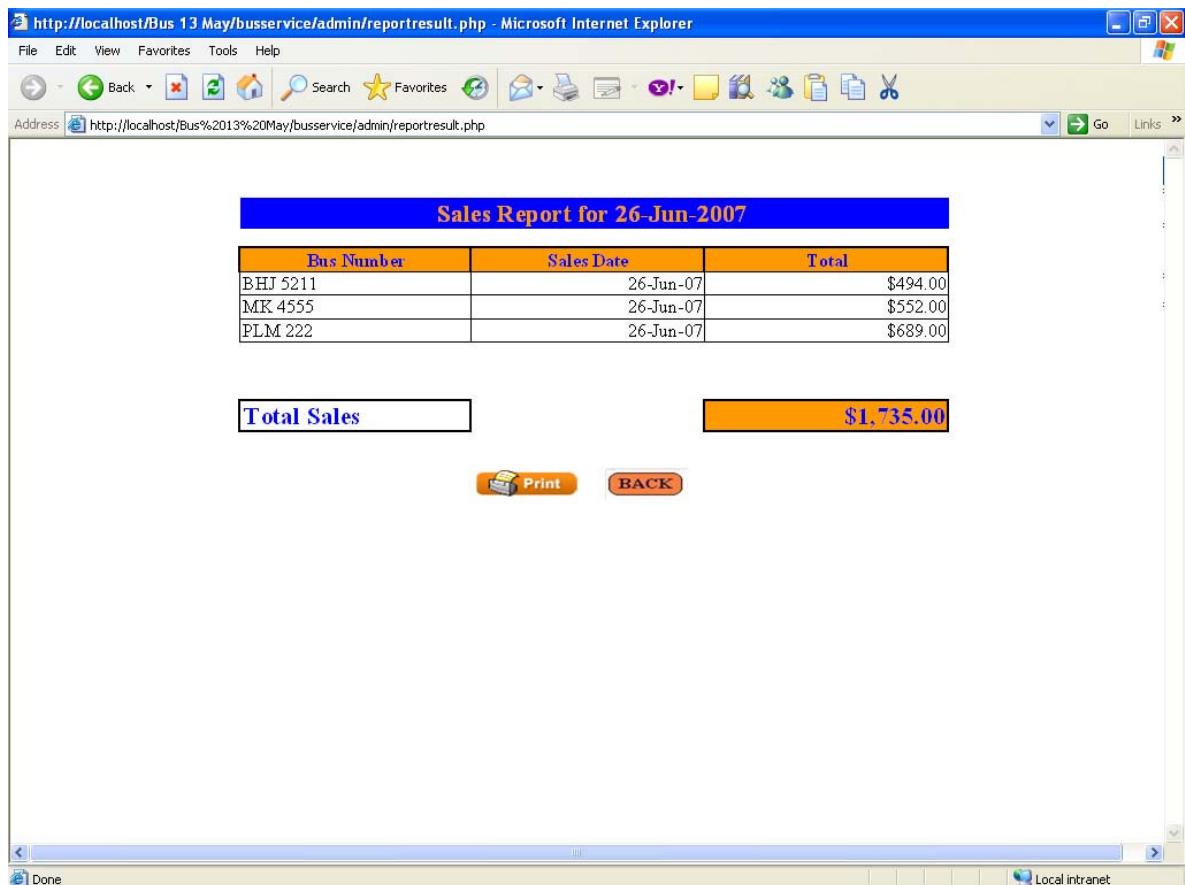
## Appendix F: Continued



**Figure F-19**  
**Administrator Sales Reports by Date Page**

Figure F-19 shows the sales report for a particular date of a particular bus operator. This Sales report shows the bus number and total sales for each bus.

## Appendix F: Continued



**Figure F-20**

**Administrator Sales Report by Date Page**

Figure F-20 shows another Sales report for a particular date of a particular bus operator. Though the date is in the future, but the ticket has been booked, the system is able to generate a report for that particular date.

## Appendix F: Continued

The screenshot shows a Microsoft Internet Explorer window displaying a sales report. The title bar reads "http://localhost/Bus 13 May/busservice/admin/reportresult.php - Microsoft Internet Explorer". The address bar shows the same URL. The main content is a table titled "Sales Report for April 2007". The table has two columns: "Sales Date" and "Total". The data shows daily sales figures from April 1st to April 25th, 2007. The total sales for the month are \$1,325.00.

Sales Date	Total
1-Apr-07	\$1,294.00
2-Apr-07	\$1,362.00
3-Apr-07	\$1,632.00
4-Apr-07	\$1,232.00
5-Apr-07	\$956.00
6-Apr-07	\$1,254.00
7-Apr-07	\$1,323.00
8-Apr-07	\$1,322.00
9-Apr-07	\$1,623.00
10-Apr-07	\$1,323.00
11-Apr-07	\$1,289.00
12-Apr-07	\$1,365.00
13-Apr-07	\$1,653.00
14-Apr-07	\$1,235.00
15-Apr-07	\$1,362.00
16-Apr-07	\$1,325.00
17-Apr-07	\$1,423.00
18-Apr-07	\$1,278.00
19-Apr-07	\$1,295.00
20-Apr-07	\$1,396.00
21-Apr-07	\$1,256.00
22-Apr-07	\$1,544.00
23-Apr-07	\$1,322.00
24-Apr-07	\$1,632.00
25-Apr-07	\$1,325.00

**Figure F-21**

**Administrator Sales Report by Month Page**

Figure F-21 shows the Sales report for a particular month. It generates the information from the Sales dates and finally displays the grand total for the month.

## Appendix F: Continued

The screenshot shows a Microsoft Internet Explorer window with the title bar "http://localhost/Bus 13 May/busservice/admin/reportresult.php - Microsoft Internet Explorer". The address bar also displays the same URL. The main content area is titled "Trip Report". It contains two tables. The first table lists trip details: Date of Departure (1-Apr-07), Time of Departure (9.30am), Bus Registration No. (BHJ 5211), Origin (Hentian Puduraya), Destination (P Pinang), No of Seats Available (30), No of Seat(s) Sold (9), and No of Seat(s) Vacant (21). The second table is a grid showing seat assignments with columns for "Seat No" and "Ticket No". The data in the grid is as follows:

Seat No	Ticket No
1	
2	
3	
4	
5	15245
6	15245
7	
8	
9	26589
10	26589
11	26589
12	
13	
14	
15	
16	
17	26589

**Figure F-22**  
Administrator Trip Report Page

Figure F-22 shows the Trip report page, which includes the bus number, date, origin, destination, number of seats booked, and the ticket number for the seats booked. This report will be used by the bus driver when the passengers board the bus. The passengers will hand their tickets to the bus driver and he will check it against this report.

## Appendix F: Continued

The screenshot shows a Microsoft Internet Explorer window displaying a cancellation report. The title bar reads "http://localhost/Bus 13 May/busservice/admin/reportresult.php - Microsoft Internet Explorer". The main content is a table titled "Cancellation Report for April 2007" with columns for Date, Ticket No., and Amount. The total amount is \$837.00. There are "Print" and "BACK" buttons at the bottom.

Date	Ticket No.	Amount
1-Apr-07	36565	\$52.00
1-Apr-07	42365	\$104.00
2-Apr-07	23652	\$63.00
4-Apr-07	32565	\$52.00
10-Apr-07	41223	\$64.00
16-Apr-07	15452	\$63.00
16-Apr-07	52632	\$156.00
20-Apr-07	65897	\$63.00
22-Apr-07	26583	\$104.00
24-Apr-07	65983	\$52.00
27-Apr-07	99986	\$64.00

Total: \$837.00

Print BACK

**Figure F-23**  
Administrator Ticket Cancellation Report Page

Figure F-23 shows the Ticket Cancellation Report page which is generated on monthly basis.

## Appendix G

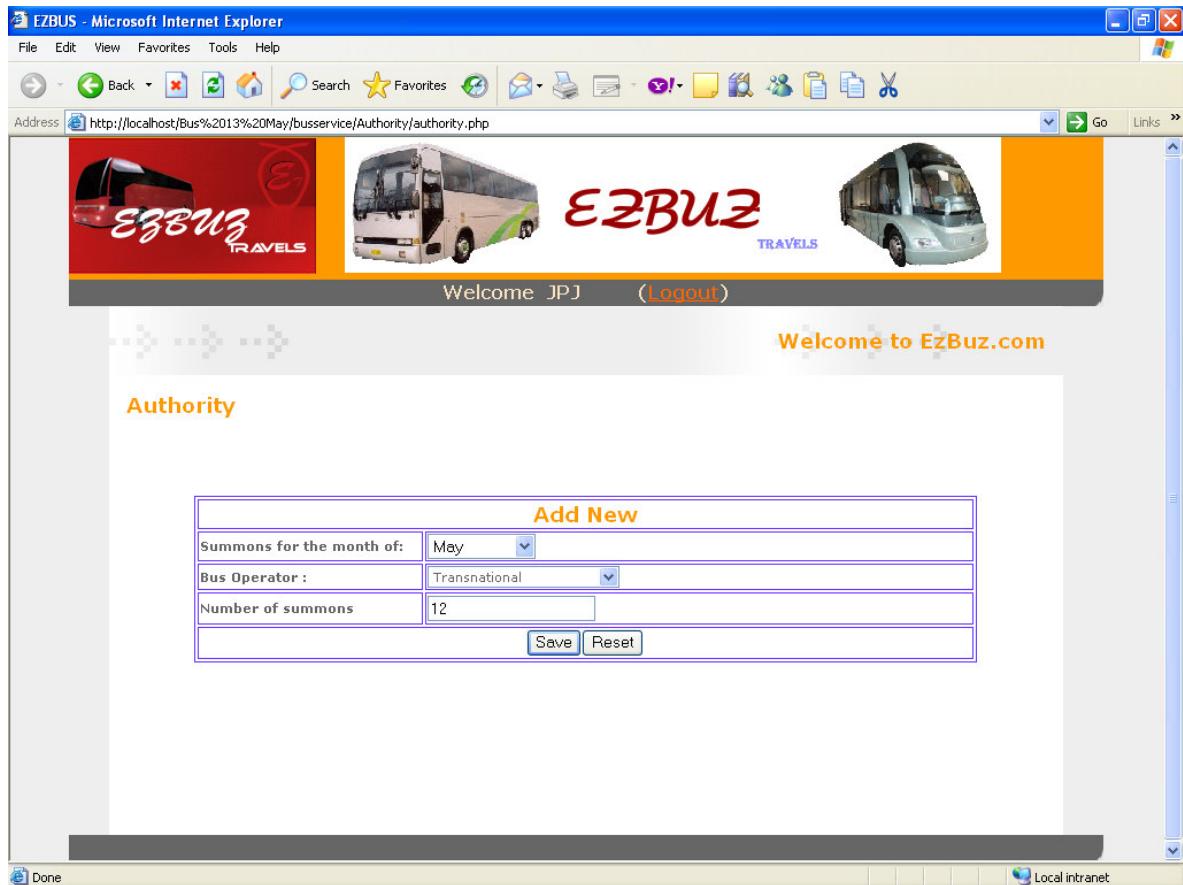
### Interface Design (Authority)



**Figure G-1**  
**Authority Login**

Figure G-1 shows the Authority Login for the Jabatan Pengangkutan Jalan administrator to login into the module and insert the summon details for each bus operator.

## Appendix G: Continued

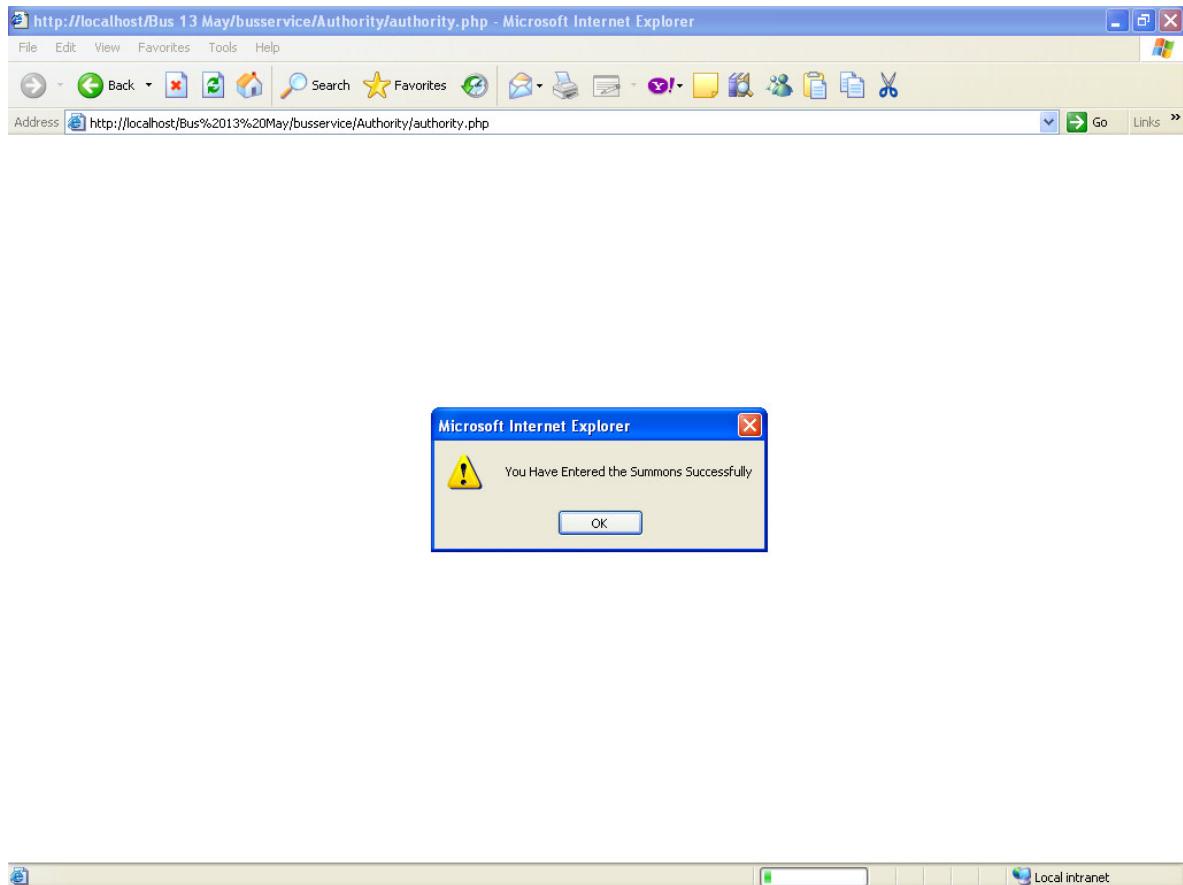


**Figure G-2**

### Authority Add New Summons

Figure G-2 shows the Authority Add New Summons for a particular month. The Authority must select the month, the bus operator name and the number of summonses for that particular month. The Star ranking for a bus operator is always based on the previous month results.

## Appendix G: Continued

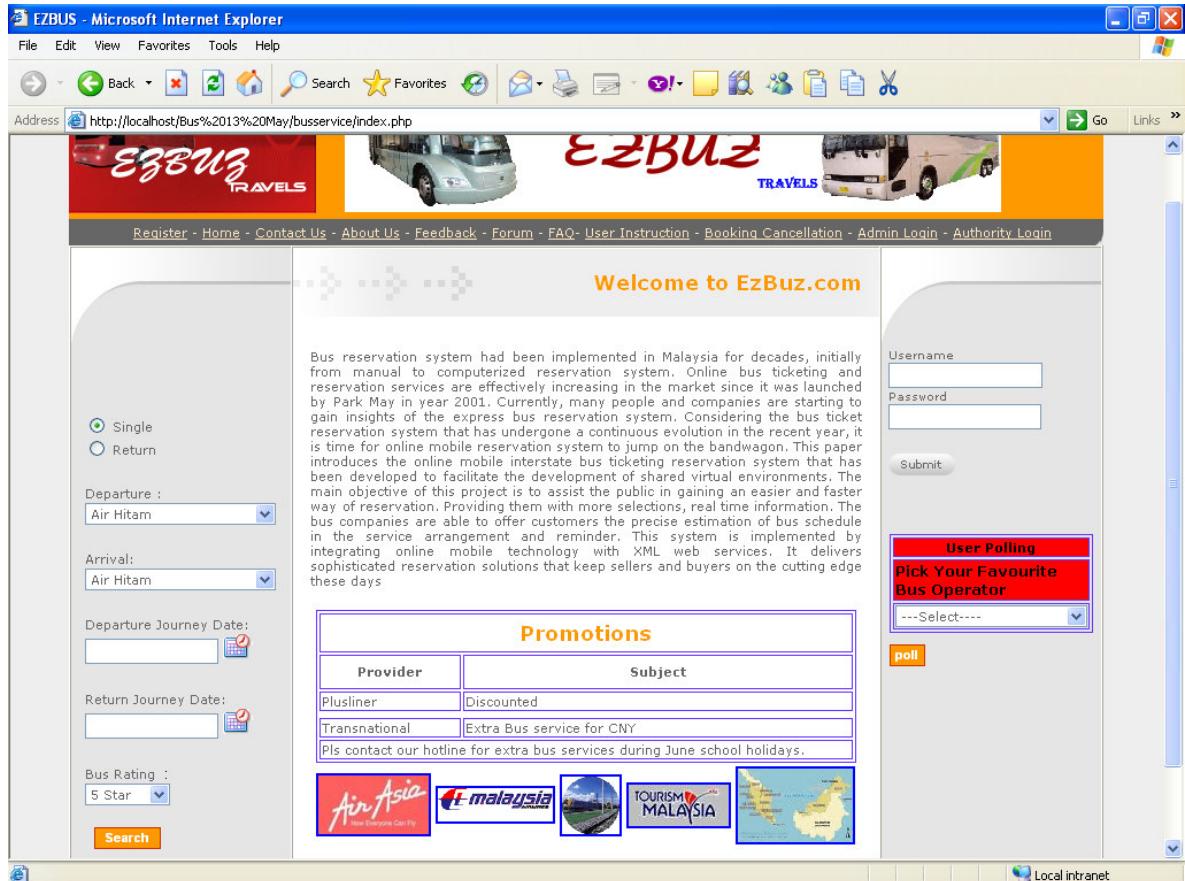


**Figure G-3**  
**Authority Add New Summons Confirmation Page**

Figure G-3 shows the confirmation message when new summonses are added successfully.

