ONLINE HOMESTAY RESERVATION SYSTEM (OHRS)

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ONLINE HOMESTAY RESERVATION SYSTEM

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ABSTRACT

Aims of this project are to study the needs of *Homestay* and to develop a prototype model for *Homestay* reservation process. This prototype will help the reservation process for the customer and also for the coordinator of the *Homestay*. By developing this project, it will help the coordinator to accelerate their business information properly either directly or indirectly. The development of this project also brings a big impact to the *Homestay* industries, where they can start promote their *Homestay* in an interactive ways. In addition the Object-Oriented System Analysis and Design are use as a methodology to develop the prototype. It is important to follow the step of the methodology to ensure the process of developing the prototype went smooth and the objectives of this project are achieved.

Keyword: Homestay, Reservation, Prototype Model

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CHAPTER 1

INTRODUCTION

This chapter are use to provide the description on the Online Homestay Reservation System. It contains the background of the *Homestay* in Malaysia and also the reservation process involved in the *Homestay* programme. This chapter is also important to define the problem statement of the *Homestay* program, the objectives also the scope of this project.

1.1 BACKGROUND STUDY

The term *Homestay* brings different meaning in different countries. As for Australia, the term *"Homestay"* is referring to a farmhouse accommodation while in United Kingdom it is associated with learning English language. As stated in the *Merriam Webster Dictionary (2007) "Homestay"* is defined as "a period during which a visitor in a foreign country lives with a local family". So the term *homestay* can be concluded as a *"situation where people will live with other people to learn and to understand their culture and way of life".*

"*Homestay*" is one of the products that have been introduced by the Ministry of Tourism for the tourism industries in Malaysia. It is a combination of tourism and recreation programme which has potential to support the development of the rural areas in Malaysia, other than that it also contributes to a very sustainable environment of Malaysia tourism industry. The most important component which differentiates Malaysia *"Homestay"* program with other countries is the element of staying with adopted family or normally is the host family or the owner of the house

where the visitors will live. As stated in "*The Study of User Perspective in Webpage Design for Homestay in Malaysia*", *"Homestay"* has been adopted as one of the tourism position in the Seventh Malaysia Plan. By implementing this programme; it will enable the overseas visitors to have their own experience on the daily life of the Malaysia ordinary people.

Until June 2009 there are about 140 *Homestay* under 227 villages in Malaysia with the total of house involves is 3,264 houses, and in Kedah itself, it has 7 villages with 116 participants which involves in this "Homestay' program. Most of these homestay are conducted by the Ministry of Tourism, Malaysia. The using of Information Technology (IT) is in line with the Government mission to help promote this uniqueness of Malaysia culture. By developing an online reservation system for *"Homestay"*, it will help the coordinator of the *"Homestay"* to promote their *"Homestay"* and it also will help them to handle the reservation made by their customer. Table below show the number of *"Homestay"* program (Village) and its Operator in June 2009.

Table 1: Homestay Program (village) and Operators (June 2009)

State	No. of Homestay	No of Villages	No of Participants	No of Rooms
Perlis	3	3	55	64
Kedah	7	7	116	175
Langkawi	6	11	152	215
Pulau Pinang	9	9	200	227
Perak	6	30	178	248
Selangor	15	18	581	819
Melaka	5	5	111	144
N.Sembilan	8	26	233	385
Johor	15	18	471	772
Kelantan	8	10	106	163
Terengganu	6	6	149	108
Pahang	12	21	375	412
Sarawak	19	21	233	243
Sabah	18	39	225	413
Labuan	3	3	65	75
Total	140	227	3264	4463

1.2 PROBLEM STATEMENT

Currently, the coordinator of *"Homestay"* received the reservation for their *"Homestay"* manually, which is via a direct phone call made by their customers. All the reservations are recorded in the coordinator personal log book and some of them might only remember it in their mind without making any record for further reference. Sometimes there might be occur a data redundancy when there is more than one coordinator make a deal or received a reservation from their customer. Sometimes most of the data are not updated especially for the payment made by the customer.

Furthermore, errors and mistakes might happen. Mistakes such as misplaced, a typing error, incomplete information and also unreadable data are common in manual system (Amani et al., 2006). This will lead to the data entry problems concern with the customer details such as name spelling and the exact date of reservation and also the amount of payment or deposit made by the customer. However, there is a high possibility for this record to be lost and damaged especially when it is utilized by many people (Amani et al., 2006).

As describe above, managing *"Homestay"* manually will posses many problems. Due to this problem, although there is a forced for a computer system, none of the *"Homestay"* which operate in Kedah has a system which may handle these reservation activities. Without a clear guideline, the development of Online *"Homestay"* Reservation System will lead to a failure of development and also wasting cost and resources. Arise from that, the development of Online "Homestay" Reservation System is aims to provide a solution to this problem in this "Homestay" business area.

1.4 RESEARCH QUESTION

There are many questions that need to be solved in order to develop this project, and the main questions are:

- What are the user and functional requirement needed to design in order to develop this project?
- What is the best way to demonstrate the reservation process?

1.5 OBJECTIVES

The main objective of this project is to create a prototype for Online *"Homestay"* Reservation System. The below sub-objectives should be accomplished in order to achieve this project:

- To identify the user and functional requirement in designing an Online *"Homestay"* reservation System.
- To develop a prototype which will demonstrate the reservation process

1.6 SCOPE

For the time being, this project will only be concentrate on the prototype requirement for the reservation processes without payment menu which will be develop in this system. The users of this system are the coordinator of the Relau Homestay and its customer.

This system allowed the customer of Relau Homestay to make their reservation more efficient through the web-based system.

1.7 SIGNIFICANCE OF THE STUDY/CONTRIBUTION

By doing this project, it will help the organization to accelerate their business information and it will also help them in term of updating the information of their business. This project bring a big impact towards the organization, and it give a big significance to the customer of *Relau Homestay*, where they can made their reservation more effective and efficient.

1.8 CONCLUSION

The *Homestay* program is not merely a rural tourism programs, it has a great potential to be an alternative tourism product to attract international and domestic tourists. It is also a strategy for the rural development. In order to design a successful *Homestay* program a concern effort is needed, by developing this *Online Homestay Reservation System (OHRS)* it is very useful and parallel with the government mission to develop Malaysia Tourism Industries.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, it shows the literature study of the previous project. Conceptually, it gives a review of the previous and also an existing works regarding the same area. The first sub topic review on the *Homestay* and the meaning of it term generally, and it will cover the term *Homestay* in Malaysia's perspective. The overview of the term "*Reservation*" then will be covered in the second sub-topic which includes the advantages of using two type of reservation system which is manually and automated, and followed by the explanation on web application and the advantages of using the web application development in this project.

2.2 HOMESTAY

Merriam Webster Dictionary (2007) has defined the term "Homestay" as "a period during a visitor in a foreign country lives with a local family". While for Lanier and Berman (1935) they define "Homestay" venues as a "Private Homes in which unused rooms are rented for the purposes of supplementing income and meeting people" (p.15). As stated in *Wikipedia* (2010) *"Homestay"* is a form of tourism and/or study abroad program that allows the visitor to rent a room from a local family for a better learn of the local lifestyle as well as to improve their language ability.

The *Homestay* program is a tourism product that has been given a special emphasis by the government through the Ministry of Tourism. Realizing the potential of this program, the Rural Tourism Master Plan 2001 was formulate to promote *"Homestay"* program as a catalyst for rural community development. According to the Ministry of Tourism (2009), the "Homestay" is officially defined as "...Where tourist stays with the host's family and experience the everyday way of life of the family in both direct and indirect manner". The *"Homestay"* program in Malaysia can be tracked back to the early 1970s as the "drifter enclave" of Kampung Cherating Lama in Pahang, when a local lady by the name of Mak Long took in long staying of "drifters"/hippies and provided breakfast, dinner and accommodations within her humble kampong house (Amran, 1997). In late 1980's, the "*Homestay*" concept has took another dimension where it involves the Japanese youth who came to Malaysia for the student exchange program, the Japanese youth stay with adopted family and they participate in communal activities related to the rural and often pastoral way of life. Since then the *"Homestay"* program has been used by the Ministry of Agriculture as a catalyst for rural development, the uniqueness of Malaysian culture have been upgrade into a new form of tourism industry by implementing Homestay program. Yahaya and Abdul Rasid (2009) published in their paper titled *Homestay Program and rural community Development in Malaysia*, indicated that *"Homestay"* program can thus be regarded as a rural-cultural-community-based tourism product.