## Appendix H

### Interface Design (Customer)

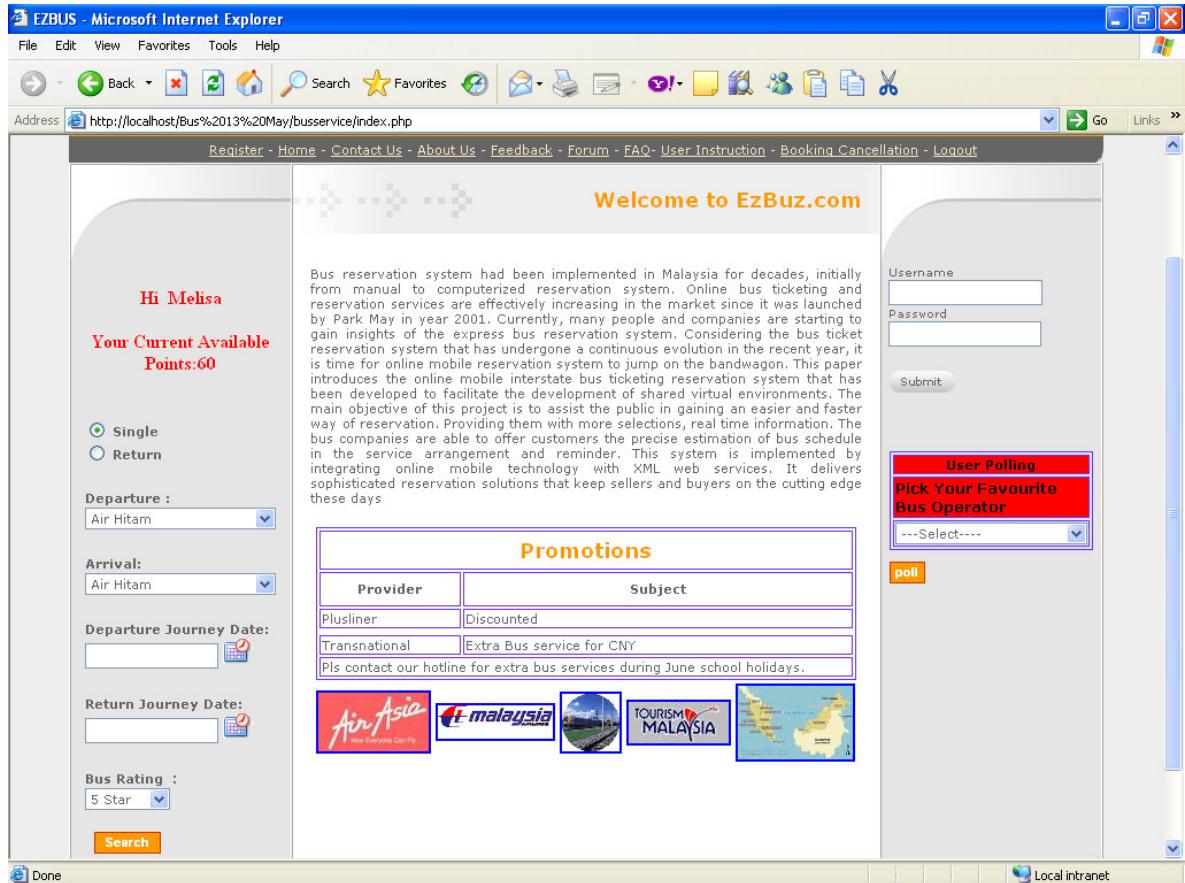


**Figure H-1**  
**Customer Home Page**

Figure H-1 shows the home page of the Online Bus Ticketing System web portal. This page will be shown when users successfully enter the web site address. The home page shows the main menu and has hyperlinks to each main function of the system. Basically this page describes about Online Bus Ticketing System and the applications. The page has the hyperlinks to the individual web sites if the users are interested to know more about the service. Users can opt to answer the polling questionnaire about their most preferred bus operator for the system to rank them. On the left frame, there is a search engine for both a

## Appendix H: Continued

member and non-member to use. This search engine allows the user to search for available bus tickets by inserting the origin, destination, dates of traveling and also the star ranking of a bus operator.



**Figure H-2**  
**Member Home Page**

Figure H-2 shows the member home page. The Members name and the Loyalty Points are displayed on the top left side of the screen.

## Appendix H: Continued

The screenshot shows a Microsoft Internet Explorer window displaying the EzBuz.com website. The title bar reads "EZBUS - Microsoft Internet Explorer". The address bar shows the URL "http://localhost/Bus%2013%20May/busservice/index.php". The page content includes:

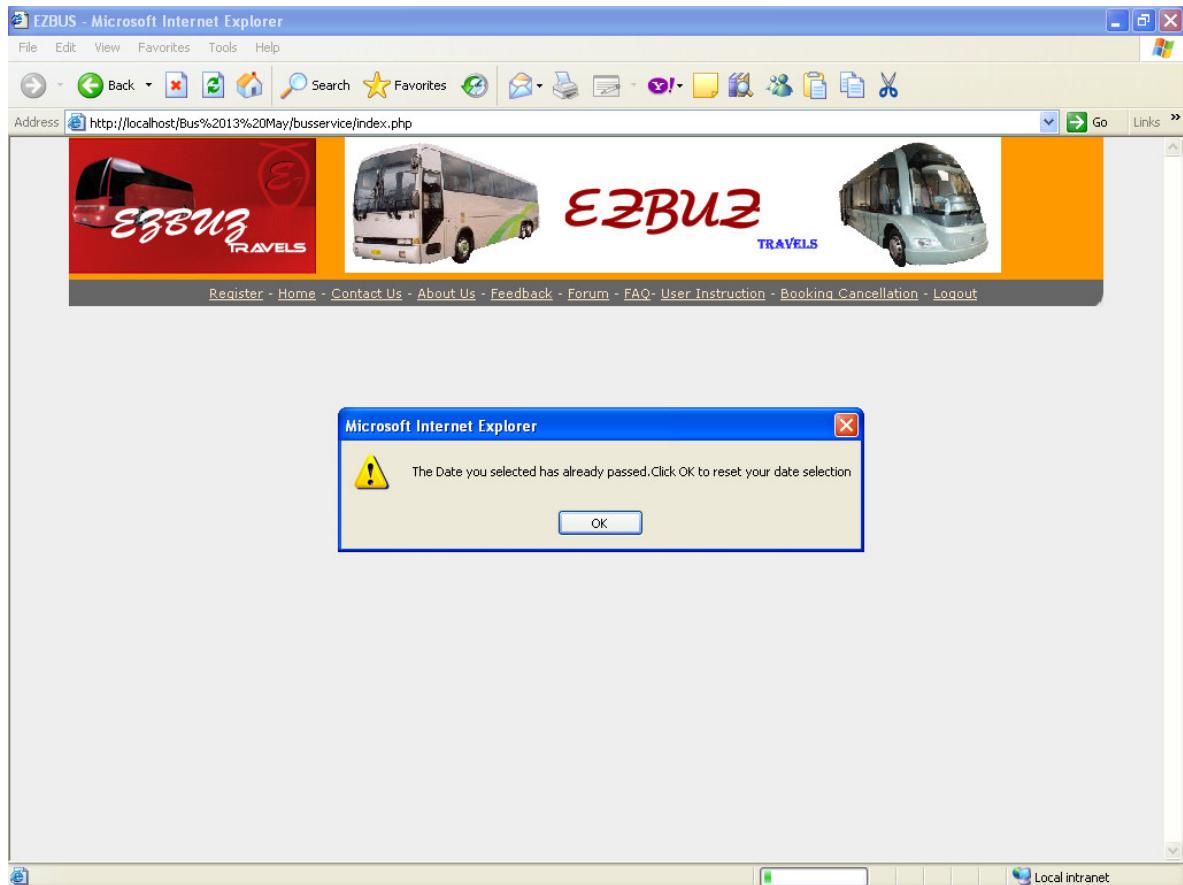
- A header with links: Register, Home, Contact Us, About Us, Feedback, Forum, FAQ, User Instruction, Booking Cancellation, Logout.
- A welcome message: "Welcome to EzBuz.com".
- A sidebar on the left:
  - Greeting: "Hi Melisa".
  - Text: "Your Current Available Points: 60".
  - Radio buttons for "Single" and "Return".
  - Departure dropdown: "Hentian Puduraya".
  - Arrival dropdown: "P Pinang".
  - Departure Journey Date input field: "26-04-2007" with a calendar icon.
  - Return Journey Date input field.
  - Bus Rating dropdown: "5 Star".
  - A "Search" button.
- A central content area:
  - A paragraph about the bus reservation system's history and evolution.
  - A "Promotions" section with a table:

Provider	Subject
Plusliner	Discounted
Transnational	Extra Bus service for CNY
Pls contact our hotline for extra bus services during June school holidays.	
  - Logos for AirAsia, Malaysia Airlines, Tourism Malaysia, and a map of Malaysia.
- A sidebar on the right:
  - Username and Password input fields.
  - A "Submit" button.
  - A "User Polling" section with a red header and a dropdown menu: "...Select----".
  - A "poll" button.

**Figure H-3**  
**Customer Search Ticket Page**

Figure H-3 shows the Search Ticket section the member home page. A member can search a ticket based on a single or return journey and insert the Departure and Return Date and also the bus rating preferred. A Departure date cannot be back dated. A member must also choose a bus rating in order to choose the type of bus preferred. A member can then click on the *Search* button to proceed to the next screen.

## Appendix H: Continued



**Figure H-4**  
**Customer Search Ticket Error Message Page**

Figure H-4 shows the error message when back dated dates are inserted into the system. A member will then be prompted to insert new dates to proceed with the search function.

## Appendix H: Continued

The screenshot shows a Microsoft Internet Explorer window titled "EZBUS - Microsoft Internet Explorer". The address bar contains the URL "http://localhost/Bus%20May/busservice/search.php". The page header includes links for "Register", "Home", "Contact Us", "About Us", "Feedback", "Forum", "FAQ", "User Instruction", "Booking Cancellation", "Admin Login", and "Authority Login". A banner at the top right says "Welcome to EzBuz.com". Below the banner, the title "Search details" is displayed. A horizontal menu bar features four buttons: "Search" (highlighted in red), "Booking", "Confirm", and "Payment". A table titled "Departure Journey" lists five bus service provider options. Each row includes columns for Star Ranking, Bus Service Provider, Fare in RM (with sub-rows for Adult and Child fares), Time, No.of seats, Status, and a "Book" button. The status column indicates available seats (e.g., Available:20, Available:12, Available:22, Available:17, Available:29). The "Book" button is represented by a radio button icon. The date "Date:26-06-2007" is shown above the table. At the bottom right of the table is a "submit" button. The status bar at the bottom of the browser window shows "Done" and "Local intranet".

Departure Journey						
Date:26-06-2007						
Star Ranking	Bus ServiceProvider	Fare in RM	Time	No.of seats	Status	Book
5	Transnational	Adult 56.00 Child 30.00	11.30am	30	Available:20	<input type="radio"/>
5	Transnational	Adult 62.00 Child 32.00	3.00pm	22	Available:12	<input type="radio"/>
5	Plusliner	Adult 65.00 Child 36.00	11.30pm	22	Available:22	<input type="radio"/>
5	Plusliner	Adult 56.00 Child 28.00	12:30pm	22	Available:17	<input type="radio"/>
5	Plusliner	Adult 52.00 Child 23.00	11.30am	30	Available:29	<input type="radio"/>

**Figure H-5**

**Customer Search Details Page**

Figure H-5 displays the Customer search details where the star ranking of the bus operator (which was chosen by the member during the search function), bus service provider name, fares, departure time, number of seats in the bus, number of seats available and a booking radio button. The customer needs to select the desired bus operator and click on the 'Submit' button.

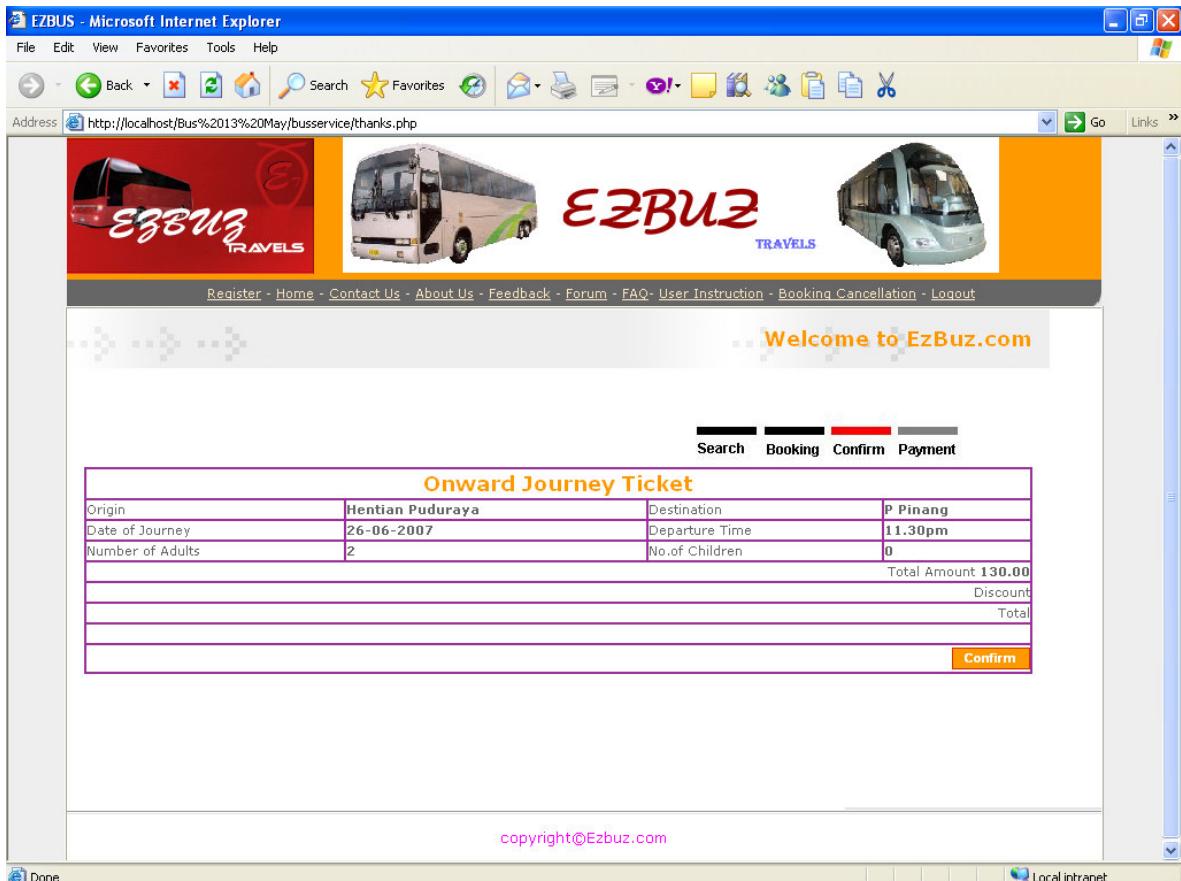
## Appendix H: Continued

The screenshot shows a Microsoft Internet Explorer window displaying the 'Ticket Booking' page of EzBuz.com. The page header includes the EzBuz logo, navigation links like Register, Home, Contact Us, etc., and a 'Welcome to EzBuz.com' message. Below the header is a 'Ticket Booking' section with tabs for Search, Booking, Confirm, and Payment. A table displays travel details: Type Of Bus (SuperVip), Origin (Hentian Puduraya), Destination (P Pinang), Onward Date (26-06-2007), Departure Time (11.30pm), Adult Fare (65.00), Child Fare (36.00), Status (Available:18), and dropdown menus for No.of Adults (2) and Childs (0). A seating chart titled 'Please Select the Seat(s) Required' shows rows of seats labeled 1C through 8A, with checkboxes for each. Seats 4C, 5C, 6C, 7C, 4B, 5B, and 7B are checked. A 'Buy...' button is located at the bottom right of the seating chart area.

**Figure H-6**  
**Customer Ticket Booking Page**

Figure H-6 shows the Ticket Booking page, where the customer has to insert the number of Adults and Children for the journey. The customer then selects the seats preferred from the seating chart and click on the 'Buy' button to proceed to the payment details.

## Appendix H: Continued

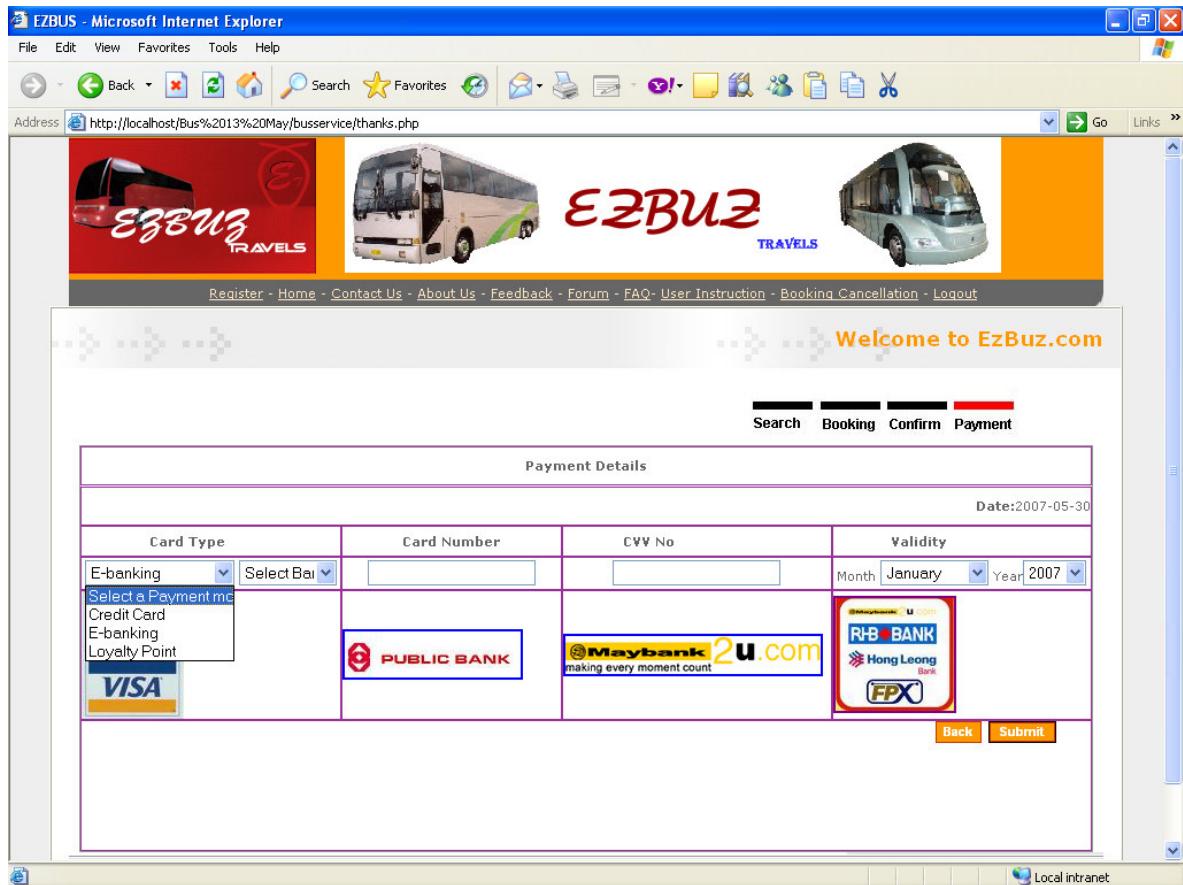


**Figure H-7**

**Customer Confirm Journey Page**

Figure H-7 shows the Journey details selected and the member then confirms this by clicking on the '*Confirm*' button to proceed with the payment details.