2.2.1 HOMESTAY IN MALAYSIA

Ministry of Tourism Culture and Environment lead the government agency to provide the institutional support for the project and initiative to start at Batu Puteh,

but the direct involvement was started in early 2000 when MESCOT planning forward detail plans to set up the *Homestay* and other community tourism industries. A direct involvement from the government agency can be seen through the initiatives taken by including the specific training for the community to operate the *Homestay* programme, the inspection and registration for the *Homestay* programme and also inviting them to join State *Homestay* Development Committee thus to support the development of the *Homestay* program which conduct in other villages.

Their *Homestay* have been adopted as a model for the development of other similar activities in Sabah and they have been given a needed credit and motivation which is provided by the ministry. This agency also highlighted *Homestay* and the tourism activities at Batu Puteh in State wide promotions in both locally and overseas (UNDP, 2004).

Homestay programme in Malaysia allow the participant and/or customer to have their own experience with the selected families, where they can have an interaction with the host and also enjoy with the daily life of these families as well as experiencing Malaysian culture. *Homestay* is not classified as accommodation facilities, but it focused more on the villagers' lifestyle and culture which include the culture and economic (Ministry of Tourism, 2009).

Each of the *Homestay* in Malaysia will offer their customer with different types of activities and it is depend on the culture, food, economic activities and even the location. In Malaysia, each state has their own uniqueness to show their culture, as well as their lifestyle. For instance, Kelantan are famous with their aromatic rice

called *"Nasi Dagang"*, while in Sabah, the beautiful dance name *"Sumazau"* are one of the attractions for tourist to enjoy staying with them (Ministry of Tourism, 2009).

Customers are able to experience the charm of the Malay traditions that have been preserved through out the years and yet remain much alive. They can spend their time with the children and indulge in traditional games that are still popular such as kite flying, top-spinning and "*Congkak*". Other than that, customer also can choose to explore the *Homestay* surrounding, spend some time at the local pond and trying their hand at the riverside with fishing or perhaps indulge in sport of farming a la Malaysia (Tourism Malaysia, 2009).

2.3 RESERVATION

According to *thinkexist.com* (2010), the terms *Reservation* are referring as "The act of reserving, or keeping back, concealment, or withholding from disclosure". While *Merriam-Webster Dictionary* (2010) defined *Reservation* as "an act of reserving something; the act or fact of a grantor's reserving some newly created thing out of the thing granted". "The right or interest to reserve; the setting of limiting conditions or withholding from complete exposition; an arrangement to have something (as hotel room) held for one use; also: a promise, guarantee, or record of such engagement". As stated in *Macmillan-Dictionary* the term *Reservation* are referred as "an arrangement by which something such as room in hotel or a seat in a theatre is kept for you to use later". Here we can conclude the term Reservation as "an act of arrangement something to limit, guarantee or promised it for one's to use it later". It is reservation happens in anytime and any places (Abowd et al., 1997).

The reservation process can be done in either manually or automated process. Both of this system has it own advantages and disadvantages. Table 2 and 3 below shows the advantages and the disadvantages of manual system and automated system.

Table 2: Advantages and Disadvantages of Manual System

Advantages	Disadvantages
A manual filling system cannot be destroyed by an accidental power loss.	Data duplication- same data gets repeated since it hard to keep track the document
Help in term of security issues (Hackers cannot access a manual system)	Lack of security- data is stored in filling cabinet, so it is available to everyone.
No training cost is needed.	Inconsistency of data- data might get misplaced during manual filling, so it will be unavailability for future use.

Source: http://wiki.answers.com

Table 3: Advantages and Disadvantages of Automated System

Advantage	Disadvantage
Increased efficiency in term of filling and productivity of man power.	Fewer employees are needed which will lead to reduced of manpower and increasing the unemployment rate.

Source: http://wiki.answers.com

2.4 WEB APPLICATIONS

Web application are one of the software application which will deliver it's functionality to its user from the web server via network such as World Wide Web or through an intranet. User then will view and manipulates the application through a web browser (Carat, 2002). Many fields have been used this application such as education, e-commerce and many other web based facilities (Nijaz, 2000). As stated by Schmitt (2006) there are many studies which tried to explore the alternative methods by using the interactive tools in term of material, user-friendly, and also available on the World Wide Web. This is important in order to enhance the web services to build guideline generally and also to develop an interactive Web-based which is friendly and flexible for the users.

2.4.1 ADVANTAGES OF WEB-BASED APPLICATION

Nowadays, the progress in business fields has become the real changing for the trade methods, web-based occupy a big area in the growth. Otherwise the growth of the internet technology makes it more flexible way for the business that can be available for the small business education and organization (Ahn et al., 2004).

There are many advantages of Web-based application for instances, it gives the organizations a new approach to using internet in order to increase the efficiency, productivity and also the cost of hiring personnel. Other than that, web-based applications are often design to meet the specific need of their user, it also provide user with 24/7 access from any web browser in the world. Most important thing is, Web-based application are more secure, fast and extremely reliable for its users.

2.5 ONLINE RESERVATION

Online reservation system is the example of Web-based applications which designed to meet the needs. Online reservation system is a complete solution where it's integrates the use of hardware and software to generate a great and convenience system manager for the user as well as give the user the flexibility. One of the significant advantages is the modular design which meets the organizations needs and can be easily customized (Treiber, 2007).

Figure 1: Online Booking System architecture (Treiber, 2007)

A lot of people wish that electronic booking or reservation to be deployed because they can easily access to obtain the information needed at anyplace on a 24/7 (Lankton, 2007). Figure below demonstrated on how the online booking or reservation system can help user to have an access at anytime.

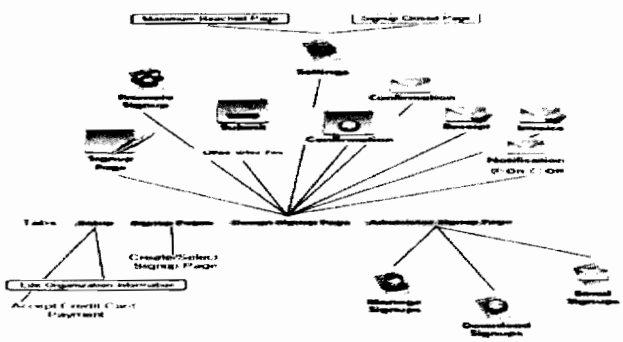


Figure 2: Online Booking System (Lankton, 2007)

2.6 RELATED WORKS

Hamid et al. (2003) designing and build a multi technology based system where they use web-based application and WAP-base application in the system. It also used object-oriented analysis and UML in designing the diagrams. The developers start to use the object-oriented analysis and design to develop a stand alone application and move on to web-based application. Table 4 below shows the comparison for the reservation techniques, method and the characteristics that have been use by two *Homestay* which is Gunung Senyum Homestay and City Homestay to promote and to make the reservation for their Homestay.

Table 4: Comparison of Homestay (Reservation technique)

Homestay	Method	Reservation Technique	Characteristics
Gunung Senyum	Web Page	Phone call reservation	• Customer will be provided with breakfast, and they can join the cultural activities with the Host. • To make the reservation, customers need to make a phone call to the coordinator.
City Homestay	Portal	Fill in form	• Customer need to fill up the form to place their reservation. • Customer need to call the coordinator to confirm their reservation after bank in the

			amount in the coordinator account.

Source: http://www.cityhomestay.com.my and

http://pahangtrekker.malaysiatrekker.com

2.7 PROBLEM IN CURRENT HOMESTAY

The success of the program depends on the government involvement in the planning, organizing, implementing and also controlling the program (Yahaya, 2009). Therefore to ensure that the program is carried out successfully, it is essential that the government should be seen in all stages of the program (Abdul Rasid, 2009). Even though each *Homestay* operator is responsible for preparing his/her *Homestay* into comfortable and clean accommodation, the majority of them is not involves in marketing their *Homestay* as individual *Homestay* (Abdul Rasid, 2009). The reservation for the *Homestay* will go through the JKKK before it reaches to each of the operators or coordinator of the *Homestay*. There is some of this *Homestay* program committees are extensions of the village welfare and security committees (JKKK) and others are registered co-operatives (Kalsom, 2009).