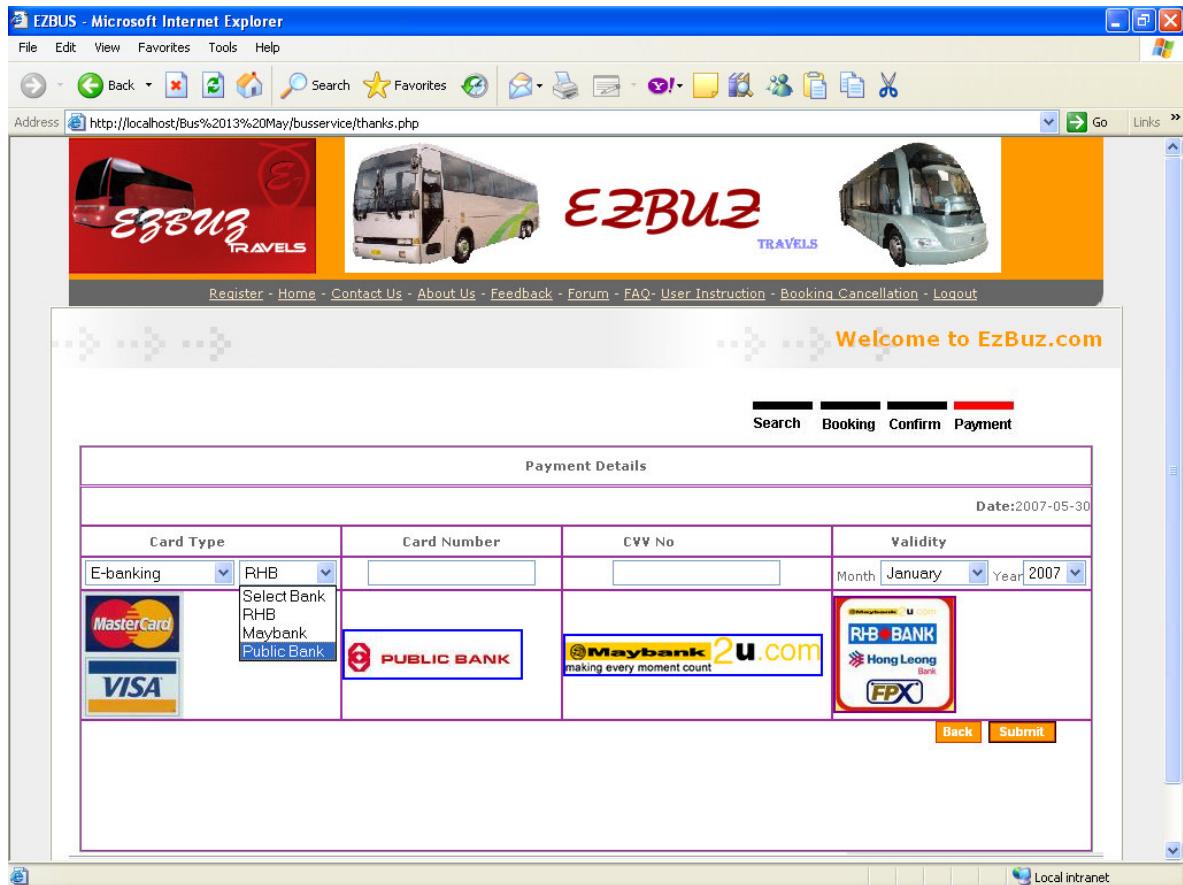
## Appendix H: Continued



**Figure H-8**  
**Customer Payment Page**

For the Payment, a customer firstly selects the mode of payment, i.e. *Credit Card*, *e-banking* or *Loyalty Point* deduction. If a customer selects credit card, then the details must be inserted as in Figure H-8. If the customer selects e-banking, then the e-banking site for the selected bank will appear and the customer proceeds with the e-banking process as shown in H-9. If Loyalty Point is deducted then the member must have enough points to purchase the ticket, whereby, 1 point equals to RM1.

## Appendix H: Continued

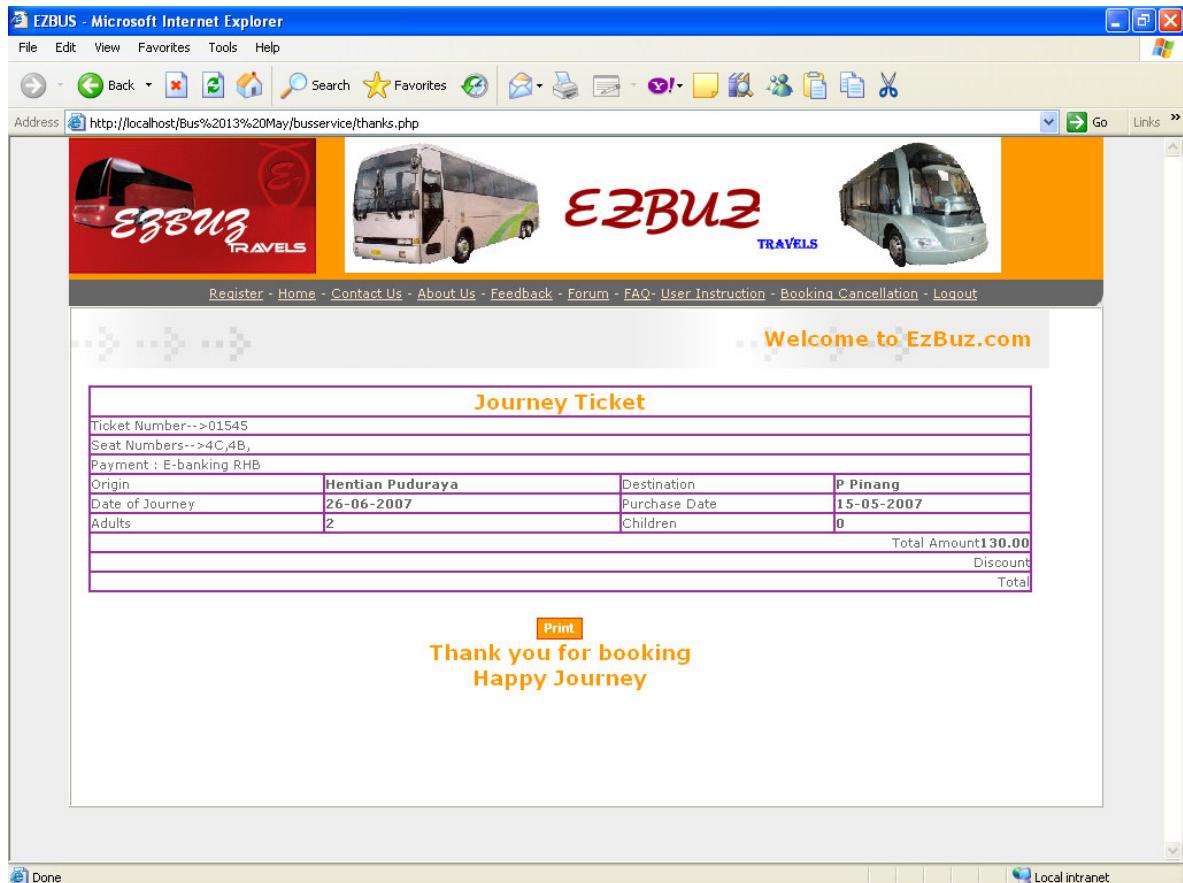


**Figure H-9**

**Customer E-Banking Payment Page**

Figure H-9 shows the E-Banking payment page, where by the user selects the type of bank the payment is to be made from.

## Appendix H: Continued



**Figure H-10**  
**Customer Print Ticket Page**

Figure H-10 shows the Ticket Details, where a customer can print it out and bring along as a proof on the day of their departure.

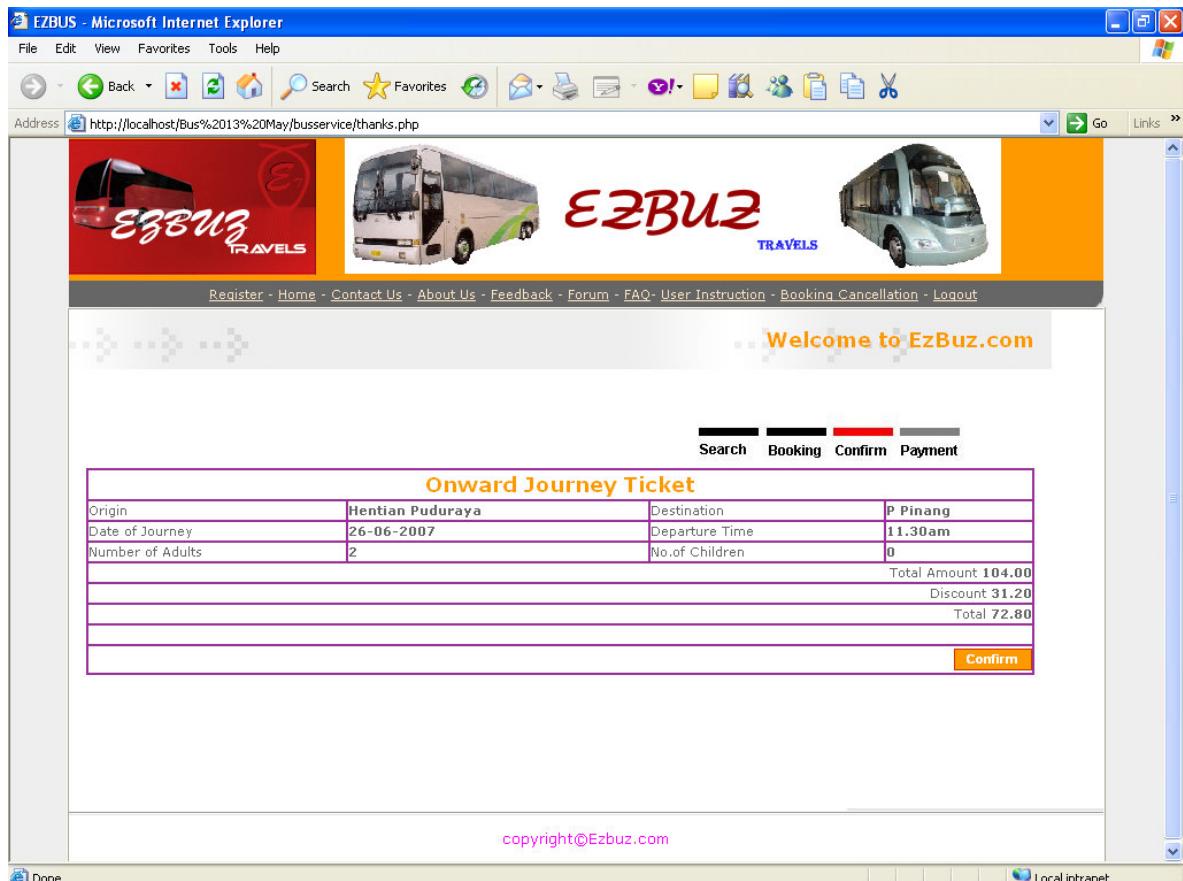
## Appendix H: Continued

The screenshot shows a Microsoft Internet Explorer window for the EzBuz website. The title bar reads "EZBUS - Microsoft Internet Explorer". The address bar shows the URL "http://localhost/Bus%2020May/busservice/buytickets.php". The page header includes links for Register, Home, Contact Us, About Us, Feedback, Forum, FAQ, User Instruction, Booking Cancellation, and Logout. A banner at the top right says "Welcome to EzBuz.com". The main content area is titled "Ticket Booking" and features a "Happy Journey" message. It displays a table with travel details: Type Of Bus (DoubleDecker), Origin (Hentian Puduraya), Destination (P Pinang), Onward Date (26-06-2007), Departure Time (11.30am), Adult Fare (52.00), Child Fare (23.00), Status (Available: 29), and dropdown menus for No.of Adults (1) and Childs (0). Below the table, a section titled "Please Select the Seat(s) Required" contains a grid of seat options labeled FC, SC, 1C, 2C, 3C, 4C, 5C, 6C, 7C, 8C, 9C, FB, SB, 1B, 2B, 3B, 4B, 5B, 6B, 7B, 8B, 9B, and 9D. Seats 9C and 9B have checked checkboxes. A "Stair Case" row contains seats 3A through 8A, with seat 9A having an unchecked checkbox. At the bottom right of the booking form is a "Buy..." button.

**Figure H-11**  
**Senior Citizen Booking Page**

Figure H-11 shows the Senior Citizen Booking Page, where the process of selecting a bus is the same as a normal member, but the senior citizen can only book to a maximum of 2 tickets per trip.

## Appendix H: Continued

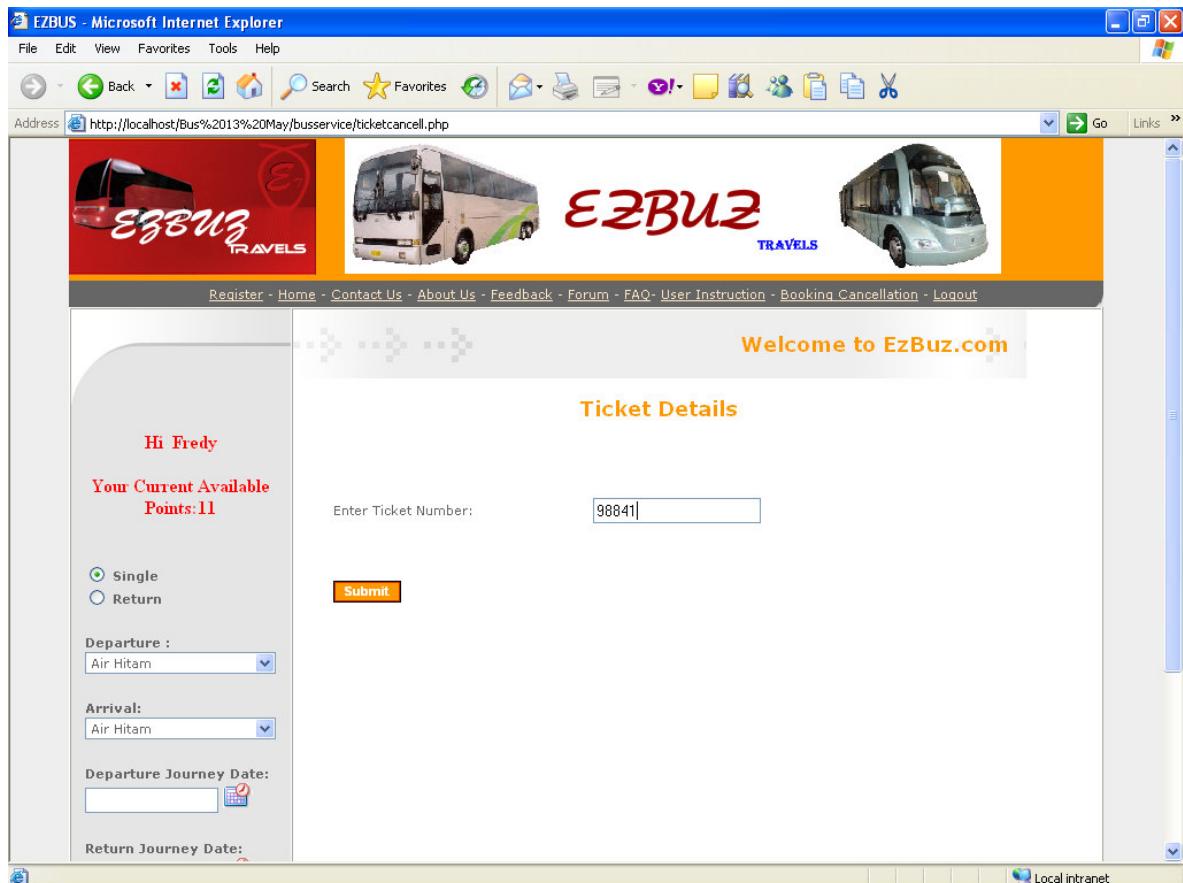


**Figure H-12**

**Senior Citizen Ticket Confirmation Page**

Figure H-12 shows the Senior citizen Ticket Confirmation page, where there will be a 30% discount from the total amount. The senior citizen can then proceed to the payment page which is similar to the normal member payment page as per in Figure H-8, where, the payment selection can either be through credit card, e-banking or loyalty point redemption.

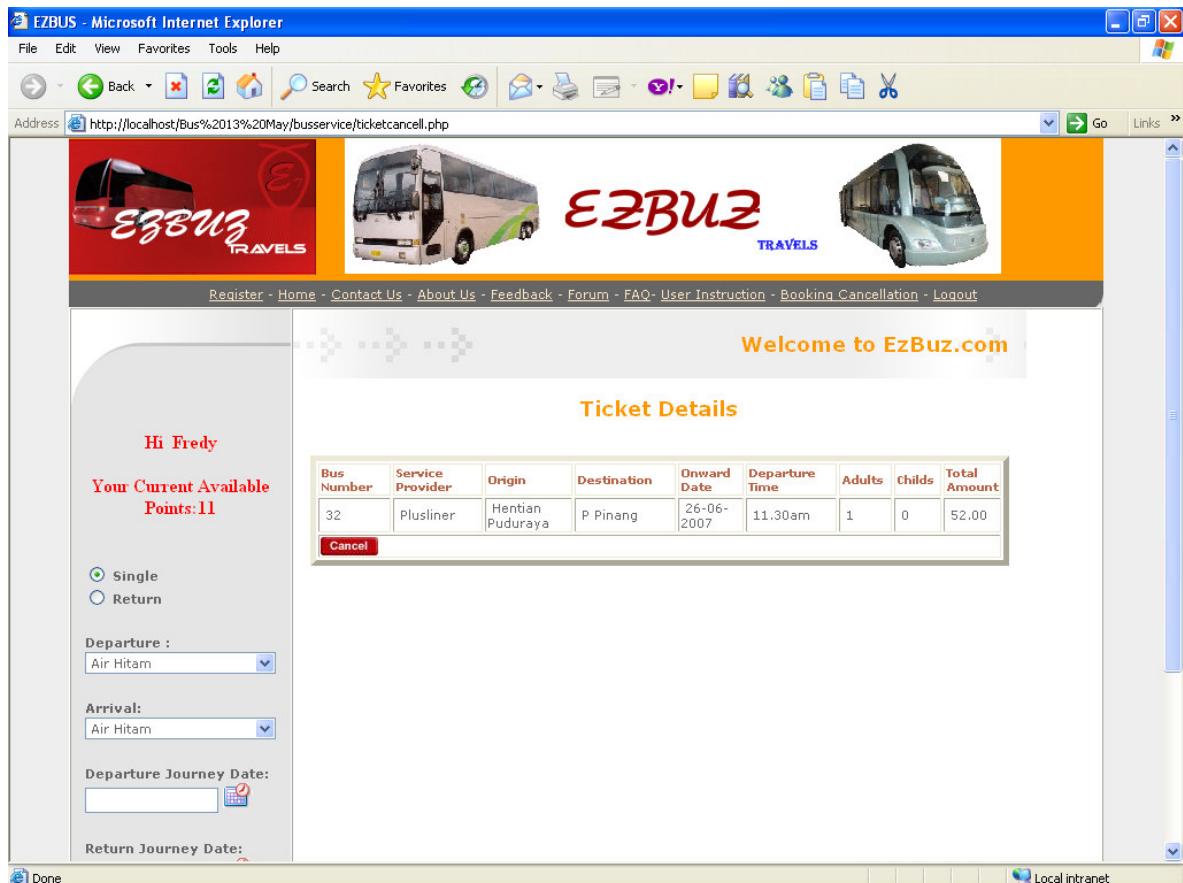
## Appendix H: Continued



**Figure H-12**  
**Customer Booking Cancellation Page**

Figure H-13 shows the booking cancellation page where a customer need to insert the ticket number to cancel and click on the *Submit* button, then the ticket will appear (as shown in Figure H-14).