2.8 FINDING

Homestay has given a big contribution toward the community development; it can be portrayed through development of the economy, social capital, infrastructure, as well as the environment (Yahaya, 2009). Not only that, the successful implementation of the *homestay* program needs peace and the harmony in the family, the local community and the village leadership. The growth of the *homestay* program in Malaysia has provided huge opportunities to the rural communities (Abdul Rasid, 2009). So in order to promote this program, the development of the *Online Homestay*

Reservation System have the high possibility to attract more customer to join this program since it makes it easier for them to make the reservation.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

In this chapter, the research method used to complete this project will be elaborates. The research methodologies are very helpful to organize the phase involve in the study and also to determines the architecture of study which lead to achieve the goal (Kothari, 2005). It is important to use research methodologies to keep the relationship between both study and development (Nunamaker & Chen, 1990).

3.2 OBJECT-ORIENTED SYSTEM ANALYSIS AND DESIGN (OOSAD)

Built by Hoffer et al. (2004) the OOSAD is an incorporated of five stages which encompassed the Selection and Planning phase, the Requirement Analysis phase, Design Requirement Model phase, Usability Testing phase and also Documentation phase. Figure 3 below illustrates the five stages involves in these model:

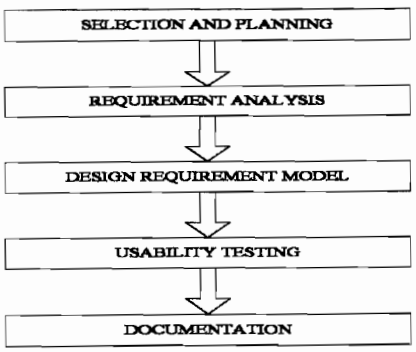


FIGURE 3: Object-Oriented System Analysis and Design (Hoffer et al., 2000)

3.2.1 SELECTION AND PLANNING

At this stage, the organization information and needs will be analysed and arranged. The potential information for project are identified and the argument wether to proceed or not with the project are presented as well as decision made (Zhang et al., 2004). All of the information and the requirement for this project are analysed and arranged and at the end of the project, the achievement is clear. All the issue, information, ideas or problem identified at this stage will be done through the literature study by collecting the data from many sources such as journal, proceedings, books, report or newspapers and also white papers.

3.2.2 REQUIREMENT ANALYSIS

At this stage, the requirements for the project are defined by doing the literature study and interview session with the *Homestay* coordinator. The interview session are important to give a better understanding on how they conducted and promote their *Homestay.* It is also important to define the system requirement of this project including the interface requirement of the system. Meanwhile at the same time, the security requirements are also defined at this stage where the system are provided with the log in process by asking the user to sign up as member before they can proceed with their reservation process.

3.2.2.1 LITERATURE STUDY

Literature study are done by doing a research through books, journals, proceedings, newspaper, reports or white papers which is collected before. All the information regarding this project are identified and analysed before proceed to the next step.

3.2.2.2 INTERVIEW

Interview is done by giving the *Homestay* coordinator a set of question to identify on how they do the promotion manually and how about the respond that they get from their customers. This interview is also important to know how the reservation process is done and how they collect their customer information. The entire requirements needed to develop this project are collected at this phase.

3.2.3 DESIGN REQUIREMENTS MODEL

All the requirement and suggestion collected from the interview session with the *Homestay* coordinator are gathered and analysed. The details such as colour, image and information to be use are determined in order to ensure that this system achieve the user's needed. The layouts of the prototype are designed then and it is important to make it attractive and user friendly for it users. The design are developed using the UML notation which consist of Use Case Diagram, Sequence Diagram and also Class Diagram, this phase are important in order to give a better understanding on how the system is operated.

3.2.3.1 Use Case Diagram

As stated in Wikipedia the use case diagram in the Unified Modelling Language (UML) is a type of behavioural diagram which is defined by and created from a use-case analysis. The purposes of this diagram are to present a graphical overview of the functionality provided by the system (actors), its goals (use cases) and any dependencies between those use cases. It is use to show what systems functions are perform for each actors. While Scott (2005) defined the term Use Case

Diagram as "a diagram that shows the relationship among actors and use cases within a system" it often uses to provide an overview of all part of the system. Use case diagram involves three important component which are Use Cases, Actors, and Relationship (Scott, 2005).

3.2.3.2 Sequence Diagram

Sequence Diagram use to describe the flow of logic within the system in a visual manner, it will enabling to both document and validates the logic. It is commonly use for both analysis and design purposes (Scott, 2004). The Sequence diagrams are also use to represent or model flow of messages, events and also actions between the objects or components of the systems. Sequence Diagram use to design, document and validate the architecture, interfaces and the logic of the system by describing the sequence actions which need to be perform in order to complete the task or the scenario.

3.2.3.3 Collaboration Diagram

Collaboration Diagram is also known as Communication Diagram which used to illustrates the relationship and the interactions among the software object in UML. It shows how the object is interacting over the course time (visual case). Instead of using the sequence diagrams, the collaboration diagrams are use to show the sequence by numbering the messages on the diagram. It will make it easier for the developer to show how the objects are linked to one and another.

3.2.3.4 Class Diagram

Wikipedia (2010) defined the term Class Diagram as type of static structure diagram which is use to describe the structure of a system by showing it system classes, attributes and the relationships between the classes, Class Diagram are draw based on the collaboration diagram of the system. Class Diagrams are used for

variety purposes, including in the conceptual/domain modelling and detailed design modelling. It also use to explore the domain concepts in the form of domain model and to analyse the requirements in the form of a conceptual/analysis model (Scott, 2004).

3.2.3.5 Interface Design

Story board is a series of pictures that use to plan the action (Macmillan, 2007). It is important to have a proper storyboard to ensure that the development of the interface design is properly developed. The flow of the system can also be shown through the story board. By using storyboard, users are able to experiment with the changes in storyline to evoke stronger reaction or interest. The prototype development can be done after storyboard design is completely finish.

3.2.3.6 Prototype

In this step, the relationships of the system are shown. Prototype system for this project are develop using PHP programming language which including MySql statement. The prototype is developed base on the storyboard that has been design earlier.

3.2.4 DOCUMENTATION

The documentation phase is important to control the quality of the system development. Documentation are prepared when every phase of development is done as it is use as reference if there is any error or mistakes occur in development process. Finally a complete documentation would be written for the Online Homestay Reservation System as a complete reference.

3.3 CONCLUSION

The OOSAD method selected as methodologies for this project because five phases involves in this method are suitable to develop the Online Homestay Reservation System. The implementation and the result of using this methodology will be discussed in next chapter.

CHAPTER 4

SYSTEM ANALYSIS AND DESIGN

4.1 INTRODUCTION

This chapter covers the design and the implementation of the Online Homestay Reservation System. It also describe on how the work is done to achieve the project objectives. It will also determine the Functional and Non-Functional requirement uses to develop this system.

4.2 LIST OF REQUIREMENT

Listed below are the functional requirements and non-functional requirement of the system. In the priority column, the following short hands are used:

- M – mandatory requirements (something the system must do)
- D – desirable requirements (something the system preferably should do)
- O – optional requirements (something the system may do)

4.3 FUNCTIONAL REQUIREMENTS

The functional requirements are main stages to develop a system. It can be in type of calculations, technical details, data manipulation and processing and also other specific functionality which is use to define what a system should accomplish. The functional requirements are capture in a use cases and it is supported by non-functional requirements. Table 5 below shows the functional requirement needed for this project:

Table 5: Functional Requirement

No.	Requirement ID	Requirement Description	Priority
	OHRS_01	**Log In System (Coordinator, Customer)**	
1.	OHRS _01_01	User must enter user ID and password to login	M
2.	OHRS _01_02	User can reset their ID and password should they do not want to login	O
3.	OHRS _01_03	User can change their password, and their ID.	O
	OHRS _02	**View Gallery**	
4.	OHRS _02_01	Customer able to view gallery	O
	OHRS _03	**Manage Gallery**	
5.	OHRS _03_01	Coordinator can upload pictures of Homestay	O
6.	OHRS _03_03	Coordinator can upload picture for customer to view and download it	O
	OHRS_04	**Reservation**	
7.	OHRS_04_01	Customer are able to add their reservation details	O
	OHRS_05	**Manage Reservation**	
8.	OHRS_05_01	Coordinator are able to manage customer reservation detail	M
9.	OHRS_05_02	Coordinator are able to cancel the reservation made by customer	M
	OHRS_06	**View About Us**	
10.	OHRS_06_01	Customer are able to view details of homestay	O
	OHRS_07	**Manage About Us**	
11.	OHRS_07_01	Coordinator are able to update Homestay	O

		information	
	OHRS_08	**Contact Us**	
12.	OHRS_08_01	Customers are able to view Homestay contact details for any cancellation.	O
	OHRS _09	**Logout**	
13.	OHRS _09_01	All users must logout from the system after using it	O

4.4 NON-FUNCTIONAL REQUIREMENTS

Non-functional requirements are important in service-oriented development, and it is spread across the whole service-oriented system or within individual services and it cannot be allocated to a specific system/service artefact (Galster & Bucherer, 2008).

Non- Functional Requirements are important to enhance the system and make it easier to achieve its goal. Non-functional requirements for this project are defined in the table 6 below:

Table 6: Non-Functional Requirement

No.	Requirement ID	Requirement Description	Priority
	OHRS_10	**Reliability Issues**	
14.	OHRS_10_01	If the user ID and password are incorrect, the system should display error message for the user.	M
	OHRS_11	**Usability Issues**	
15.	OHRS_11_01	Coordinator should be able to add customer to customer student	M

4.5 USE CASE DIAGRAM

As stated in Wikipedia the use case diagram in the Unified Modelling Language (UML) is a type of behavioural diagram which is defined by and created from a use-case analysis. The purposes of this diagram are to present a graphical overview of the functionality provided by the system (actors), its goals (use cases) and any dependencies between those use cases. It is use to show what systems functions are perform for each actors. While Scott (2005) defined the term Use Case Diagram as "a diagram that shows the relationship among actors and use cases within a system" it often uses to provide an overview of all part of the system. Use case diagram involves three important component which are Use Cases, Actors, and Relationship (Scott, 2005)

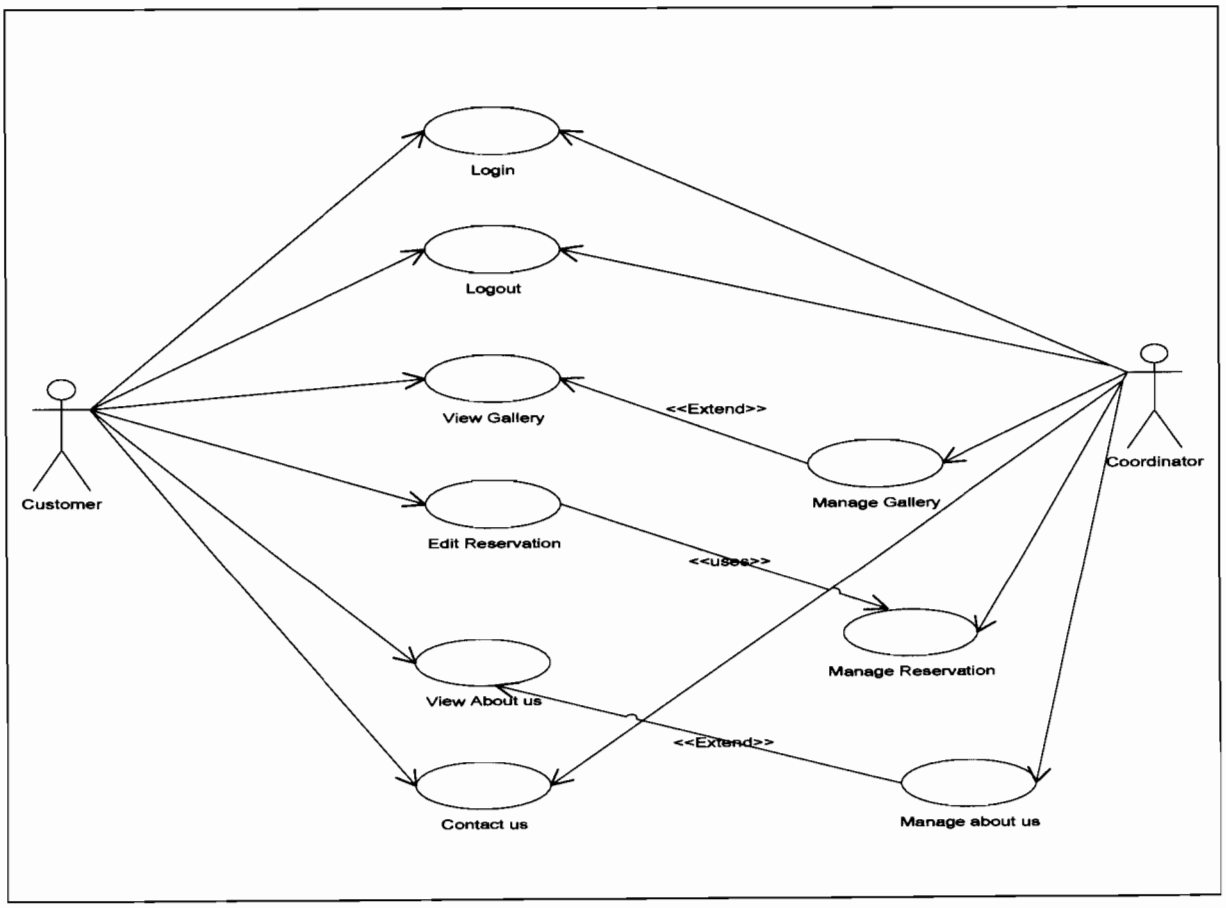
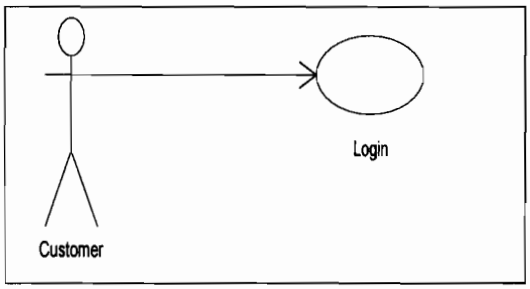


Figure 4: Use Case Diagram for Online Homestay Reservation System

4.6 USE CASE SPECIFICATION

4.6.1 USE CASE: LOG IN (OHRS_01)



BRIEF DESCRIPTION

This use case allows users (customer and coordinator) to log in into the system.

PRE-CONDITIONS

The customer will open the browser and enter the URL; the system homepage will be display with log in fields where user will be asking to enter their username and password.

CHARACTERISTIC OF ACTIVATION

Event driven (on customer and coordinator demand)

FLOW OF EVENTS

Use case begins when customers enter their username and password. Should they entered a wrong combination of password or user ID, the system will alert them with error message asking for re-type or re-login

POST-CONDITIONS

- Customer view and add their reservation
- Reservation details will be update

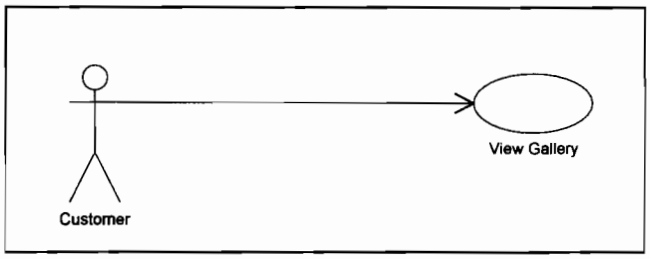
RULE(S)

Not Applicable

CONSTRAINT(S)

Notification for user if they enter incorrect user ID and password

4.6.2 USE CASE: VIEW GALLERY (OHRS_02)



BRIEF DESCRIPTION

Use case is initiated by customers. It allowed users (customer) to view the gallery in the system.