## Appendix H: Continued

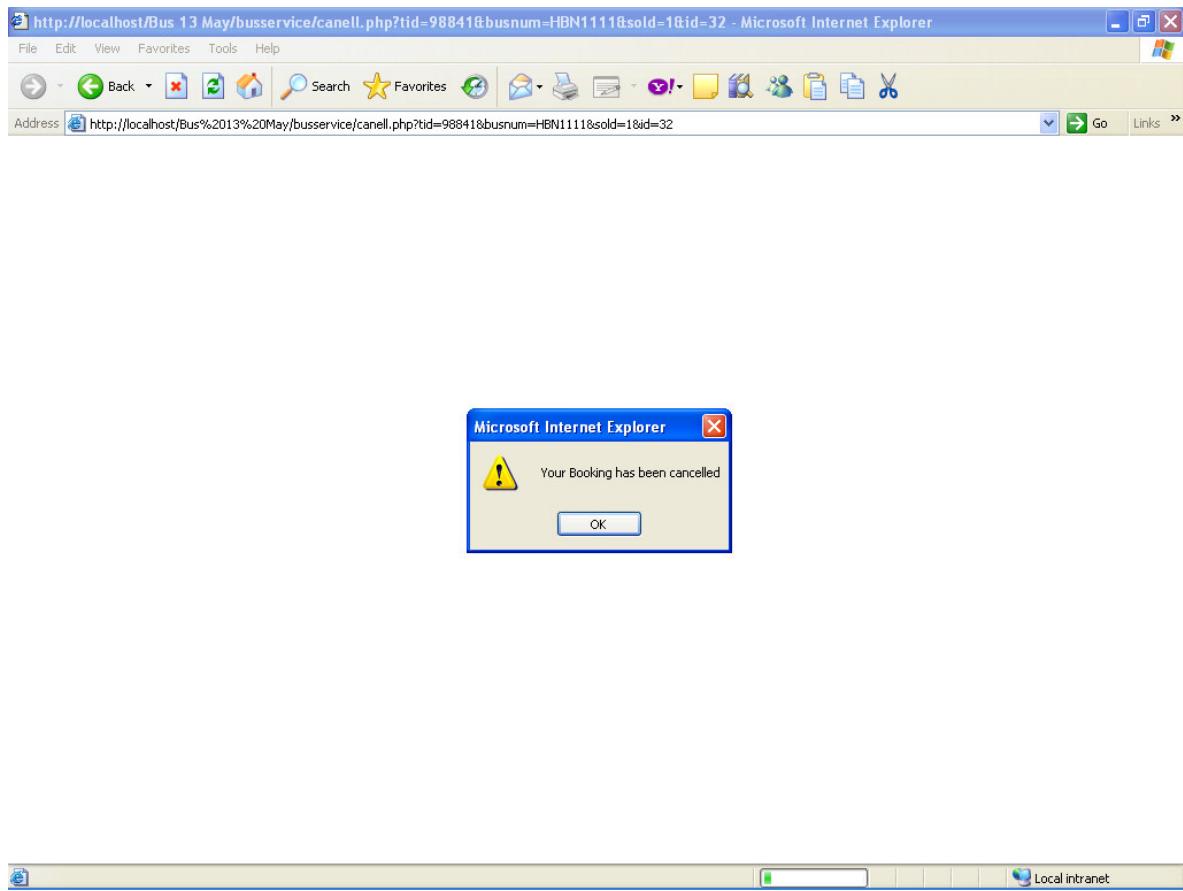


**Figure H-14**

**Customer Ticket Cancellation Details Page**

Figure H-14 shows the ticket details based on the ticket number. The Customer can then press the *Cancel* button to cancel the ticket. The ticket will then be automatically be cancelled.

## Appendix H: Continued



**Figure H-15**  
**Customer Ticket Cancellation Confirmation Page**

Figure H-15 shows the Confirmation screen of the cancellation of the ticket.

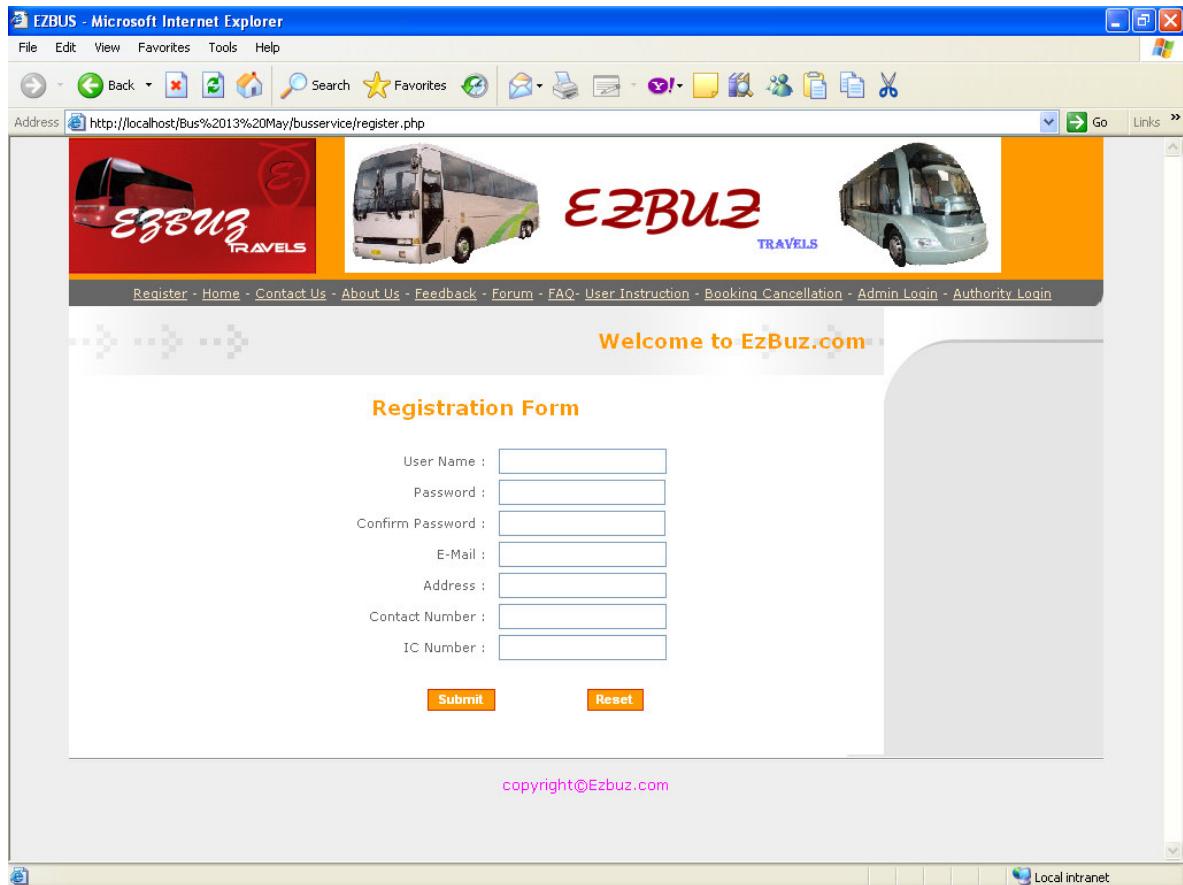
## Appendix H: Continued



**Figure H-16**  
**User Polling Page**

Figure H-16 shows the User Polling page for the user to select their favorite bus operator. This user polling will be one of the criteria to rank a bus operator.

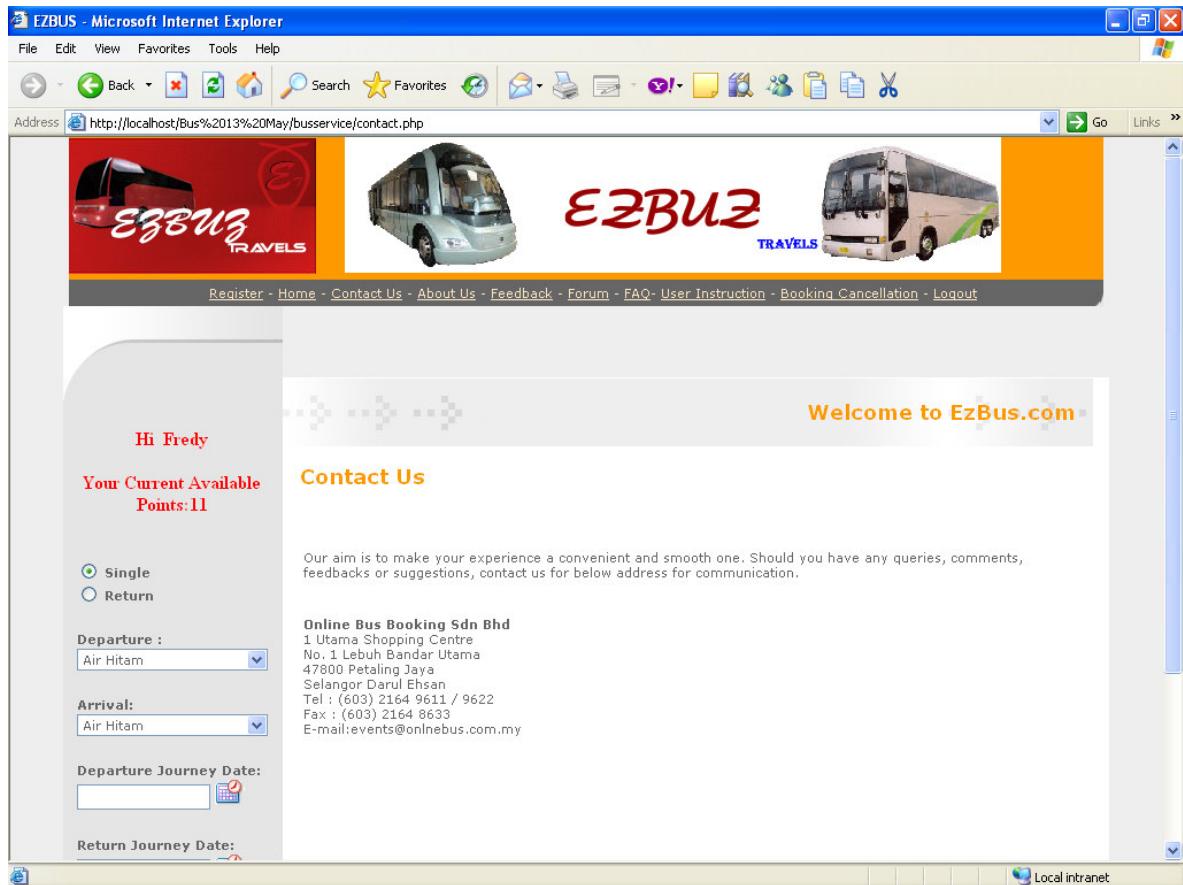
## Appendix H: Continued



**Figure H-17**  
**Customer Registration Page**

Figure H-17 displays the page which allows a user to register as a member to be able to do bookings from this system. The user must provide personal particulars for the registration.

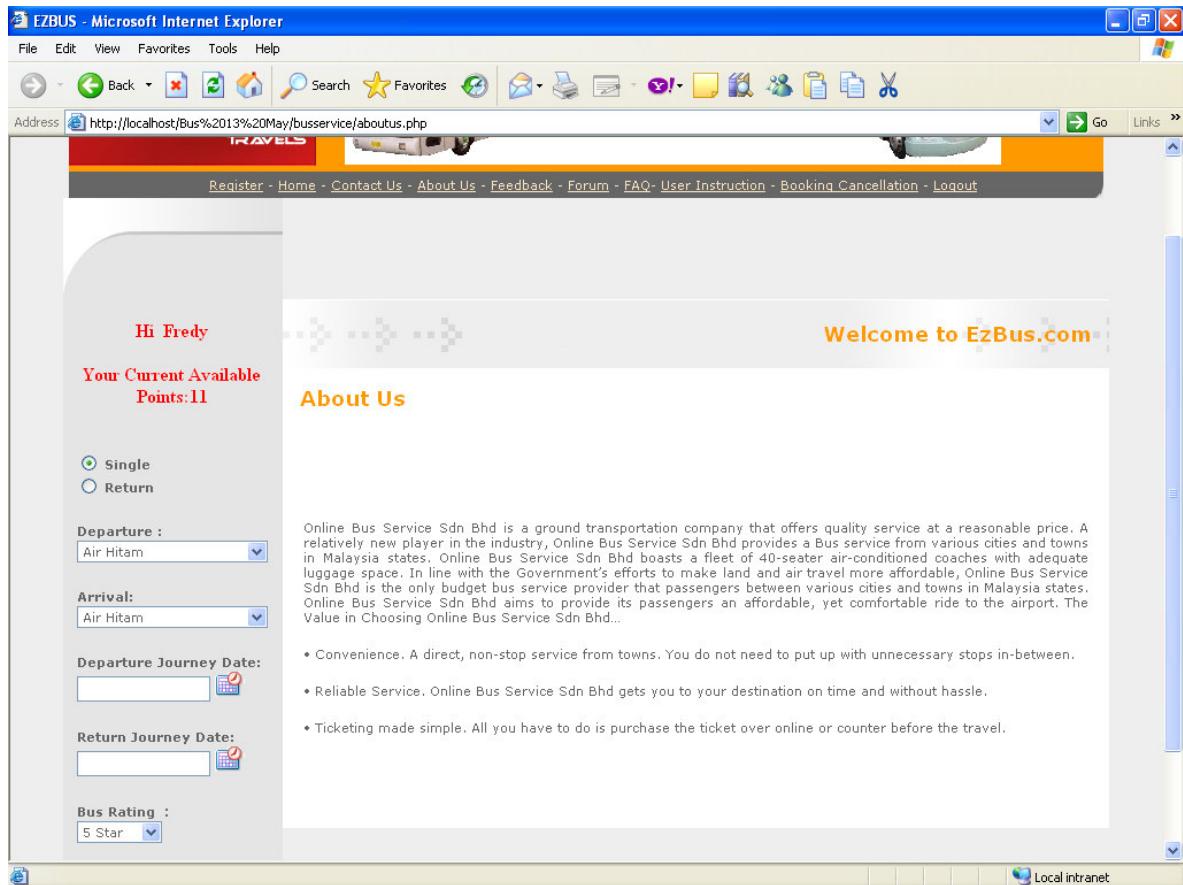
## Appendix H: Continued



**Figure H-18**  
**Customer Contact Us Page**

Figure H-18 shows the Customer's Contact Us page which displays the contact information of EzBus.com.

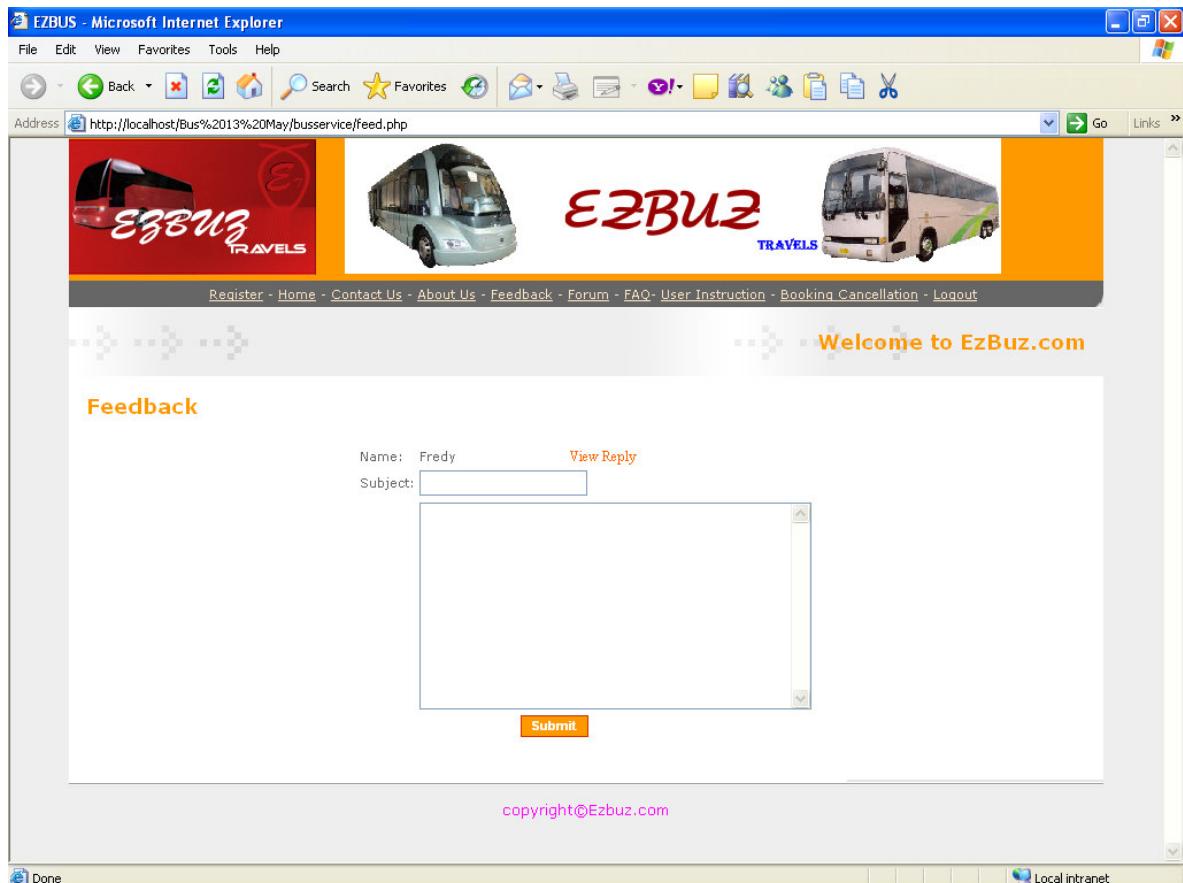
## Appendix H: Continued



**Figure H-19**  
**Customer About Us Page**

Figure H-19 shows the About Us page. This page gives information of EzBuz.com profile information for the user.

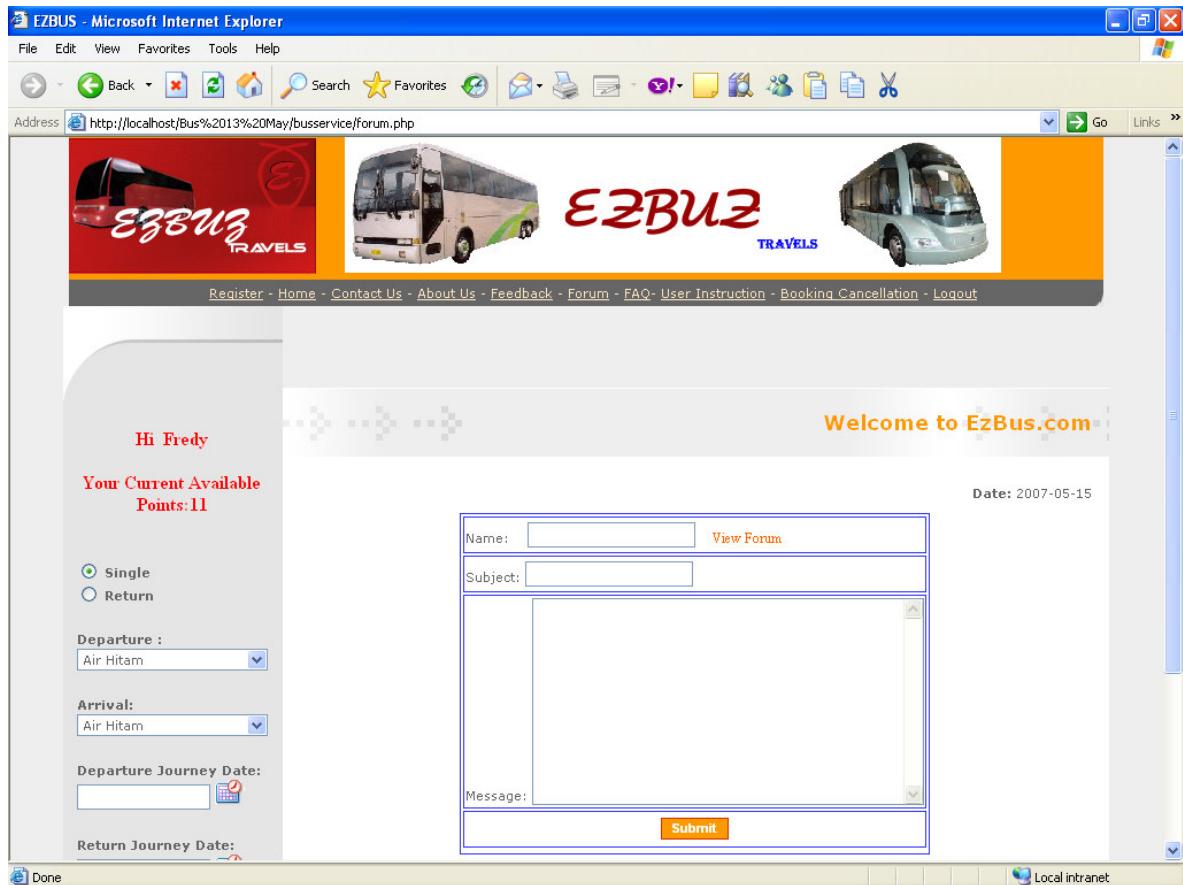
## Appendix H: Continued



**Figure H-20**  
**Customer Feedback Page**

Figure H-20 shows the page that allows customers to send feedback to the administrator of bus operators. The administrator then can reply to them on the feedbacks. The feedbacks can be on the service, improvements to the system and so on. The customer can then view the reply by the administrator on the feedback.