PRE-CONDITIONS

Click *"Gallery"* button

CHARACTERISTIC OF ACTIVATION

Event driven (on customer and coordinator demand)

FLOW OF EVENTS

- After customers log in to the system, customer can view gallery.
- Customers can click on Gallery to view the picture gallery of the *Homestay*.
- Customers can download the picture from the gallery by clicking the right button and choose *"save image as"* to save it in their PC's

POST-CONDITIONS

- Customers can download the pictures or view the gallery.

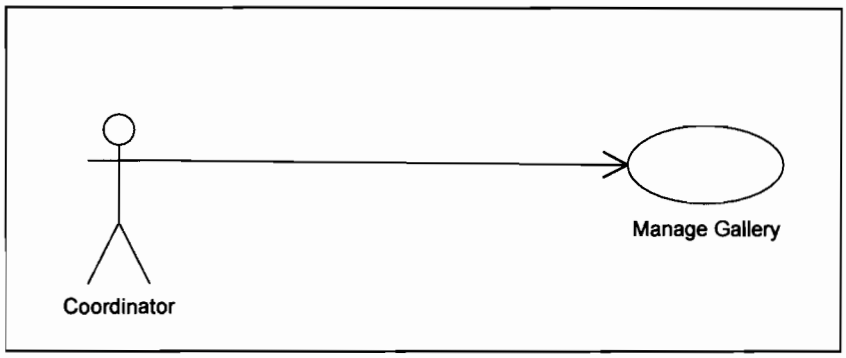
RULE(S)

Not Applicable

CONSTRAINT(S)

For downloading there might be taking a time where it's depend on the size of the pictures the customers want to download

4.6.3 USE CASE: MANAGE GALLERY (OHRS_03)



BRIEF DESCRIPTION

This use case allows the Coordinator to manage Gallery information.

PRE-CONDITIONS

The Coordinator has successfully login into the system using coordinator ID

CHARACTERISTIC OF ACTIVATION

Driven (on coordinator's demand)

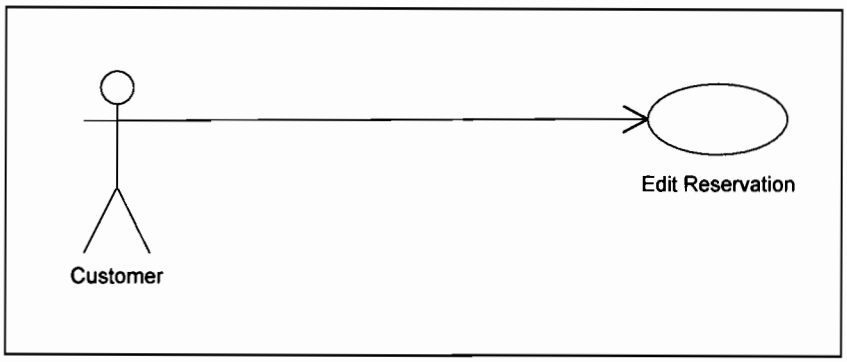
FLOW OF EVENTS

- The use case begins where system display **Gallery** folder, that allow coordinator to manage the gallery.
- The Coordinator can upload required details of gallery

RULE(S)

Not applicable.

4.6.4 USE CASE: EDIT RESERVATION (OHRS_04)



BRIEF DESCRIPTION

This use case allows Customer to edit/add their reservation

PRE-CONDITIONS

Customer has successfully login into the system using Customer ID

CHARACTERISTIC OF ACTIVATION

Driven (on customer's demand)

FLOW OF EVENTS

- Use case begin with customer log in to the page
- Customers view the gallery to see the pictures or directly click the *"Reservation"* button.

POST-CONDITIONS

- Username and password must be created for customer to enter the system.

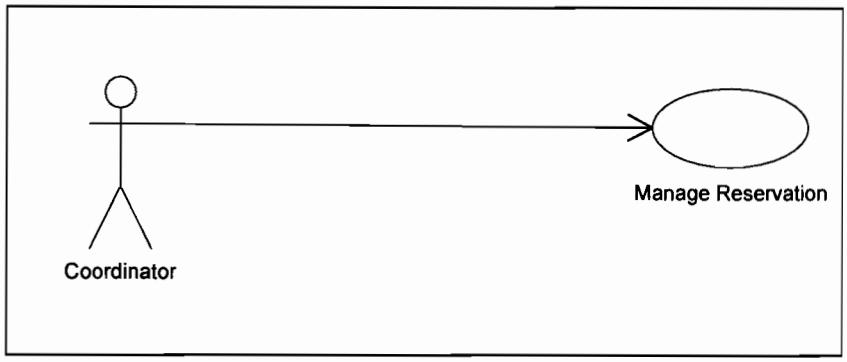
RULE(S)

Not applicable.

CONSTRAINT(S)

None

4.6.5 USE CASE: MANAGE RESERVATION (OHRS_05)



BRIEF DESCRIPTION

This use case is initiated by the coordinator. This use case will enable coordinator to enter the manage reservation. This use case enable to coordinator to manage all the things are related with the reservation.

PRE-CONDITIONS

Click *"Manage Reservation"* button.

CHARACTERISTIC OF ACTIVATION

On demand

FLOW OF EVENTS

- After log in to the system, coordinator can view any use case. For this use case, coordinator should view the Manage Reservation.
- Coordinator must update and managed all the information related to the reservation made by the customers.

POST-CONDITIONS

Not applicable.

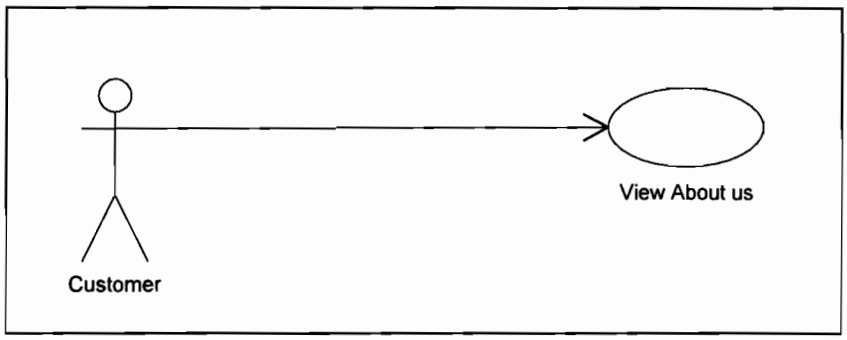
RULE(S)

Not applicable.

CONSTRAINT(S)

Not applicable.

4.6.6 USE CASE: VIEW ABOUT US (OHRS_06)



BRIEF DESCRIPTION

This use case is initiated by the customer. This use case will enable customer to enter the view about us to know about the *Homestay*.

PRE-CONDITIONS

Click *"View About Us"* button.

CHARACTERISTIC OF ACTIVATION

On demand

FLOW OF EVENTS

- After customers log in to this system, customer can view About us.
- Customers can click on view About Us to check out the History of *Homestay*, Operation Hours, the Rate of *Homestay*, The accommodation provided by the coordinator and also Map of the location.

POST-CONDITIONS

- Customer can check the rate before proceed with the reservation.

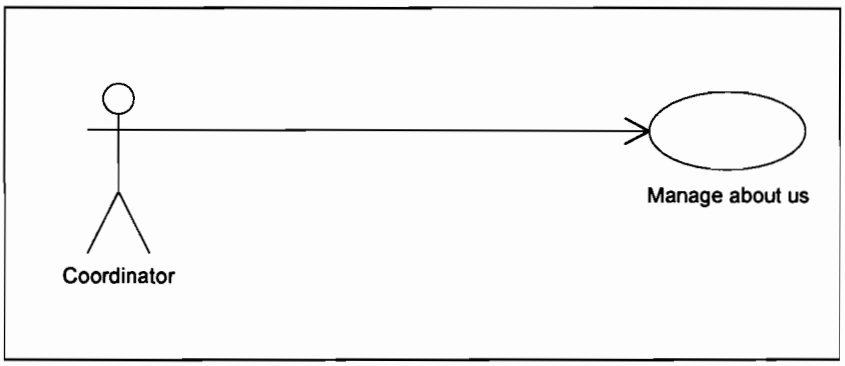
RULE(S)

None

CONSTRAINT(S)

For downloading, maybe there are using a lot of time it's depends on the size of documents which students want to downloads. Here, students can waste time to wait all the documents finish downloading.