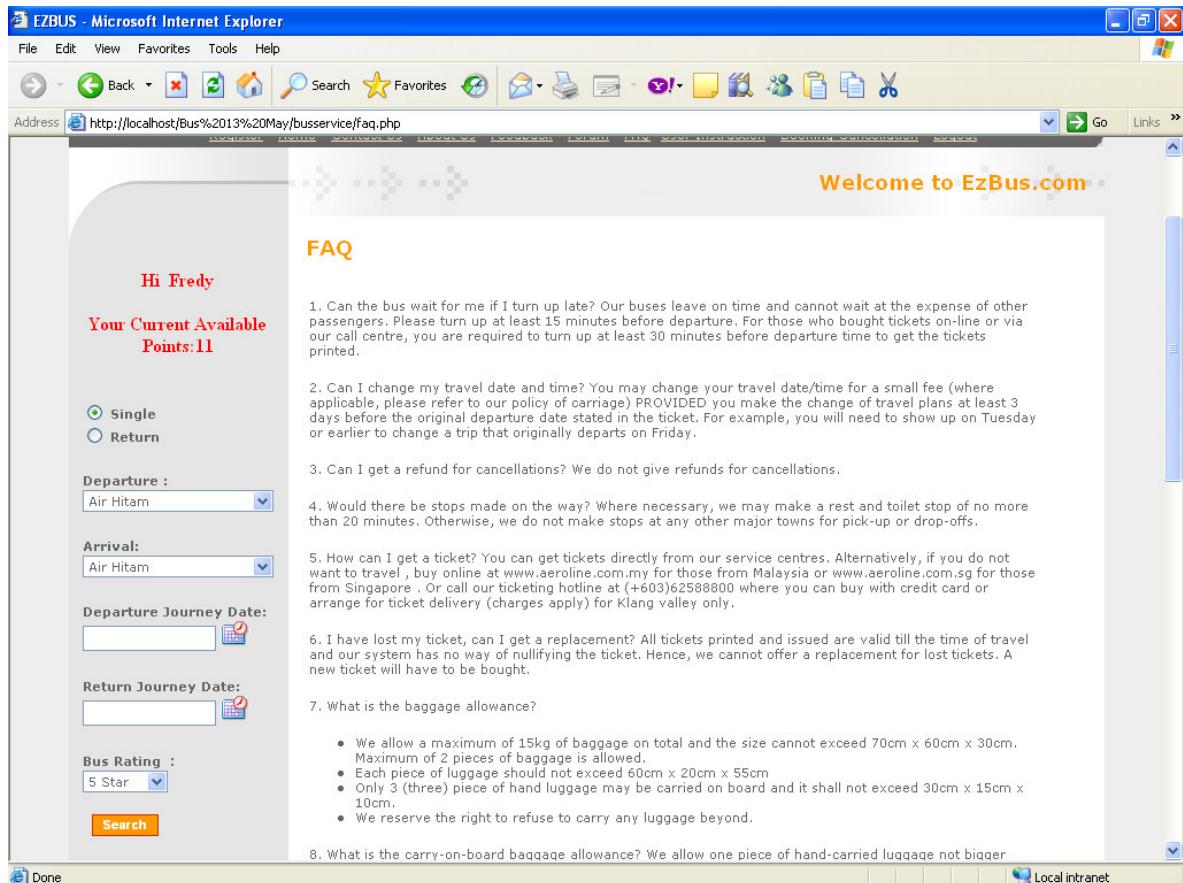
## Appendix H: Continued



**Figure H-21**  
**Customer Forum Page**

Figure H-21 is the Customer Forum Page, where a customer is able to send messages to other customers or even bus operators. The customer is also able to view messages posted and reply to them.

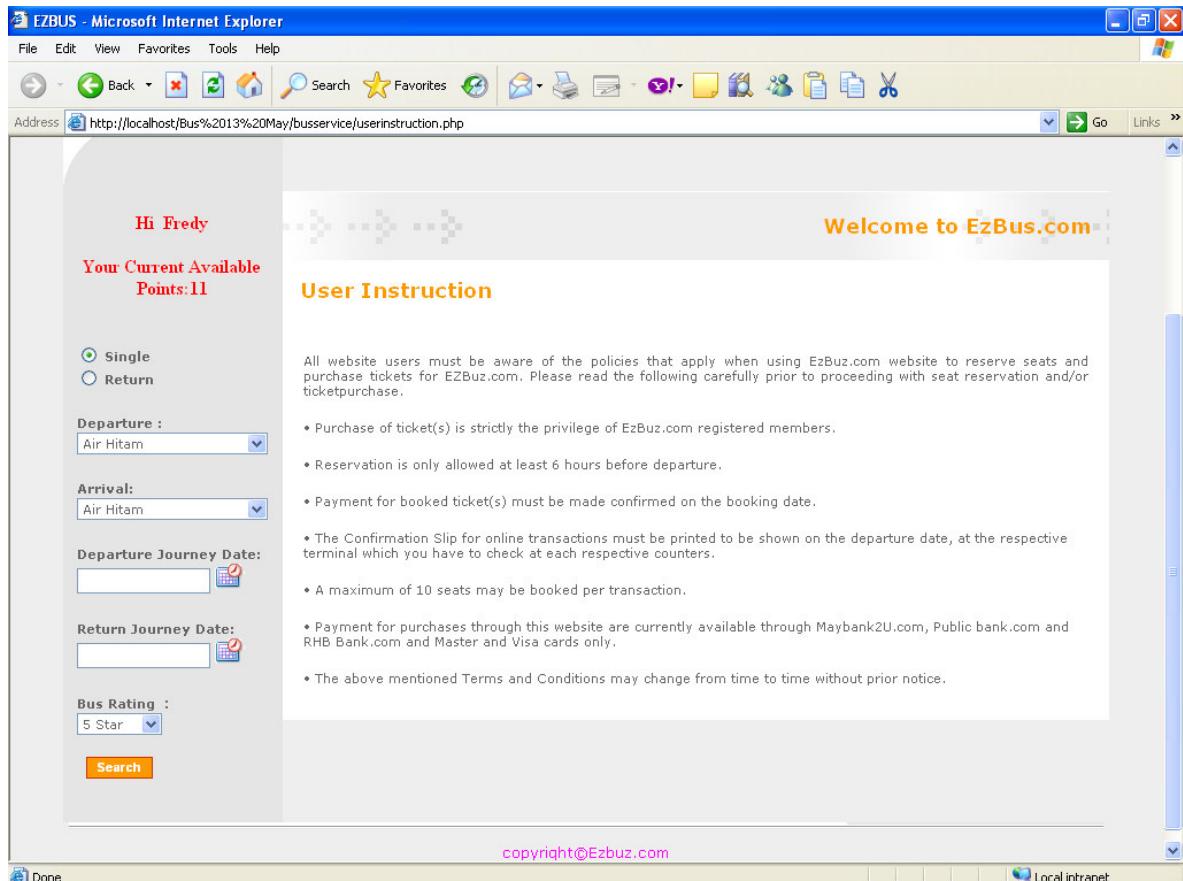
## Appendix H: Continued



**Figure H-22**  
**Customer FAQ Page**

Figure H-22 displays the page for FAQ for the system and also the for ticket purchasing. A customer can read through the FAQ to obtain better understanding on the questions that may arise when using this system.

## Appendix H: Continued



**Figure H-23**  
**User Instruction Page**

Figure H-23 shows the User Instruction page that shows the users instruction on using the features of this system.

## Appendix I

### Source Codes (Administrator section)

---

#### Adminlogin.php

```
<?php
error_reporting(0);
session_start();
include("includes/db.php");
if($_SESSION['username'] == ""){ ?>
<script language="JavaScript">
window.location.href='index.php';
</script>
<?php }

?>
<html>
<head>
<title>EZBUS</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<link rel="stylesheet" href="css/styles.css" type="text/css">
<!-- European format dd-mm-yyyy -->
<script language="JavaScript" src="calendar1.js"></script><!-- Date only with year scrolling -->
<!-- American format mm/dd/yyyy -->
<script language="JavaScript" src="calendar2.js"></script><!-- Date only with year scrolling -->
</head>

<body bgcolor="#EEEEEE" text="#000000" leftmargin="0" topmargin="0" marginwidth="0"
marginheight="0">
    <?php include("includes/header.php"); ?>
    <table width="900" border="1" cellspacing="0" cellpadding="0" align="center">
        <tr>
            <td width="191" bgcolor="#E5E5E5" valign="top">
                <?php include("includes/left.php"); ?>
            </td>
            <td valign="top" bgcolor="#FFFFFF">
                <?php include("includes/inc.index.php"); ?>
            </td>
            <td width="191" bgcolor="#E5E5E5" valign="top"><br>
                <?php      include("includes/right.php");      ?>    </td>
            </tr>
        </table>
        <?
        include("includes/footer.php");
    ?>
    </body>
</html>
```

## Appendix I: Continued

### Adminbusschedule.php

```
<?php
error_reporting(0);
session_start();
include("includes/db.php");
?>
<html>
<head>
<title>EZRUS</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<link rel="stylesheet" href="css/styles.css" type="text/css">
<!-- European format dd-mm-yyyy -->
<script language="JavaScript" src="calendar1.js"></script><!-- Date only with year scrolling -->
<!-- American format mm/dd/yyyy -->
<script language="JavaScript" src="calendar2.js"></script><!-- Date only with year scrolling -->
</head>

<body bgcolor="#EEEEEE" text="#000000" leftmargin="0" topmargin="0" marginwidth="0"
marginheight="0">

    <?php include("includes/header.php"); ?>
<table width="900" border="1" cellspacing="0" cellpadding="0" align="center">
    <tr>
        <td width="191" bgcolor="#E5E5E5" valign="top">
            <?php include("includes/left.php"); ?>
        </td>
        <td valign="top" bgcolor="#FFFFFF">
            <?php include("includes/inc.adminbusschedule.php"); ?>
        </td>
    </tr>
</table>
<?
include("includes/footer.php");
?>

</body>
</html>
```

## Appendix I: Continued

### Inc.buytickets.php

```
<style type="text/css">
<!--
.style1 {font-size: 18px}
-->
</style>
<?php //print_r($_POST); ?>
<table width="100%" border="0" cellspacing="0" cellpadding="15">
<tr>
<td class="title" height="60" background="images/title_bg.gif" align="right">Welcome
to EzBuz.com</td>
</tr><tr>
<td class="title" height="34" align="center">Buy Tickets</td>
</tr>
<tr>
<td valign="top" class="text">
<form name="formx" action="thanks.php" method="POST">
<table width="98%" border="1" align="center" cellpadding="0" bordercolor="#993399" cellspacing="0"
style="border-width:1px; border-style:solid; border-color:#999999"><tr>
<td height="34" colspan='11' align='center' class="text style1"><div align="center">Happy
Journey</div></td>
</tr><tr>
<td height="34" colspan='11' align='right' class="text"><b>Date:</b><?=date("Y-m-d")?></td></tr><tr>
<td width="11%" height="27" class="text">
<div align="center"><strong class="text">Type Of Bus</strong></div></td>
<td width="6%" class="style12"><div align="center" class="text"> <strong class="text">Origin</strong>
</div></td>
<td width="10%" class="style12"><div align="center"> <strong class="text">Destination</strong>
</div></td>
<td width="12%" class="style12"><div align="center" class="text">&ampnbsp<strong>Onward
Date</strong></div></td>
<td width="14%" class="style12"><div align="center" class="text">&ampnbsp<strong>Departure
Time</strong></div></td>
<td width="9%" class="style12"><div align="center" class="text">&ampnbsp<strong>Adult
Fare</strong></div></td>
<td width="9%" class="style12"><div align="center" class="text">&ampnbsp<strong>Child
Fare</strong></div></td>
<td width="6%" class="style12"><div align="center"
class="text">&ampnbsp<strong>Status</strong></div></td>
<td width="10%" class="style12"><div align="center" class="text">&ampnbsp<strong>No.of
Adults</strong></div></td>
<td width="8%" class="style12"><div align="center"
class="text">&ampnbsp<strong>Childs</strong></div></td></tr>
<?php
$counter= count($_POST);
$values=$_POST;
//print_r($_POST);
for($i=0;$i<$counter;$i++)
{
    if($i==0)
    {
        if($_POST['orgin'] >0)
        {
            $query="SELECT * FROM `busdetails` WHERE `id` = ".$_POST['orgin'];
            $result=@mysql_query($query) or die (mysql_error());
        }
    }
}
```

## Appendix I: Continued

```

        else
        {
            $query="SELECT * FROM `busdetails` WHERE `id` =
". $_POST['dest'];
            $result=@mysql_query($query) or die (mysql_error());
        }
    }
    if($i==1)
    {
        if($_POST['dest'] >0)
        {
            $query="SELECT * FROM `busdetails` WHERE `id` = ".$_POST['dest'];
            $result=@mysql_query($query) or die (mysql_error());
        }
        else
        {
            $query="SELECT * FROM `busdetails` WHERE `id` = ".$_POST['orgin'];
            $result=@mysql_query($query) or die (mysql_error());
        }
    }
//$result=@mysql_query($query) or die (mysql_error());
while($row=@mysql_fetch_object($result))
{
    ?><tr>
<td class="style12"><div align="center" class="text">
<input type="hidden" name="bid[]" value=<?php echo $row->id;?>">
<input type="hidden" name="bunum[]" value=<?php echo $bustype=$row->fld_bustype;?>">
<input type="hidden" name="provider[]" value=<?php echo $prev=$row->fld_provider;?>">
<input type="hidden" name="adfare[]" value=<?php echo $prev=$row->fl_adultfare;?>">
<input type="hidden" name="chfare[]" value=<?php echo $prev=$row->fld_child;?>">
<input type="hidden" name="origin[]" value=<?php echo $org=$row->fld_origin;?>">
<input type="hidden" name="dest[]" value=<?php echo $dest=$row->fld_destination;?>">
<input type="hidden" name="ondate[]" value=<?php echo $ondate=$row->fld_onwardj;?>">
<input type="hidden" name="ondtime[]" value=<?php echo $ondtime=$row->fld_onwarddate;?>">
<input type="hidden" name="seats[]" value=<?php echo $seats=$row->fld_seats;?>">

<?php echo $bustype=$row->fld_bustype;?></div></td>
<?php $provider=$row->fld_provider; ?>
<td class="style12"><div align="center" class="text"><?php echo $origin=$row->fld_origin; ?></div></td>
<td class="style12"><div align="center" class="text"><?php echo $destination=$row->fld_destination;
?></div></td>
<td class="style12"><div align="center" class="text"><?php echo $onjdate=$row->fld_onwardj;
?></div></td>
<td class="style12"><div align="center" class="text"><?php echo $onjdeptime=$row->fld_onwarddate;
?></div></td>
<td class="style12"><div align="center" class="text"><?php
echo number_format($row->fl_adultfare, 2, ',', '');
$adult=$row->fl_adultfare; ?></div></td>
<td class="style12"><div align="center" class="text"><?php echo number_format($row->fld_child, 2, ',', '');
$child=$row->fld_child; ?></div></td>
<td class="style12">
<?php
$seats=$row->fld_seats;
$s=($seats)*25/100;
$sold=$row->fld_sold;
$aval=($seats-$sold);
if($aval<=$s)

```

## Appendix I: Continued

```
{  
echo "<span style=color:#004080 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-weight:bold;>Limited:</span>".$aval;  
}  
if($aval>=$s)  
{  
echo "<span style=color:#93BF40 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-weight:bold; >Available:</span>".$aval;  
}  
if($seats==$sold)  
{  
echo "<span style=color:#FF0000 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-weight:bold; >SoldOut:</span>";  
}  
?> </td>  
<td class="tdata" ><select name="adults[]" >  
    <option name="1" selected="selected">1</option>  
    <option name="2">2</option>  
    <option name="3">3</option>  
    <option name="4">4</option>  
    <option name="5">5</option>  
    <option name="6">6</option>  
    <option name="7">7</option>  
    <option name="8">8</option>  
    <option name="9">9</option>  
    <option name="10">10</option>  
</select></td>  
<td class="tdata" > <select name="childs[]" >  
    <option name="0" selected="selected">0</option>  
    <option name="1">1</option>  
    <option name="2">2</option>  
    <option name="3">3</option>  
    <option name="4">4</option>  
    <option name="5">5</option>  
    <option name="6">6</option>  
    <option name="7">7</option>  
    <option name="8">8</option>  
    <option name="9">9</option>  
    <option name="10">10</option>  
</select></td></tr><tr>  
<? } ?> <tr>  
<td colspan="12" align="center">&nbsp;</td></tr> <tr>  
<td colspan="12" align="center">  
</td></tr>  
</table>  
  
<table width="98%" align="center" cellpadding="0" bordercolor="#993399" cellspacing="0" style="border-width:1px; border-style:solid; border-color:#999999">  
<tr><td height="34"> <div align="right"> <input type="submit" name="buy" value="Buy" class="buttonblue">&nbsp;&nbsp;&nbsp;&nbsp;</div></td>  
</tr>  
<tr>  
</table>  
  
</form>      </td></tr></table>
```

## Appendix I: Continued

### Inc.search.php

```
<script language="JavaScript" src="calendar1.js"></script><!-- Date only with year scrolling -->
<!-- American format mm/dd/yyyy -->
<script language="JavaScript" src="calendar2.js"></script><!-- Date only with year scrolling -->
<?php //echo "<pre>";>
if(isset($_POST['jur']))
{
//print_r($_POST);
$jur=$_POST['jur'];
$origin=$_POST['origin'];
$dets=$_POST['dest'];
$ondate=$_POST['ondate'];
$onw=substr($ondate,0,11);
$rdate=$_POST['rdate'];
$rjd=substr($rdate,0,11);
?>
<table width="100%" border="0" cellspacing="0" cellpadding="15"><tr>
<td class="title" height="60" background="images/title_bg.gif" align="right">Welcome
to Ezbuz.com</td></tr><tr>
<td class="title" height="34" align="center"> Search details</td></tr> <tr>
<td valign="top" class="text">
<form name="form1" action="buytickets.php" method="POST">
<?php
if($jur==1)
{
$query="SELECT * FROM busdetails WHERE fld_origin='".$origin' AND fld_destination='".$dets' AND
fld_onwardj='".$onw."'";
$result=mysql_query($query) or die (mysql_error());
$count=mysql_num_rows($result);
?>
<table width="98%" border="1" align="center" cellpadding="0" bordercolor="#993399" cellspacing="0"
style="border-width:1px; border-style:solid; border-color:#999999"><tr>
<td height="34" colspan='6' align='center' class="text style1"> <div align="center">Onward
Journey</div></td></tr><tr><tr>
<td height="34" colspan='6' align='right' class="text"><b>Date:</b><?php echo $ondate; ?></td></tr><tr>
<td width="185" height="27" class="text">
<div align="center"><strong class="text">Bus Service</strong><strong>Provider</strong></div></td>
<td width="190" class="style12"><div align="center" class="text"><strong>Fare&nbsp; in RM
</strong></div></td>
<td width="149" class="style12"><div align="center"><strong class="text">Time</strong></div></td>
<td width="173" class="style12"><div align="center" class="text">&nbsp;<strong>No.of
seats</strong></div></td>
<td width="173" class="style12"><div align="center"
class="text">&nbsp;<strong>Status</strong></div></td>
<td width="173" class="style12"><div align="center"
class="text">&nbsp;<strong>Book</strong></div></td></tr>
<?php
    $temp=0;
    while($rec=@mysql_fetch_array($result))
    {
        $temp=$rec;
    ?><tr><tr>
<td class="style12"><div align="center" class="text"><?php echo $rec[fld_provider]; ?></div></td>
```