4.6.7 USE CASE: MANAGE ABOUT US (OHRS_08)



BRIEF DESCRIPTION

This use case is initiated by the coordinator. This use case will enable coordinator to enter the manage About Us. This use case enables coordinator to manage all the things related with the about us.

PRE-CONDITIONS

Click *"Manage About Us"* button.

CHARACTERISTIC OF ACTIVATION

On demand

FLOW OF EVENTS

- After log in to the system, coordinator can view any use case. For this use case, coordinator should view the Manage about Us.
- Coordinator must update and managed all the information related to the About Us as the information for their customers.

POST-CONDITIONS

Not applicable.

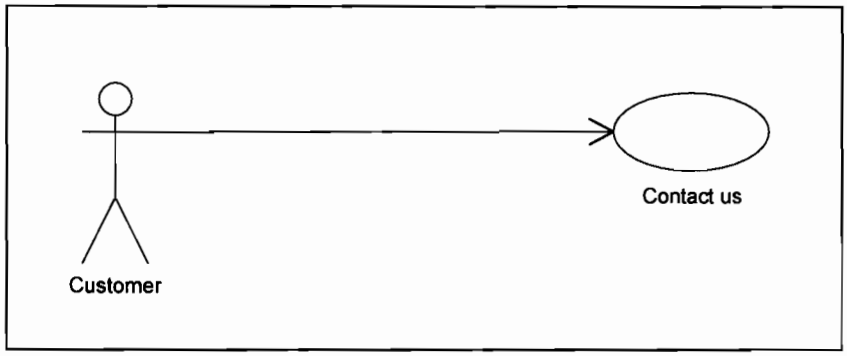
RULE(S)

Not applicable.

CONSTRAINT(S)

Not applicable.

4.6.8 USE CASE: CONTACT US (OHRS_08)



BRIEF DESCRIPTION

This use case is initiated by the customer. This use case will enable customer to enter the view contact us.

PRE-CONDITIONS

Click *"View Contact Us"* button.

CHARACTERISTIC OF ACTIVATION

On demand.

FLOW OF EVENTS

- Customer can view Contact Us with or without log in to the system.

POST-CONDITIONS

- Should there is any assistance; customer can contact the coordinator using the contact number provided.

RULE(S)

None

CONSTRAINT(S)

None.

4.7 SEQUENCE AND COLLABORATION DIAGRAM

Sequence Diagram use to describe the flow of logic within the system in a visual manner, it will enabling to both document and validates the logic. It is commonly use for both analysis and design purposes (Scott, 2004). The Sequence diagrams are also use to represent or model flow of messages, events and also actions between the objects or components of the systems. Sequence Diagram use to design, document and validate the architecture, interfaces and the logic of the system by describing the sequence actions which need to be perform in order to complete the task or the scenario.

Collaboration Diagram is also known as Communication Diagram which used to illustrates the relationship and the interactions among the software object in UML. It shows how the object is interacting over the course time (visual case). Instead of using the sequence diagrams, the collaboration diagrams are use to show the sequence by numbering the messages on the diagram. It will make it easier for the developer to show how the objects are linked to one and another.

SEQUENCE DIAGRAM

OHRS_01: LOGIN

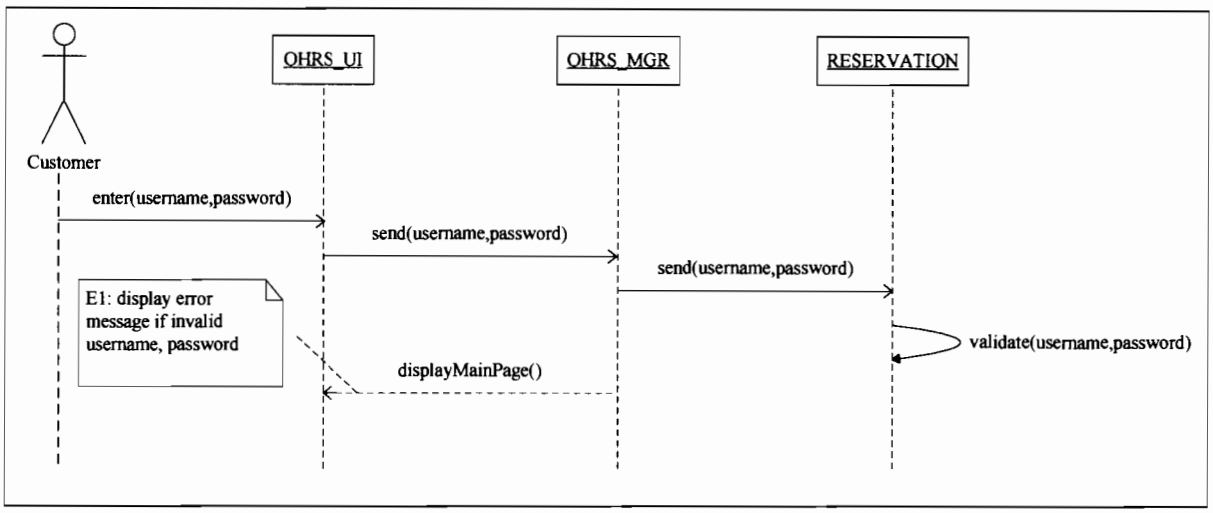


Figure 4.1 Sequence Diagram for Login

COLLABORATION DIAGRAM

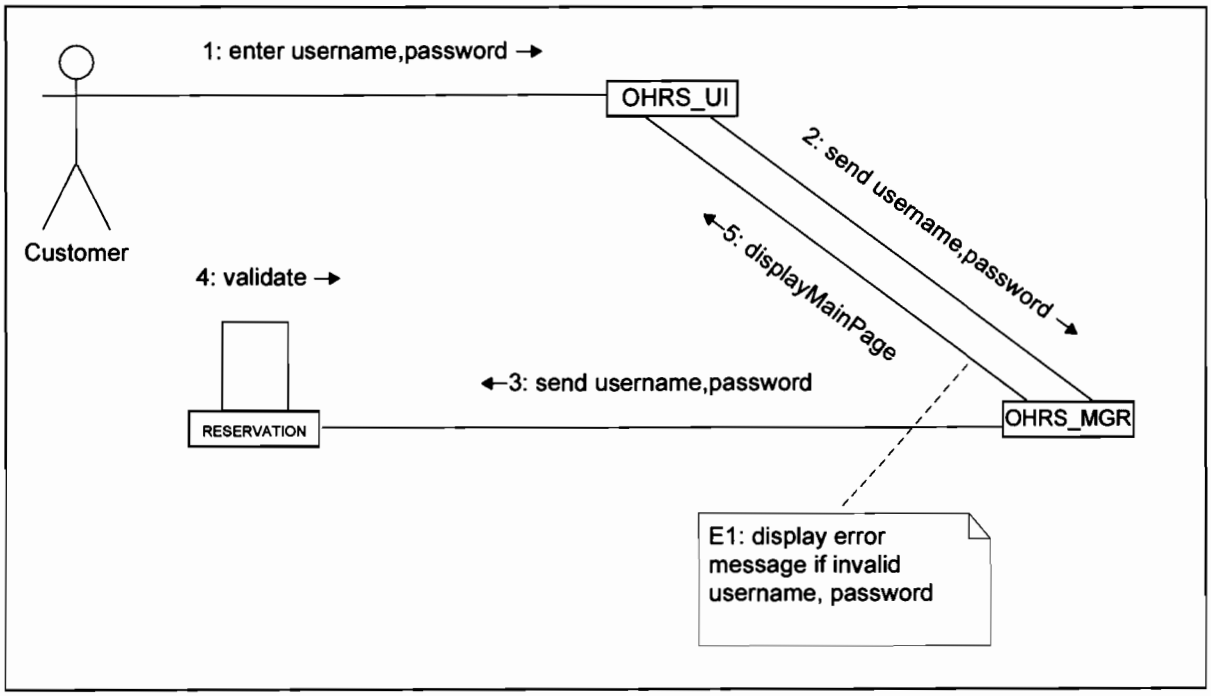


Figure 4.2 Collaboration Diagram for Login

LOGIN

- To log into the system, Customer need to enter their username and password.
- The data input will be sending to the system manager to verify the validity of the entered username and password.
- If customer enter an invalid username and/or password, an error messages will be display
- If the combination of username and password are correct, customer will be directed to the reservation page.

SEQUENCE DIAGRAM

OHRS_02: VIEW GALLERY

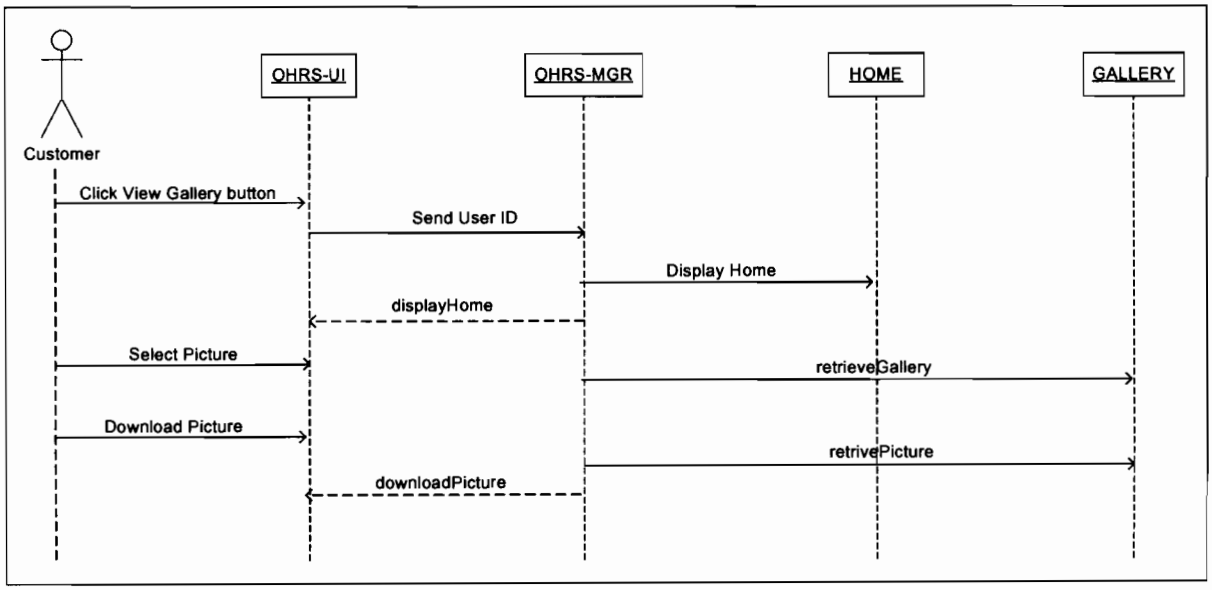


Figure 4.3 Sequence Diagram for View Gallery

COLLABORATION DIAGRAM

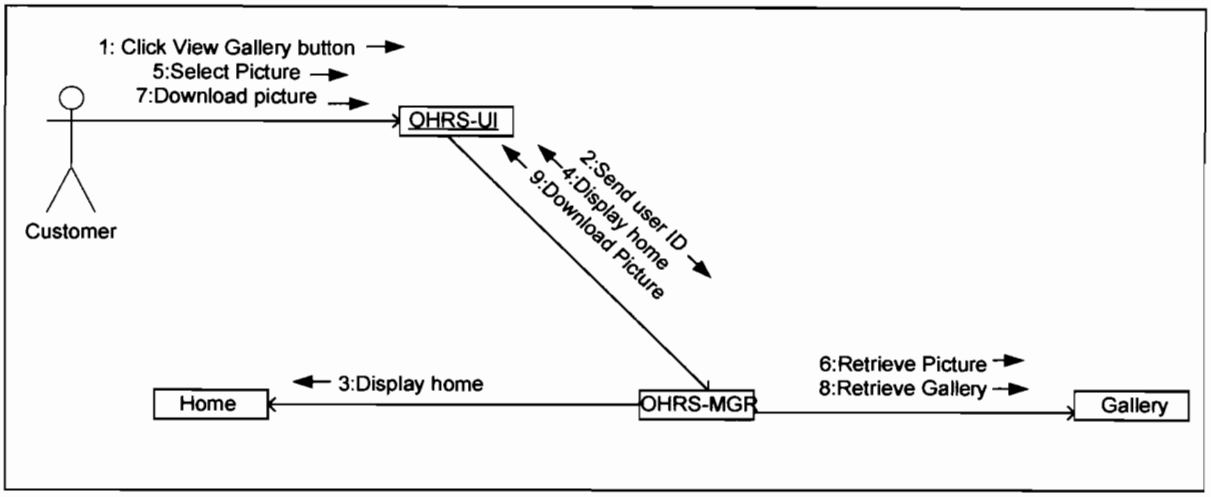


Figure 4.4 Collaboration Diagram for View Gallery

VIEW GALLERY

- Customer click on view gallery button
- Manager will retrieve the picture in gallery and display to customer
- Customer can download the picture by clicking the right button on mouse and choose 'Save Picture' to save the picture into their PC's.

SEQUENCE DIAGRAM

USE CASE: MANAGE GALLERY (OHRS_03)