## Appendix I: Continued

```
<td class="style12"><div align="center" class="text">Adult <?php echo  
number_format($rec[fld_adultfare], 2, '.', ''); ?><br>Child <?php echo number_format($rec[fld_child], 2, '.', '';  
"); ?></div> </td>  
<td class="style12"><div align="center" class="text"><?php echo $rec[fld_onwarddate]; ?> </div></td>  
<td class="style12"><div align="center" class="text"><?php echo $rec[fld_seats]; ?> </div></td>  
<td class="style12"><div align="center" class="text">  
    <?php  
    $seats=$rec[fld_seats];  
    $s=($seats)*25/100;  
    $sold=$rec[fld_sold];  
    $aval=($seats-$sold);  
    if($aval<=$s)  
    {  
        echo "<span style=color:#004080 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-weight:bold;>Limited:</span>".$aval;  
    }  
    if($aval>=$s)  
    {  
        echo "<span style=color:#93BF40 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-weight:bold; >Available:</span>".$aval;  
    }  
    if($seats==$sold)  
    {  
        echo "<span style=color:#FF0000 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-weight:bold; >SoldOut:</span>";  
    }  
    ?>  
    </div></td>  
<td class="style12"><div align="center" class="text"><input type="radio" name="orgin" value="<?php  
echo $rec[id]; ?>">  
    </div></td> </tr>  
<?php  
    }  
    if($temp=="")  
    { ?><tr></tr>  
        <td colspan="6" align="center" class="style12"> No Records Available... </td> </tr>  
<? } ?>  
<tr><td colspan="12" align="center">&nbsp;</td></tr>  
  
<tr><td colspan="12" align="center"></td></tr>  
</table>  
<?php } ?>  
  
<!-- END OF ONWORD JOURNEY -->  
<?php  
if($jur==2)  
{  
    $query="SELECT * FROM busdetails WHERE fld_origin='".$origin' AND fld_destination='".$dets' AND  
fld_onwardj='".$onw"';  
    $result=mysql_query($query) or die (mysql_error());  
    $count=mysql_num_rows($result);  
?  
    <table width="98%" border="1" align="center" cellpadding="0" bordercolor="#993399" cellspacing="0"  
style="border-width:1px; border-style:solid; border-color:#999999"><tr>  
        <td height="34" colspan='6' align='center' class="text style1"> <div align="center">Onword  
Journey</div></td></tr><tr><tr>
```

## Appendix I: Continued

```

<td height="34" colspan='6' align='right' class="text"><b>Date:</b><?php echo $ondate; ?></td></tr><tr>
<td width="185" height="27" class="text">
<div align="center"><strong class="text">Bus Service</strong><strong>Provider</strong></div></td>
<td width="190" class="style12"><div align="center" class="text"><strong>Fare&nbsp; in RM
</strong></div></td>
<td width="149" class="style12"><div align="center"><strong class="text">Time</strong></div></td>
<td width="173" class="style12"><div align="center" class="text">&nbsp;<strong>No.of
seats</strong></div></td>
<td width="173" class="style12"><div align="center"
class="text">&nbsp;<strong>Status</strong></div></td>
<td width="173" class="style12"><div align="center"
class="text">&nbsp;<strong>Book</strong></div></td></tr>
<?php
    $temp=0;
    while($rec=@mysql_fetch_array($result))
    {
        $temp=$rec;
    }
    ><tr><tr>
<td class="style12"><div align="center" class="text"><?php echo $rec[fld_provider]; ?></div></td>
<td class="style12"><div align="center" class="text">Adult <?php echo
number_format($rec[fl_adultfare], 2, '.', ''); ?><br>Child <?php echo number_format($rec[fld_child], 2, '.', '');
"');
    ></div></td>
<td class="style12"><div align="center" class="text"><?php echo $rec[fld_onwarddate]; ?></div></td>
<td class="style12"><div align="center" class="text"><?php echo $rec[fld_seats]; ?></div></td>
<td class="style12"><div align="center" class="text"><?php
    $seats=$rec[fld_seats];
    $s=($seats)*25/100;
    $sold=$rec[fld_sold];
    $aval=($seats-$sold);
if($aval<=$s)
{
echo "<span style=color:#004080 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-
weight:bold;>Limited:</span>".$aval;
}
if($aval>=$s)
{
echo "<span style=color:#93BF40 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-
weight:bold; >Available:</span>".$aval;
}
if($seats==$sold)
{
echo "<span style=color:#FF0000 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-
weight:bold; >SoldOut:</span>";
}
?></div></td>
<td class="style12"><div align="center" class="text"><input type="radio" name="dest" value=<?php
echo $rec[id]; ?>>
</div></tr>
<?php
    }
    if($temp=="")
    {
    ?><tr></tr>
    <td colspan="6" align="center"> No Records Available...</td></tr>
<? } ?><tr>
<td colspan="12" align="center">&nbsp;</td></tr> <tr>

```

## Appendix I: Continued

```

<td colspan="12" align="center"></td></tr></table>

<!----- END OF ONWORD JURNEY FOR ---- RETURN----->

<table width="98%" align="center" cellpadding="0" bordercolor="#993399" cellspacing="0" style="border-width:1px; border-style:solid; border-color:#999999"><tr>
<td height="34"> <div align="center">&nbsp;</div></td></tr><tr>
</table>
<?php
$query1="SELECT * FROM busdetails WHERE fld_origin='$dets' AND fld_destination='$origin' AND
fld_onwardj='$rjd'";
$result1=mysql_query($query1) or die (mysql_error());
?>
<table width="98%" border="1" align="center" cellpadding="0" bordercolor="#993399" cellspacing="0"
style="border-width:1px; border-style:solid; border-color:#999999"><tr>
<td height="34" colspan='6' align='center' class="text style1"> <div align="center">Return
Journey</div></td></tr><tr> <td height="34" colspan='6' align='right' class="text"><b>Date:</b><?php echo $rdate; ?></td></tr><tr>

<td width="185" height="27" class="text">
<div align="center"><strong class="text">Bus Service</strong><strong>Provider</strong></div></td>
<td width="190" class="style12"><div align="center" class="text"><strong>Fare&nbsp; in RM
</strong></div></td>
<td width="149" class="style12"><div align="center"><strong class="text">Time</strong></div></td>
<td width="173" class="style12"><div align="center" class="text">&nbsp;<strong>No.of
seats</strong></div></td>
<td width="173" class="style12"><div align="center"
class="text">&nbsp;<strong>Status</strong></div></td>
<td width="173" class="style12"><div align="center"
class="text">&nbsp;<strong>Book</strong></div></td>
</tr>
<?php $temp=0;
        while($rec=mysql_fetch_assoc($result1))
        { $temp=$rec;
        ?><tr>
<td class="style12"><div align="center" class="text"><?php echo $rec[fld_provider]; ?></div></td>
<td class="style12"><div align="center" class="text">Adult <?php echo
number_format($rec[fl_adultfare], 2, '.', ''); ?><br>Child <?php echo number_format($rec[fld_child], 2, '.', '');
?> </div> </td>
<td class="style12"><div align="center" class="text"><?php echo $rec[fld_onwarddate]; ?></div></td>
<td class="style12"><div align="center" class="text"><?php echo $rec[fld_seats]; ?> </div></td>
<td class="style12"><div align="center" class="text"><?php
        $seats=$rec[fld_seats];
        $s=($seats)*25/100;
        $sold=$rec[fld_sold];
        $aval=($seats-$sold);
        if($aval<=$s)
        {
            echo "<span style=color:#004080 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-weight:bold;>Limited:</span>".$aval;
        }
        if($aval>=$s)
        {
            echo "<span style=color:#93BF40 font-family:Verdana, Arial, Helvetica, sans-serif; font-size:12px; font-weight:bold; >Available:</span>".$aval;
        }
    ?>

```

## **Appendix I: Continued**

## Appendix I: Continued

```
?>
</select></td> </tr> <tr>
<td class="text">Arrival</td>
<td class="text"><select name="dest" class="text">
<?php while($rec=@mysql_fetch_array($result))
{
?
<option value=<?php echo $rec['Places']; ?>><?php echo $rec['Places']; ?></option>
<?php } ?
</select></td> </tr> <tr>
<td><span class="text">Departure Journey Date </span>&nbsp;;&nbsp;&nbsp;&nbsp;</td>
<td><input name="ondate" type="text" value=<?=$row['bdate']?> size="15">
<a href="javascript:cal3.popup();"></a></td> </tr> <tr>
<td><span class="text"> Return Journey Date</span>&nbsp;;&nbsp;</td>
<td><input name="rdate" type="text" value=<?=$row['bdate']?> size="15">
<a href="javascript:cal4.popup();"></a></td> </tr> <tr>
<td colspan="2" align="right"><input type="submit" name="search" value="Search"
class="buttonblue">&nbsp;&nbsp;&nbsp;</td> </tr>
</table>
</form>
</td> </tr> </table>

<script language="JavaScript">
    var cal3 = new calendar1(document.forms['formx'].elements['ondate']);
    cal3.year_scroll = true;
    var cal4 = new calendar1(document.forms['formx'].elements['rdate']);
    cal4.year_scroll = true;
</script><?php } ?>
```

## Appendix I: Continued

### Thanks.php (To display ticket)

```
<?php session_start();
if($_SESSION['username']=="")
{?
<script language="javascript">
alert("Please Login");
window.location.href = 'index.php';
</script>
<?php }
else
{ ?>
<table width="95%" height="400" border="0" cellpadding="15" cellspacing="0">      <tr>
<td class="title" height="20" background="images/title_bg.gif" align="right">Welcome
to EzBuz.com</td>      </tr><tr>
<td class="title" height="380" align="center" valign="top">
<form name="formx" action="thanks.php" method="post">
<?php

if($_POST['ticket'])
{
echo "Ticket Numbers is ".$_POST['ticket'];
echo "<br>Thank You For Your Booking";

exit();
}

$newpage=0;
$count=count($_POST['bid']);
$username=$_SESSION['username'];
$k=1;
//$tickc=0;
for($i=0;$i<$count;$i++)
{
$ticket= uniqid(true);
$tickc.=$ticket ",";
$bid=$_POST['bid'][$i];
$onward=$_POST['ondate'][$i];
$ondtime=$_POST['ondtime'][$i];
$origin=$_POST['origin'][$i];
$dest=$_POST['dest'][$i];
$adult=$_POST['adults'][$i];
$child=$_POST['childs'][$i];
$address=$origin;
$cnum=$_POST['cnumber'][$i];
$seats=$_POST['seats'][$i];
$adfare=$_POST['adfare'][$i];
$chfare=$_POST['chfare'][$i];
$provider=$_POST['provider'][$i];
$busnumber=$_POST['bunum'][$i];
//showticket.="~~~".$ticket."<br><b>".$origin." ---></b><b>".$dest."</b>";
$totalamt=($adfare*$adult)+($chfare*$child);
$totalamt=number_format($totalamt, 2, ',', '');

if($_POST['recorigin']==$bid)
{
```

## Appendix I: Continued

```

$showticket.= "<table width='100%' height='180' border='1' align='center' cellpadding='0'
bordercolor='#993399' cellspacing='0'>";
$showticket.= "<tr> <td class='title' colspan='4' align='center'> Onward Journey
Ticket</td></tr>";
}
else
{
$showticket.= "<table width='100%' height='180' border='1' align='center' cellpadding='0'
bordercolor='#993399' cellspacing='0'>";
$showticket.= "<tr> <td class='title' colspan='4' align='center'> Journey Ticket </td></tr>";
}
$showticket.= "<tr> <td class='text'> Origin </td><td class='text'><b>$origin </b></td><td class='text'>
Destination </td><td class='text'><b>$dest </b></td></tr>";
$showticket.= "<tr> <td class='text'> Date of Journey </td><td class='text'><b>$onward </b></td><td
class='text'>Departure Time</td><td class='text'><b> $ondtime </b></td></tr>";
$showticket.= "<tr> <td class='text'> Number of Adults</td><td class='text'><b> $adult </b></td><td
class='text'>No.ofChildren</td><td class='text'><b> $child </b></td></tr>";
$showticket.= "<tr> <td class='text' colspan='4' align='right' class='text'> Total <b> $totalamt</b>
</td></tr>";
$showticket.= "<tr> <td class='text' colspan='4' class='text'> &ampnbsp</td></tr>";

$k=$k+1;
$soldseats=0;
$sold=0;
$total=0;
$totalsold=0;
$tsold=0;
$sold=($adult)+($child);
$total=($adult*$adfare)+($child*$chfare);

$query1=mysql_query("SELECT fld_sold FROM busdetails WHERE id='$bid'"") or
die(mysql_error());
while($row=mysql_fetch_object($query1))
{
    $soldseats=$row->fld_sold ;
}
$totalsold=$soldseats;
$tsold=$totalsold+$sold;

$query3= "INSERT INTO tbl_userreservation(fld_bid,fld_ticketnumber ,fld_username,
fld_onwardadults,fld_onwardchilds,fld_address, fld_totalamount,fld_cardtype,status)
VALUES('$bid','$ticket', '$username','$adult','$child','$address','$total','cash','1')";
$result3=mysql_query($query3)or die(mysql_error());

$query="UPDATE busdetails SET fld_sold='$tsold' WHERE id='$bid'";
$result=mysql_query($query);
$ind=mysql_insert_id();
?>

<input type="hidden" name="tickert" value=<?php echo $tickc;?>>
<input type="hidden" name="ind[]" value=<?php echo $ind;?>>
<?php
$incid=$ind;
$newpage.="^".$sold."~~".$bid;
}

}

```

## Appendix I: Continued

```
$showticket.= "<tr> <td class='text' colspan='4' class='text' align='right'>
<input type='button' value='Print' name='print' onClick='javascript:window.print();class='buttonblue'>
<input type='submit' value='Confirm' name='Confirm' class='buttonblue'></td></tr></table>";

$start=$_POST['recorigin'];
$target=$_POST['recdest'];

echo "<br>";
$pizza = $newpage;
// $pieces = explode("^", $pizza);
// $counter=count($pieces);
$pieces[0]; // piece1
$pieces[1]; // piece2
$pieces[2]; // piece1

$pieces = explode("~~~", $showticket);
for($j=0;$j<count($pieces);$j++)
{
    echo $pieces[$j];
}
?>

<input type="hidden" name="org" value=<?php echo $newpage;?>>
<input type="hidden" name="start" value=<?php echo $start;?>>
<input type="hidden" name="target" value=<?php echo $target?>>
<?php

} ?>
<p>&nbsp;</p>
<p>&nbsp;</p>
<p>
<script>
function keyid(val)
{
    var va=val;
var key = window.event.keyCode;

if(key>=48 && key<=57)
    return;
else
    alert('Enter Only Numeric values');
    window.event.returnValue = null;
}
</script>

<SCRIPT LANGUAGE="JavaScript">
<!--
function callme(){

str=document.formx.cardno.value;

if(str.length==6){
document.formx.cardno.value=document.formx.cardno.value+ "-";
pre=document.formx.cardno.value;
}
if(str.length==9){
document.formx.cardno.value=document.formx.cardno.value+ "-";
```

## Appendix I: Continued

```
pre2=document.formx.cardno.value;
}
if(str.length==14)
now=document.formx.cardno.value
if(str.length>14)
document.formx.cardno.value=now
//alert(str.length);

y=0;
for(i=0;i<str.length;i++){
if((y!=6)|| (y!=9))
{
c=str.charAt(y)
if(parseInt(c) || c==0)
{
//alert(c)
prev1=document.formx.outtime.value;
}
else{
//alert(c)
document.formx.cardno.value=""
}
if(str.length==2){
if(str >= 13)
document.formx.outtime.value=""
}
if(str.length==5){
str1=str.substr(3,2)
if(str1 >= 61)
document.formx.cardno.value=""
}
}
y=y+1;
}
//alert(str.length)

}
//-->
</SCRIPT></p>
```

## Appendix I: Continued

### Inc.ticketcancel.php

```
<table width="95%" height="333" border="0" cellpadding="15" cellspacing="0"><tr>
<td class="title" height="60" background="images/title_bg.gif" align="right">Welcome
to ezbuz.com</td> </tr> <tr>
<td class="title" height="20" align="center">Ticket Details</td></tr>
<tr><td class="text" valign="top">
<table class="acenterbox" border="5" >
<?php
if(isset($_POST['ticknum']))
{
    $username=$_SESSION['username'];
    $ticketnum=$_POST['ticknum'];

$query="SELECT * FROM tbl_userreservation WHERE fld_ticketnumber='$ticketnum' AND status='0'";
$result=mysql_query($query);

$num_rows = mysql_num_rows($result);
if($num_rows>0)
{ ?>
<script>
    alert("This Booking already Cancelled");
    //window.histroy(-1);
    window.location.href='ticketcancell.php';
</script>
<?php }
```

```
$query="SELECT * FROM tbl_userreservation WHERE fld_ticketnumber='$ticketnum' AND status='1'";
$result=mysql_query($query);
?><tr>
<th width="81" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Bus Number</th>
<th width="111" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Service Provider</th>
<th width="92" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Origin</th>
<th width="111" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Destination</th>
<th width="100" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Onward Date</th>
<th width="96" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Departure Time</th>
<th width="50" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Adults</th>
<th width="45" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Childs</th>
```

## Appendix I: Continued

```
<th width="106" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Total Amount</th></tr>
<?php
while($row=mysql_fetch_object($result))
{
?><tr>
<td class="text">&nbsp;<?php echo $rrid = $row->fld_bid; ?></td>
<?php
//Query3="SELECT * FROM tbl_userreservation WHERE fld_username ='$username' AND fld_ticketnumber='$ticketnum'";
$query3="SELECT * FROM busdetails where id = '$rrid'";
$sold=0;
$result3=mysql_query($query3);
while($row3=mysql_fetch_object($result3))
{
?>
<td class="text" >&nbsp;<?php echo $row3->fld_provider;?></td>
<td class="text" >&nbsp;<?php echo $row3->fld_origin;?></td>
<td class="text" >&nbsp;<?php echo $row3->fld_destination;?></td>
<td class="text" >&nbsp;<?php echo $row3->fld_onwardj; ?></td>
<td class="text" >&nbsp;<?php echo $row3->fld_onwarddate;
$busid=$row3->fld_busregnumber; ?></td>
<?php
}
?>
<td class="text" >&nbsp;<?php echo number_format($row->fld_onwardadults, 2, ',', ''); ?></td>
<td class="text" >&nbsp;<?php echo number_format($row->fld_onwardchilds, 2, ',', ''); ?>
$sold=$row->fld_onwardadults+$row->fld_onwardchilds; ?> </td>
<td class="text" >&nbsp;<?php echo $row->fld_totalamount;?></td> </tr>
<tr><td colspan="10"><?php echo "<a href=canell.php?tid=$ticketnum&busnum=$busid&sold=$sold&id=$rrid><img src=images/cancel.jpg border=0></a>"?></td>
</tr>
<?php
}
?>

</table>
<?php }
else { ?>
<form action="" method="post">
<table height="143" border="0" align="center">
<tr><td width="231" class="text">Enter Ticket Number:</td><td width="435" class="ufield" ><input type="text" name="ticknum"></td></tr>
<tr><td height="45" colspan="2" class="text"><input type="submit" value="Submit" class="buttonblue"></td></tr>
</table></form></td></tr>
</table>
<?php } ?>
```

## Appendix I: Continued

### Reportresult.php

```
<?php error_reporting(0);
session_start();
include("includes/db.php");
$paymentmode=$_POST['paymentmode'];
if(isset($_SESSION['username']))
{
//$_username=$_SESSION['username'];
$_provider=$_SESSION['companyname'];
//print_r($_POST);
extract($_POST);

$origin=$_POST['origin'];
$destination=$_POST['dest'];
$route=$_POST['route'];
if($route!="")
{
$gtotal=0;
if($route=="route")
{
$query="SELECT * FROM busdetails WHERE fld_origin='".$origin' AND
fld_destination='".$destination' AND fld_provider='".$provider."'";
}
if($route=="day1")
{
$tj=substr($day,0, 10);
$query="SELECT * FROM `busdetails` WHERE `fld_onwardj` = '$tj'";
//query="SELECT * FROM busdetails WHERE fld_origin='".$origin' AND
fld_destination='".$destination' AND fld_provider='".$provider."'";
}
if($route=="month")
{
$tj=substr($month1,0, 10);
$tj1=substr($tj,3,10);
$query="SELECT * FROM `busdetails` WHERE `fld_onwardj` like '%".$tj1."'";
//query="SELECT * FROM busdetails WHERE fld_origin='".$origin' AND
fld_destination='".$destination' AND fld_provider='".$provider."'";
}
if($route=="payment")
{
$query="SELECT * FROM `busdetails`";
//query="SELECT * FROM busdetails WHERE fld_origin='".$origin' AND
fld_destination='".$destination' AND fld_provider='".$provider."'";
}
$result=mysql_query($query)or die(mysql_error());
?>
<h3 style="font-family:Verdana, Arial, Helvetica, sans-serif; text-align:center; font-size:12px; width:1002px;
height:25px; color:#FFFFFF; background-color:#004B97">Sales Reports</h3>
<table width="924" height="81" border="1" bordercolor="#333333" style="border:1px solid #333333;
margin-top:-16px; width:1002px;" ><tr>
<th width="81" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid; " >Type
Of Bus</th>
<th width="82" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid; " >Bus
Number</th>
```

## Appendix I: Continued

```
<th width="40" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Origin</th>
<th width="78" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Destination</th>
<th width="103" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Departure Date </th>
<th width="91" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Departure Time</th>
<th width="69" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">No. Of Seats</th>
<th width="68" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Adult Fare</th>
<th width="63" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Child Fare</th>

<th width="73" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">NO of Adult</th>
<th width="46" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">NO of Child</th>

<th width="68" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Total</th></tr>
<?php
$num_rows = mysql_num_rows($result);
if($num_rows==0)
{
<?
<script>
    alert("No Records Found..");
    window.location.href='reports.php';
</script>
<?php
}
while($row=mysql_fetch_object($result))
{
$Total=0;
?>
<tr>
<td class="tdata" ><?php echo $row->fld_bustype?></td>
<td class="tdata" ><?php echo $row->fld_busregnumber?></td>
<td class="tdata"><?php echo $row->fld_origin ?></td>
<td class="tdata"><?php echo $row->fld_destination ?></td>
<td class="tdata"><?php echo $row->fld_onwardj ?></td>
<td class="tdata"><?php echo $row->fld_onwarddate?></td>
<td class="tdata"><?php echo $row->fld_seats?></td>
<td class="tdata"><?php echo $row->fl_adultfare; ?></td>
<td class="tdata"><?php echo $row->fld_child; ?></td>
```

## Appendix I: Continued

```
<?php
if($route=="payment")
{
$paymentmode=$_POST['paymentmode'];
    $innerq="SELECT * FROM `tbl_userreservation` where fld_payment='$paymentmode'";
}else
{
    $innerq="SELECT * FROM `tbl_userreservation` where fld_bid= '$row->id' AND status='1'";
}
$result=mysql_query($innerq);
$num_rows = mysql_num_rows($result);
if($num_rows==0)
{ ?>
    <script>
        alert("No Records Found... ");
        window.location.href='reports.php';
    </script>
<?php
}
$noadults=0;
$nochilds=0;
while($rec=mysql_fetch_array($result))
{
$noadults=$noadults+$rec['fld_onwardadults'];
$nochilds=$nochilds+$rec['fld_onwardchilids'];
}
$total=($row->fl_adultfare*$noadults)+($row->fld_child*$nochilds);
?>

<td class="tdata"><?php echo $noadults; ?></td>
<td class="tdata"><?php echo $nochilds; ?></td>
<td class="tdata"><?php echo $total; ?></td></tr>
<?php
}{$total+=$gtotal;
?>
<tr><td class="tdata" colspan='10' align="right">Grand Total</td><td class="tdata" colspan='3' ><?php echo
$gtotal; ?> </td></tr>
</table>
<span style="margin-left:350px;"><a href="javascript:print()"></a></span>
<?php
}
}

if(isset($_POST['online']))
{
//echo $_POST['online'];

$ondate=$_POST['ondate'];
$ondate1=substr($ondate,0,11);

$cpurchase=$_POST['cpurchase'];
$cpurchase1=substr($cpurchase,0,11);
if($online=="online")
{
```

## Appendix I: Continued

```
//$query="SELECT * FROM tbl_userreservation WHERE fld_cardtype='card' AND
fld_onward='$ondate1'";
$query="SELECT * FROM busdetails WHERE fld_onwardj='$ondate1' AND
fld_provider='$provider'";
}
if($online=="cpurchase")
{
    $query="SELECT * FROM busdetails WHERE fld_onwardj='$cpurchase1' AND
fld_provider='$provider'";
}
if($online=="payment")
{
    $query="SELECT * FROM busdetails WHERE fld_provider='$provider'";
}

$result=mysql_query($query)or die(mysql_error());
$num_rows = mysql_num_rows($result);
if($num_rows==0)
{ ?>
<script>
    alert("No Records Found... ");
    //window.location.href='reports.php';
</script>
<?php
}
?>
<h3 style="font-family:Verdana, Arial, Helvetica, sans-serif; text-align:center; font-size:12px; width:1002px; height:25px; color:#FFFFFF; background-color:#004B97">Booking Reports</h3>
<table border="1" bordercolor="#333333" style="border:1px solid #333333; margin-top:-16px; width:1002px;" ><tr>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Ticket Number</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Bus Registration Number</th>

<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Service Provider Name</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >User Name</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Origin</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Destination</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Departure Date</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Address</th>
```

## Appendix I: Continued

```
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Total Amount</th>

</tr>
<?php
while($row=mysql_fetch_object($result))
{
    if($online=="online")
    {
        $paymentmode=$_POST['paymentmode'];
        $query1="SELECT * FROM tbl_userreservation WHERE fld_payment=$paymentmode' AND fld_bid='$row->id'";
    }
    if($online=="cpurchase")
    {
        $query1="SELECT * FROM tbl_userreservation WHERE fld_cardtype='cash' AND fld_bid='$row->id'";
    }
    if($online=="payment")
    {
        $query1="SELECT * FROM tbl_userreservation WHERE fld_bid='$row->id'";
    }
    $result1=mysql_query($query1)or die(mysql_error());
    while($row1=mysql_fetch_object($result1))
    {
        ?
        <tr>
        <td class="tdata" ><?php echo $row1->fld_ticketnumber ?></td>
        <td class="tdata" ><?php echo $row->fld_busregnumber;?></td>
        <td class="tdata" ><?php echo $row->fld_provider?></td>

        <td class="tdata"><?php echo $row1->fld_username ?></td>
        <td class="tdata"><?php echo $row->fld_origin; ?></td>
        <td class="tdata"><?php echo $row->fld_destination?></td>

        <td class="tdata"><?php echo $row->fld_onwardj; ?></td>
        <td class="tdata"><?php echo $row1->fld_address?></td>
        <td class="tdata"><?php echo $row1->fld_totalamount ?></td>
        </tr>
        <?php
    }
}
?>
</table>
<span style="margin-left:350px;"><A href="javascript:print()"></A></span>
<?php

}
?>

<?php
if(isset($_POST['members']))
{
$query="SELECT * FROM tbl_userregistration";
```

## Appendix I: Continued

```
//echo $query;
$result=mysql_query($query)or die(mysql_error());
?>

<?php
/*
<h3 style="font-family:Verdana, Arial, Helvetica, sans-serif; text-align:center; font-size:12px; width:1002px; height:25px; color:#FFFFFF; background-color:#004B97">Members Report</h3>
<table width="989" border="1" bordercolor="#333333" style="border:1px solid #333333; margin-top:-16px; width:1002px;" ><tr>
<th width="162" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Member Id</th>

<th width="211" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Member Name</th>
<th width="65" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Age</th>

<th width="125" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Address</th>
<th width="236" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Contact Number</th>
<th width="151" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >IC Number</th></tr>
<?php
while($row=mysql_fetch_object($result))
{
    ?><tr>
    <td class="tdata" ><?php echo $row->id?></td>
    <td class="tdata" ><?php echo $row->fld_username ?></td>
    <td class="tdata" ><?php echo $row->fld_age ?></td>
    <td class="tdata" ><?php echo $row->fld_address ?></td>

    <td class="tdata"><?php echo $row->fld_contact_number ?></td>
    <td class="tdata"><?php echo $row->fld_icnumber?></td></tr>
    <?php
    }
    ?>
</table>
<span style="margin-left:350px;"><A href="javascript:print()"></A></span>
<?php
}
?>
<?php
if(isset($_POST['staff']))
{
    $query="SELECT * FROM tbl_staff WHERE fld_companynam=$provider";
    //echo $query;
```

## Appendix I: Continued

```
$result=mysql_query($query)or die(mysql_error());
?>
<h3 style="font-family:Verdana, Arial, Helvetica, sans-serif; text-align:center; font-size:12px; width:1002px; height:25px; color:#FFFFFF; background-color:#004B97">Staff Report</h3>
<table border="1" bordercolor="#333333" style="border:1px solid #333333; margin-top:-16px; width:1002px;" >
<tr>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Staff Id</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Staff Name</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Age</th>

<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Address</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Contact Number</th>
<th style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >IC Number</th></tr>
<?php
while($row=mysql_fetch_object($result))
{
?><tr>
<td class="tdata" ><?php echo $row->id?></td>
<td class="tdata" ><?php echo $row->fld_name?></td>
<td class="tdata" ><?php echo $row->fld_age ?></td>
<td class="tdata" ><?php echo $row->fld_address ?></td>

<td class="tdata"><?php echo $row->fld_contact ?></td>
<td class="tdata"><?php echo $row->fid_icnumber?></td></tr>
<?php
}
?>
</table>
<span style="margin-left:350px;"><A href="javascript:print()"></A></span>
<?php
}
?>
<?php

if($croute!="")
{
$gtotal=0;
if($croute=="croute")
{
    $query="SELECT * FROM busdetails WHERE fld_origin='$origin' AND fld_destination='$dest' AND fld_provider='$provider'";
}
```

## Appendix I: Continued

```
        }
        if($croute=="day1")
        {
            $tj=substr($day2,0, 10);
            $query="SELECT * FROM `busdetails` WHERE `fld_onwardj` = '$tj'";
            //$/query="SELECT * FROM busdetails WHERE fld_origin='$origin' AND
            fld_destination='$destination' AND fld_provider='$provider'";
        }
        if($croute=="month")
        {
            $tj=substr($month2,0, 10);
            $tj1=substr($tj,3,10);
            $query="SELECT * FROM `busdetails` WHERE `fld_onwardj` like '%$tj1'";
            //$/query="SELECT * FROM busdetails WHERE fld_origin='$origin' AND
            fld_destination='$destination' AND fld_provider='$provider'";
        }
        if($croute=="payment")
        {
            $query="SELECT * FROM `busdetails`";
            //$/query="SELECT * FROM busdetails WHERE fld_origin='$origin' AND
            fld_destination='$destination' AND fld_provider='$provider'";
        }
        $result=mysql_query($query)or die(mysql_error());
    ?>
    <h3 style="font-family:Verdana, Arial, Helvetica, sans-serif; text-align:center; font-size:12px; width:1002px; height:25px; color:#FFFFFF; background-color:#004B97">Cancellation Reports</h3>
    <table width="924" height="81" border="1" bordercolor="#333333" style="border:1px solid #333333; margin-top:-16px; width:1002px;" ><tr>
        <th width="81" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Type Of Bus</th>
        <th width="82" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Bus Number</th>
        <th width="40" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Origin</th>
        <th width="78" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Destination</th>
        <th width="103" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Departure Date </th>
        <th width="91" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Departure Time</th>
        <th width="69" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >No. Of Seats</th>
        <th width="68" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Adult Fare</th>
        <th width="63" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >Child Fare</th>
        <th width="73" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;" >NO of Adult</th>
```

## Appendix I: Continued

```
<th width="46" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">NO of Child</th>
<th width="68" style="font-family:Verdana, Arial, Helvetica, sans-serif; color:#B66549; font-size:10px; text-align:left; border-left:1px solid; border-bottom:1px solid; border-right:1px solid; border-top:1px solid;">Total</th></tr>
<?php
$num_rows = mysql_num_rows($result);
if($num_rows==0)
{ ?>
    <script>
        alert("No Records Found... ");
        window.location.href='reports.php';
    </script>
<?php
}
while($row=mysql_fetch_object($result))
{
$Total=0;
?><tr>
<td class="tdata" ><?php echo $row->fld_bustype?></td>
<td class="tdata" ><?php echo $row->fld_busregnumber?></td>
<td class="tdata"><?php echo $row->fld_origin ?></td>
<td class="tdata"><?php echo $row->fld_destination ?></td>
<td class="tdata"><?php echo $row->fld_onwardj ?></td>
<td class="tdata"><?php echo $row->fld_onwarddate?></td>
<td class="tdata"><?php echo $row->fld_seats?></td>
<td class="tdata"><?php echo $row->fl_adultfare; ?></td>
<td class="tdata"><?php echo $row->fld_child; ?></td>
<?php
if($route=="payment")
{
    echo $innerq="SELECT * FROM `tbl_userreservation` where fld_bid= '$row->id' AND status='0' AND fld_cardtype='$paymentmode'";
} else
{
    $innerq="SELECT * FROM `tbl_userreservation` where fld_bid= '$row->id' AND status='0'";
}
$result=mysql_query($innerq);
$num_rows = mysql_num_rows($result);
if($num_rows==0)
{ ?>
    <script>
        alert("No Records Found... ");
        window.location.href='reports.php';
    </script>
<?php
}
$nadults=0;
$nochildrens=0;
while($rec=mysql_fetch_array($result))
{
$nadults=$nadults+$rec['fld_onwardadults'];
$nochildrens=$nochildrens+$rec['fld_onwardchildrens'];
}
$total=($row->fl_adultfare*$nadults)+($row->fld_child*$nochildrens);?>
```

## Appendix I: Continued

```
<td class="tdata"><?php echo $noadults; ?></td>
<td class="tdata"><?php echo $nochilds; ?></td>
<td class="tdata"><?php echo $total; ?></td></tr>
<?php
}{$total=$total+$gtotal;?>
<tr><td class="tdata" colspan='10' align="right">Grand Total</td><td class="tdata" colspan='3'><?php echo
$gtotal; ?> </td></tr></table>
<span style="margin-left:350px;"><A href="javascript:print()"></A></span>

*/?>
<?php
} ?>
<input type="button" value="Back" name="back" onClick="window.location.href='reports.php'" class="buttonblue">
```

## Reports.php

```
<?php
error_reporting(0);
session_start();
include("includes/db.php");
?>
<html>
<head>
<title>EZBUS</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<link rel="stylesheet" href="css/styles.css" type="text/css">
</head>

<body bgcolor="#EEEEEE" text="#000000" leftmargin="0" topmargin="0" marginwidth="0"
marginheight="0">
<?
include("includes/header.php");
?>
<table width="900" border="0" cellspacing="0" cellpadding="0" align="center"> <tr>
<td valign="top" bgcolor="#FFFFFF"> &nbsp;
<table width="100%" border="0" cellspacing="0" cellpadding="15"> <tr>
<td class="title" height="60" background="images/title_bg.gif" align="right">Welcome
to Ezbus.com</td></tr><tr>
<td valign="top" class="title" align="center"><p>Reports</p></td></tr><tr><td class="text">
<table width="751" height="241" align="center">
<tr><td width="743" class="text">
<script language="javascript" type="text/javascript" src="datetimepicker.js">

</script>
<script language="javascript">
function report()
{
document.ttest.href='reportresult.php';
document.ttest.submit();
}
function report1()
```

## Appendix I: Continued

```
{  
document.ttest.href='reportresult.php';  
document.ttest.submit();  
}  
</script>  
<?php  
if(isset($_SESSION['username']))  
{  
?>  
<form name="ttest" action="reportresult.php" method="post">  
<table width="671" border="1" align="center" bordercolor="#6633FF"> <tr>  
<td valign="top" class="title" align="center" colspan="2"><p>Sales Reports</p></td></tr><tr>  
<th width="343"></th></tr>  
<?php  
$query="SELECT * FROM `tbl_places` ORDER BY `Places` ASC ";  
$result=mysql_query($query) or die (mysql_error());  
$count=mysql_num_rows($result);  
?><tr><td><input type="radio" name="route" value="route">  
By Route:&nbsp;&nbsp;&nbsp;&nbsp;  
&nbsp;&nbsp;&nbsp;Origin:&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;<select name="origin">  
<?php  
while($rec=@mysql_fetch_array($result))  
{  
?>  
    <option value="<?php echo $rec['Places']; ?>"><?php echo $rec['Places']; ?></option>  
<?php }  
$query="SELECT * FROM `tbl_places` ORDER BY `Places` ASC ";  
$result=mysql_query($query) or die (mysql_error());  
?>  
</select>  
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;  
&nbsp;&nbsp;&nbsp;Destination  
<select name="dest">  
    <?php  
while($rec=@mysql_fetch_array($result))  
{  
?>  
    <option value="<?php echo $rec['Places']; ?>"><?php echo $rec['Places']; ?></option>  
    <?php }  
$query="SELECT * FROM `tbl_places` ORDER BY `Places` ASC ";  
$result=mysql_query($query) or die (mysql_error());  
?>  
</select></td>  
<td width="312">  
<input type="submit" name="salesbr" class="buttonblue" value="Go"></td></tr><tr><td>  
<input type="radio" name="route" value="day1">By Day:&nbsp;&nbsp;&nbsp;<input type="text" size="15" name="day"/>  
<a href="javascript:NewCal('day','ddmmyyyy',true,24)"><!----></a></td><td><input type="submit" class="buttonblue" name='salesbd' value="Go"></td></tr><tr><td>  
<input type="radio" name="route" value="month">By Month:&nbsp;<input type="text" size="15" name="month1"/>  
<a href="javascript:NewCal('month1','ddmmyyyy',true,24)"><!----></a></td><td><input name="salesbm" type="submit" class="buttonblue" value="Go"></td></tr><tr>  
<td><input type="radio" name="route" value="payment">By Payment Mode:&nbsp;&nbsp;
```

## **Appendix I: Continued**

## Appendix I: Continued

```
$query="SELECT * FROM `tbl_places` ORDER BY `Places` ASC ";
$result=mysql_query($query) or die (mysql_error());
?> </select>
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;Destination:<select name="dest">
<?php
while($rec=@mysql_fetch_array($result))
{
?>      <option value="<?php echo $rec['Places']; ?>"><?php echo $rec['Places']; ?></option>
<?php }
$query="SELECT * FROM `tbl_places` ORDER BY `Places` ASC ";
$result=mysql_query($query) or die (mysql_error());
?> </select>
</p></td><td width="308"><input type="submit" class="buttonblue" name='cancelbr' value="Go"></td>
</tr><tr><td><input type="radio" name="croute" value="day1">By Day:&nbsp;&nbsp;<input
type="text" size="15" name="day2"/>
<a href="javascript:NewCal('day2','ddmmyyyy',true,24)"></a></td>
<td><input type="submit" class="buttonblue" name='cancelbr2' value="Go"></td></tr><tr><td>
<input type="radio" name="croute" value="month">By Month:<input type="text" size="15"
name="month2"/>
<a href="javascript:NewCal('month2','ddmmyyyy',true,24)"></a></td>
<td><input type="submit" class="buttonblue" name='cancelbm' value="Go"></td>
</tr><tr><td><input type="radio" name="croute" value="payment">By Payment
Mode:&nbsp;&nbsp;<select name="paymentmode">
<option value="card">Credit Card</option>
<option value="cash">Cash</option>
</select></td><td><input name="submit" type="submit" class="buttonblue" value="Go"></td></tr>
</table>
</form>
<script language="JavaScript">
        <!-- // create calendar object(s) just after form tag closed
            // specify form element as the only parameter
(document.forms['formname'].elements['inputname']);
            // note: you can have as many calendar objects as you need for your
application
var cal1 = new calendar1(document.forms['tstest'].elements['month1']);
cal1.year_scroll = true;
cal1.time_comp = false;
var cal2 = new calendar1(document.forms['tstest'].elements['day']);
cal2.year_scroll = false;
cal2.time_comp = false;
var cal3 = new calendar1(document.forms['tstest'].elements['day1']);
cal3.year_scroll = false;
cal2.time_comp = false;

var cal4 = new calendar1(document.forms['tstest'].elements['day2']);
cal3.year_scroll = false;
cal2.time_comp = false;
var cal5 = new calendar1(document.forms['tstest'].elements['month2']);
cal3.year_scroll = false;
cal2.time_comp = false;
//-->
</script>*>?><?php
?></form></table><?
include("includes/footer.php");?></body></html>
```

## Appendix J

### Source Codes (Authority section)

---

#### Authority.php

```
<?php
error_reporting(0);
session_start();
include("includes/db.php");
$username=$_SESSION['username'];
if(isset($_SESSION['username']))
{
} else {
?>
<script language="javascript">
//alert('Please Login');
//window.location.href='index.php';
</script>
<?php
}
?>
<?php
if (isset($_POST['save']))
{
$month=$_POST['month'];
$busop=$_POST['cname'];
$summons=$_POST['summons'];
if ($summons<=10)
$su1="5";
else if (($summons>=11) and ($summons<=20))
$su1="4";
else if ($summons>=21)
$su1="3";
$query="INSERT INTO tbl_sum(month,busop,noofsum,enteredby,star)
VALUES('$month','$busop','$summons','$username','$su1')";
$result=mysql_query($query) or die(mysql_error());
?>
<script> alert("You Have Entered the Summons Successfully ");
window.location.href='authority.php';
</script>
<?php
}
?>
<html>
<head>
<title>EZBUS</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<link rel="stylesheet" href="css/styles.css" type="text/css">
</head>

<body bgcolor="#EEEEEE" text="#000000" leftmargin="0" topmargin="0" marginwidth="0"
marginheight="0">
<?php
include("includes/header.php");
?>

<table width="830" border="0" align="center" cellpadding="0" cellspacing="0">
```

## Appendix J: Continued

```
<tr><!-- <td width="188" valign="top" bgcolor="#E5E5E5"> &nbsp; <?php //include("includes/left.php");>
?> </td> ---><td>
<table width="100%" border="0" align="center" cellpadding="0" cellspacing="0">
<tr> <td valign="top" bgcolor="#FFFFFF">
<table width="100%" height="460" border="0" cellpadding="15" cellspacing="0"> <tr>
<td class="title" height="60" background="images/title_bg.gif" align="right">Welcome
to EzBuz.com</td> </tr> <tr>
<td height="52" valign="top" class="title"><p> <strong>Authority </strong> </p></td></tr><tr>
<td valign="top" bgcolor="#FFFFFF">
<form action="authority.php" method="post"> <br> <br>
<table width="681" border="1" align="center" bordercolor="#6633FF">
<tr><td class="title" colspan="2" align="center"><div align="center">Add New</div></td></tr><tr>
<td width="192" class="text"> <strong>Summons for the month of:</strong> </td>
<td width="473" ><select name="month">
<option value="1">January</option>
<option value="2">February</option>
<option value="3">March</option>
<option value="4">April</option>
<option value="5">May</option>
<option value="6">June</option>
<option value="7">July</option>
<option value="8">August</option>
<option value="9">September</option>
<option value="10">October</option>
<option value="11">November</option>
<option value="12">December</option>
</select></td></tr>
<tr><td class="text"><strong> Bus Operator </strong> :</strong></td><td>
<?php
$query=mysql_query("SELECT * FROM tbl_serviceprovider");
?>
<select name="cname" class="text">
<option value="">---Select----</option>
<?php
while($row=mysql_fetch_object($query))
{
?>
<option value=<?php echo $row->fld_companynam?>><?php echo $row->fld_companynam?>
?></option>
<?php
}
?>
</select></td></tr>
<tr><td class="text"><strong> Number of summons </strong></td>
<td><input name="summons" type="text"></td></tr>
<tr><td class="text" colspan="2" align="center" ><input type="submit" name="save" value="Save"><input
type="reset"></td></tr>
</table>
<p>&nbsp;</p>
<p>&nbsp;</p>
</form> </td></tr>
</table></td></tr>
</table><?
include("includes/footer.php");
?>
</body></html>
```

## Appendix K

### Source Codes (Customer section)

---

#### Register.php

```
<?php
error_reporting(0);
session_start();
include("includes/db.php");
$msg=0;
if(isset($_POST['username']))
{
$username=$_POST['username'];
$password=$_POST['password'];
//$age=$_POST['age'];
$address=$_POST['address'];
$phone=$_POST['cnumber'];
$icnum=$_POST['icnumberr'];
list($ic1,$ic2,$ic3)=explode("-",$icnum);
$k=$ic1/10000;
$k1=floor($k);
$k2="19".$k1;
$k3=$k2;
$cyear=date('y');
$year="20".$cyear;
$age=$year-$k3;
$email=$_POST['email'];
$query1="SELECT fld_username FROM tbl_userregistration WHERE fld_username='".$username."'";
$result=mysql_query($query1);
$count=mysql_num_rows($result);
//echo $count;
if($count==1){
$msg=1;
}
else{
$query="INSERT INTO tbl_userregistration
(fld_username,fld_password,fld_age,fld_address,fld_contact_number,fld_icnumber,email)
VALUES('$username','$password','$age','$address','$phone','$icnum','$email')";
$result=mysql_query($query) or die(mysql_error());
if($result){
$msg=2;
$_SESSION['username']=$username;
?>
<script>
alert("Registration Successfully Completed and Your
Age is <?php echo $age;?>");
window.location.href='index.php';
</script>
<?php
//msg="Registration Successfully completed";
}
}
}
?>
<html>
<head>
```

## Appendix K: Continued

```
<title>EZRUS</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<link rel="stylesheet" href="css/styles.css" type="text/css">
<script language='JavaScript' type="text/javascript">

function validate()
{
    var a1=document.formx.username.value;
    if (a1=="")
    {
        alert("Please Enter Your User ID Correctly");
        document.formx.username.focus();
        return false;
    }

    var a=document.formx.password.value;
    if (a == "")
    {
        alert("Please Enter Your Password Before Continuing");
        document.formx.password.focus();
        return false;
    }

    if (a!=document.formx.cpassword.value)
    {
        alert("Please Enter Your Confirm Password Before Continuing");
        document.formx.cpassword.focus();
        return false;
    }

    if (document.formx.age.value == "")
    {
        alert("Please Enter Your Age Before Continuing");
        document.formx.age.focus();
        return false;
    }

    if (document.formx.address.value == "")
    {
        alert("Please Enter Your Address Before Continuing");
        document.formx.address.focus();
        return false;
    }

    if (document.formx.cnumber.value == "")
    {
        alert("Please Enter Your Contact No. Before Continuing");
        document.formx.cnumber.focus();
        return false;
    }

    if (document.formx.icnumberr.value == "")
    {
        alert("Please Enter Your IC No. Before Continuing");
        document.formx.icnumberr.focus();
        return false;
    }
}

//--></script>
```

## Appendix K: Continued

```
<script>
function keyid(val)
{
    var va=val;
var key = window.event.keyCode;

    if(key>=48 && key<=57)
        return;
    else
        alert('Enter Only Numeric Values');
        window.event.returnValue = null;
}
</script>
</head>

<body bgcolor="#EEEEEE" text="#000000" leftmargin="0" topmargin="0" marginwidth="0"
marginheight="0">
<?
include("includes/header.php");
?>
<table width="900" border="0" cellspacing="0" cellpadding="0" align="center"> <tr>
<td valign="top" bgcolor="#FFFFFF">
<table width="100%" border="0" cellspacing="0" cellpadding="15"> <tr>
<td class="title" height="60" background="images/title_bg.gif" align="right">Welcome
to EzBuz.com</td></tr><tr>
<td valign="top" class="text">
<table width="470" border="0" align="center" cellpadding="1" cellspacing="1">
<form name="formx" method="POST" action="register.php" onSubmit="return validate()">
<input type="hidden" name="login"><input type="hidden" name="idno"
value="<?=$id?>">
<input type="hidden" name="lg" value=""><tr>
<td colspan="3" align="center"><h5
class="title"><strong>Regist<strong>ration Form</strong></h5></td>
</tr> <tr>
<td colspan="3" align="right"><strong><?php if($msg==1)
{
    $msg="User Name Already Exist. Please Try Again";
    echo $msg;
}
?></strong></td></tr> <tr><td width="251" align="right"
class="text">User Name :&nbsp;&nbsp;</td>
<td width="204" class="text"><input name="username"
type="text" class="normal" id="username"
:&nbsp;&nbsp;</td>
<td align="right" class="text">Password
<input name="password" type="password"
id="password" ></td>
</tr> <tr>
<td align="right" class="text">Confirm Password
<input name="cpassword" type="password"
id="cpassword" ></td>
</tr><tr>
<td align="right" class="text">E-Mail :&nbsp;&nbsp;
</td>
```

## Appendix K: Continued

```

<td class="text"><input name="email" type="text" ></td></tr>

<tr>
    <td align="right" class="text">Address
:&nbspp;&nbspp; </td>
    <td class="text"><input name="address" type="text" ></td>
</tr> <tr>
    <td align="right" class="text">Contact Number :&nbspp;&nbspp; </td>
        <td class="text"><input name="cnumber" type="text" >
id="cnumber" onKeypress='return keyid(this);' ></td>
        </tr> <tr>
            <td align="right" class="text">IC Number :&nbspp;&nbspp; </td>
                <td class="text"><input name="icnumberr" type="text" >
onkeyup='callme();' ></td>    </tr>
                <?php
                /*
                    <tr>
                        <td align="right" class="text">Age :&nbspp;&nbspp;
                </td>
                onkeypress='return keyid(this);'></td>
                    <td class="text"><input name="age" type="text" >
                    </tr> *?>
                    <tr><td colspan="3">&nbspp;</td></tr>
                    <tr>
                        <td align="right">
                            <input name="submit" type="submit" class="buttonblue" >
id="bt" value="Submit" >
                        </td>
                        <td align="center"><input name="reset" type="reset" >
class="buttonblue" id="bt2" value="Reset"></td>
                        <td width="5" align="left">&nbspp;</td>
                    </tr>
                    <tr><td colspan="3">&nbspp;</td></tr>
                    </form>
                </table>      </td>      </tr>
            </table>      </td>
            <td width="191" bgcolor="#E5E5E5" valign="top">
height="87"><br></td> </tr></table>
<?
include("includes/footer.php");
?>
<script>
function keyid(val)
{
    var va=val;
var key = window.event.keyCode;

    if(key>=48 && key<=57)
        return;
    else
        alert('Enter Only Numeric Values');
        window.event.returnValue = null;
}
</script>
<SCRIPT LANGUAGE="JavaScript">
<!--
function callme(){
str=document.formx.icnumberr.value;
if(str.length==6){

```

## Appendix K: Continued

```
document.formx.icnumberr.value=document.formx.icnumberr.value+ "-";
pre=document.formx.icnumberr.value;
}
if(str.length==9){
document.formx.icnumberr.value=document.formx.icnumberr.value+ "-";
pre2=document.formx.icnumberr.value;
}

if(str.length==14)
now=document.formx.icnumberr.value

if(str.length>14)
document.formx.icnumberr.value=now
//alert(str.length);

y=0;
for(i=0;i<str.length;i++){
if((y!=6)|| (y!=9))
{
    c=str.charAt(y)
    if(parseInt(c) || c==0)
    {
        //alert(c)
        prev1=document.formx.outtime.value;
    }
else{
//alert(c)
document.formx.icnumberr.value=""
}

if(str.length==2){
if(str >= 13)
document.formx.outtime.value=""
}
if(str.length==5){
str1=str.substr(3,2)
if(str1 >= 61)
document.formx.icnumberr.value=""
}
}
y=y+1;
}

//alert(str.length)

}
//-->
</SCRIPT>

</body>
</html>
```

## Appendix K: Continued

### Poll.php

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<title>EZBUS</title>
</head>
<body>
<?php
//$_id=$_POST['poll'];
include("includes/db.php");
$query3=mysql_query("SELECT * FROM tbl_poll");
$n1=mysql_num_rows($query3);
$query1=mysql_query("SELECT * FROM tbl_serviceprovider");
while($row=mysql_fetch_object($query1))
{
$bus=$row->fld_companynname;
$query2=mysql_query("select busop from tbl_poll where busop='$bus'");
$n=mysql_num_rows($query2);
$p=$n/$n1*100;
//echo $bus;
//echo $p;
if ($p >=80)
$st="5 Star";
else if (($p>=65) and ($p<=79))
$st="4 Star";
else if ($p<=64)
$st="3 Star";
//echo $st;
$quer111="INSERT INTO tbl_busstar(busop,percentage,busopstar) VALUES('$bus','$p','$st')";
}
$query51=mysql_query("SELECT * FROM tbl_serviceprovider");
while($row51=mysql_fetch_object($query51))
{
$bus=$row51->fld_companynname;
echo $bus;
$quer10=mysql_query("SELECT * FROM busdetails where fld_provider='$bus'");
while($row1=mysql_fetch_object($quer10))
{
$busnam=$row1->fld_provider;
$bus10=$row1->fld_seats;
$sum=$row1->fld_sold;
if ($bus10==0) $bus10=1;
$f=$sum/$bus10*100;
if ($f<=84)
$f1="3";
else if (($f>=85)and($f<=94))
$f1="4";
if ($f>=95)
$f1="5";
$quer112="UPDATE tbl_busstar SET ticketstar='$f1' WHERE busop='$busnam'";
$result=mysql_query($quer112)or die(mysql_error());
}
```

## **Appendix K: Continued**

```
}

}

/*
$query6=mysql_query("select * from tbl_serviceprovider");
while ($row52=mysql_fetch_object($query6))
{
$bus=$row52->fld_companynname;
$quer10=mysql_query("SELECT * FROM busdetails where fld_provider='".$bus "'");
while($row1=mysql_fetch_object($quer10))
{
$busnam=$row1->fld_provider;
$bus10=$row1->fld_seats;
$sum=$row1->fld_sold;
if ($bus10==0) $bus10=1;
$f=$sum/$bus10*100;
if ($f<=84)
$f1="3 STAR";
else if (($f>=85)and($f<=94))
$f1="4 STAR";
if ($f>=95)
$f1="5 STAR";
}
}
*/
?>
</body>
</html>
```

## Appendix K: Continued

### Fare.php

```
<?php
error_reporting(0);
session_start();
include("includes/db.php");
?>
<html>
<head>
<title>EZBUS</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
<link rel="stylesheet" href="css/styles.css" type="text/css">
</head>

<body bgcolor="#EEEEEE" text="#000000" leftmargin="0" topmargin="0" marginwidth="0"
marginheight="0">
<form name="formx" action="" method="post">
<?
include("includes/header.php");
?>
<table width="900" border="0" cellspacing="0" cellpadding="0" align="center">
<tr>
<!--<td width="191" bgcolor="#E5E5E5" valign="top"><br>
<input type="checkbox" name="returnj"><span class="text">Return Journey</span><br>
<input type="checkbox" name="returnj"><span class="text">One Way</span><br><br>
&nbsp; <select name="origin" class="text">
<option value="origin">Origin</option></select><br><br>
&nbsp;&nbsp;<select name="destination" class="text">
<option value="destination">Destination</option></select><br><br>
&nbsp;&nbsp;<span class="text"> Onward Journey </span>&nbsp;&nbsp;&nbsp;&nbsp;<br>
&nbsp;&nbsp; <input id="demo"
name="bday" type="text" value=<?=$row['bdate']?>" size="15">
<a href="javascript:cal3.popup();"></a><br><br>
&nbsp;&nbsp;<span class="text"> Return Journey</span>&nbsp;&nbsp;&nbsp;<br>
&nbsp;&nbsp; <input id="demo" name="bday1" type="text" value=<?=$row['bdate']?>">
size="15">
<a href="javascript:cal4.popup();"></a><br><br>
</td>-->
<td valign="top" bgcolor="#FFFFFF">
<table width="100%" border="0" cellspacing="0" cellpadding="15">
<tr>
<td class="title" height="60" background="images/title_bg.gif" align="right">Welcome
to EzBuz.com</td>
</tr>
<tr>
<td valign="top" class="text">
<table width="102%" border="0" align="center" cellpadding="0" cellspacing="0"
style="border-width:1px; border-style:solid; border-color:#999999">
<tr>
<td height="34" colspan='12' align='right' class="text"><b>Date:</b><?=$date("Y-m-d")?></td>
</tr>
<tr>
```

## Appendix K: Continued

```
<td width="131" height="27" class="text"><div align="center"><strong class="text">Bus  
Service</strong><strong>Provider</strong></div></td>  
<td width="135" class="style12"><div align="center" class="text"><strong>Fare&nbsp; in RM  
</strong></div></td>  
<td width="106" class="style12"><div align="center" class="text"><strong>Time</strong></div></td>  
<td width="173" class="style12"><div align="center" class="text"><strong>You can anything  
here</strong></div></td>  
<td width="132" class="style12"><div align="center"  
class="text">&nbsp;<strong>Book</strong></div></td>  
  
</tr>  
<tr>  
  
<td height="29" class="style12"><div align="center" class="text">Provider 1</div></td>  
  
<td class="style12"><div align="center" class="text">  
Adul&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; 70.00<BR>  
Child&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp; 35.00  
</div></td>  
  
<td class="style12"><div align="center" class="text">Onward&nbsp;&nbsp; </div></td>  
<td height="29" class="style12"><div align="center" class="text">testing </div></td>  
  
<td class="style12"><div align="center" class="normal"></div></td>  
  
</tr>  
  
<tr>  
<td colspan="12" align="center">&nbsp;</td>  
</tr>  
  
<tr>  
<td colspan="12" align="center">  
  
<!--<input name="add" type="button" class="buttonblue" onClick="  
javascript:window.location.href='register.php'" value="Add New">-->  
<!--&nbsp;<input name="add" type="button" class="buttonblue"  
onClick="javascript:window.location.href='##' value="View All">  
&nbsp;<input name="print" type="button" class="buttonblue" onClick='javascript:window.print();'  
value="print">--></td></tr>  
</table>  
    </td>  </tr>  
  </table>  </td>  
  <td width="191" bgcolor="#E5E5E5" valign="top"><br>  
  <?  
    include("includes/right.php");  
  ?></td>  </tr>  
</table>  
  <?  
    include("includes/footer.php");  
  ?>  
</form>  
</body>  
</html>
```

## REFERENCES

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