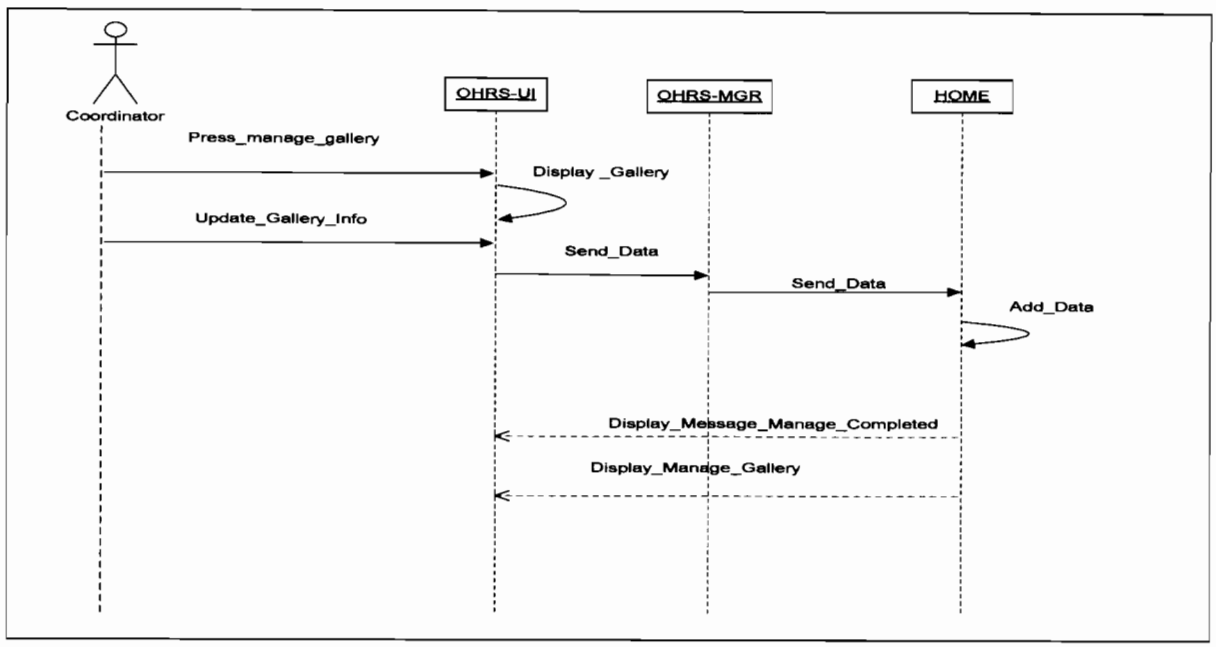


Figure 4.5 Sequence Diagram for Manage Gallery

COLLABORATION DIAGRAM

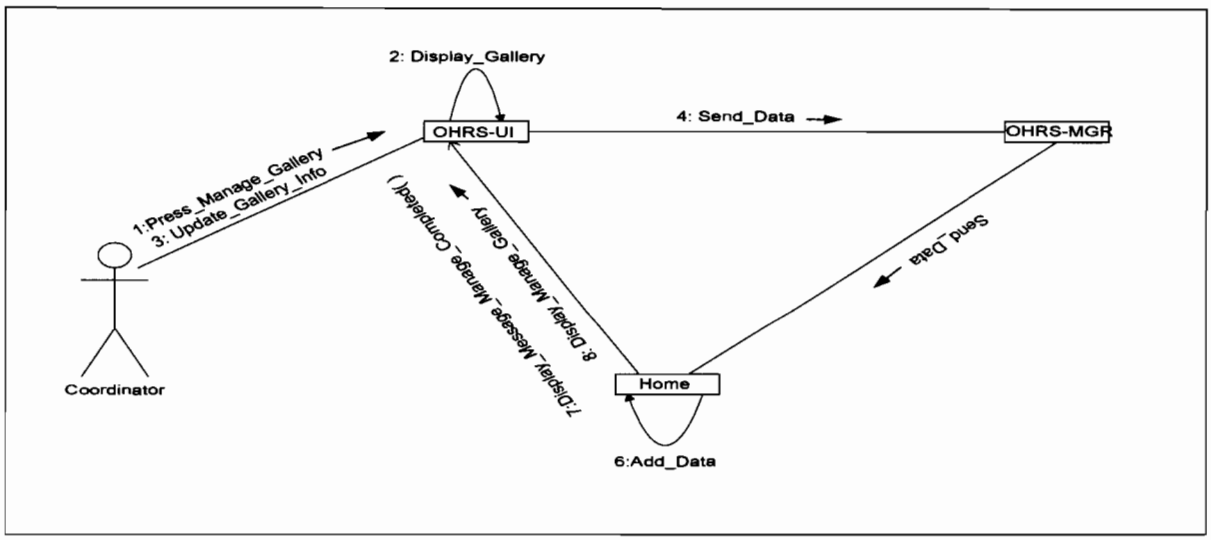


Figure 4.6 Collaboration Diagram for Manage Gallery

MANAGE GALLERY

- The Coordinator press manage gallery button
- The gallery page will be display to the coordinator
- Coordinator will start update the gallery information and the data will be send to the manager.
- The sending data will be added into the gallery and once complete the message will be display to the coordinator.
- The Manage Gallery will be display again if coordinator wants to add more data.

SEQUENCE DIAGRAM

USE CASE: EDIT RESERVATION (OHRS_04)

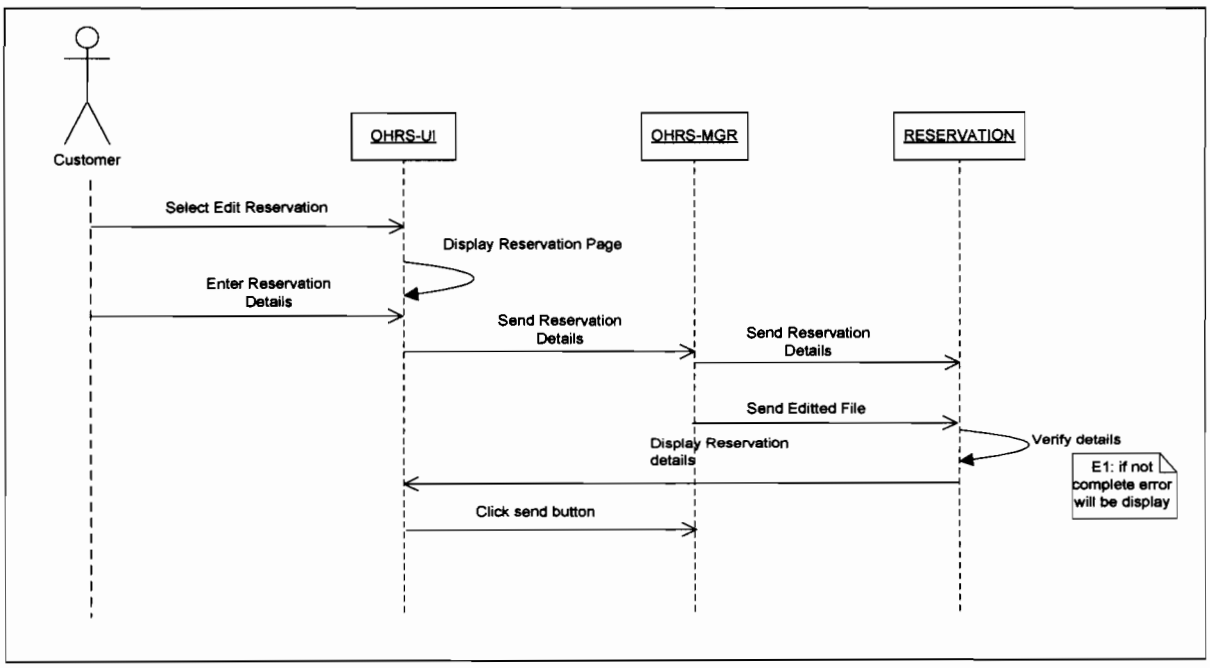


Figure 4.7 Sequence Diagram for Edit Reservation

COLLABORATION

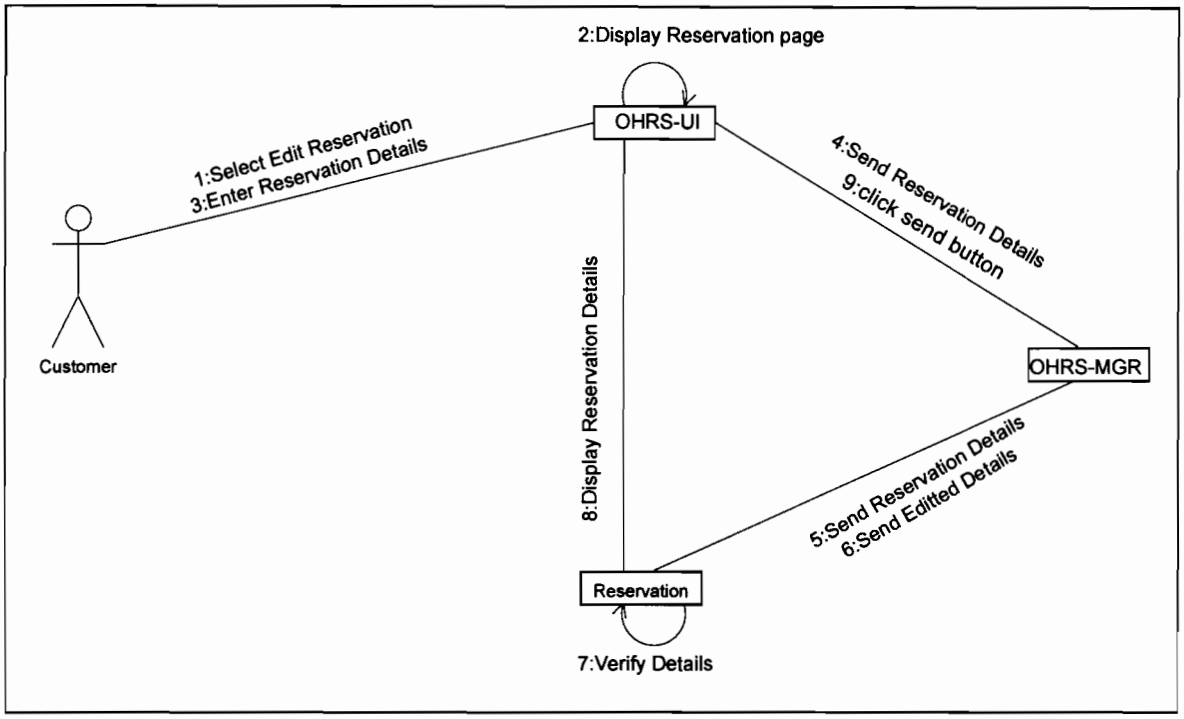


Figure 4.8 Collaboration Diagram for Edit Reservation

EDIT RESERVATION

- After customer have successfully log in to the system, customer will select the provided reservation link to proceed with their reservation process.
- The reservation form will be display to customer.
- Customer will fill in the form with their reservation details.
- Once finish, customer will submit it to manager and the manager will verify the details.
- If any problems exist an error message will be display and if successful a successfully message will be prompt to customer.

SEQUENCE DIAGRAM

USE CASE: MANAGE RESERVATION (OHRS_05)

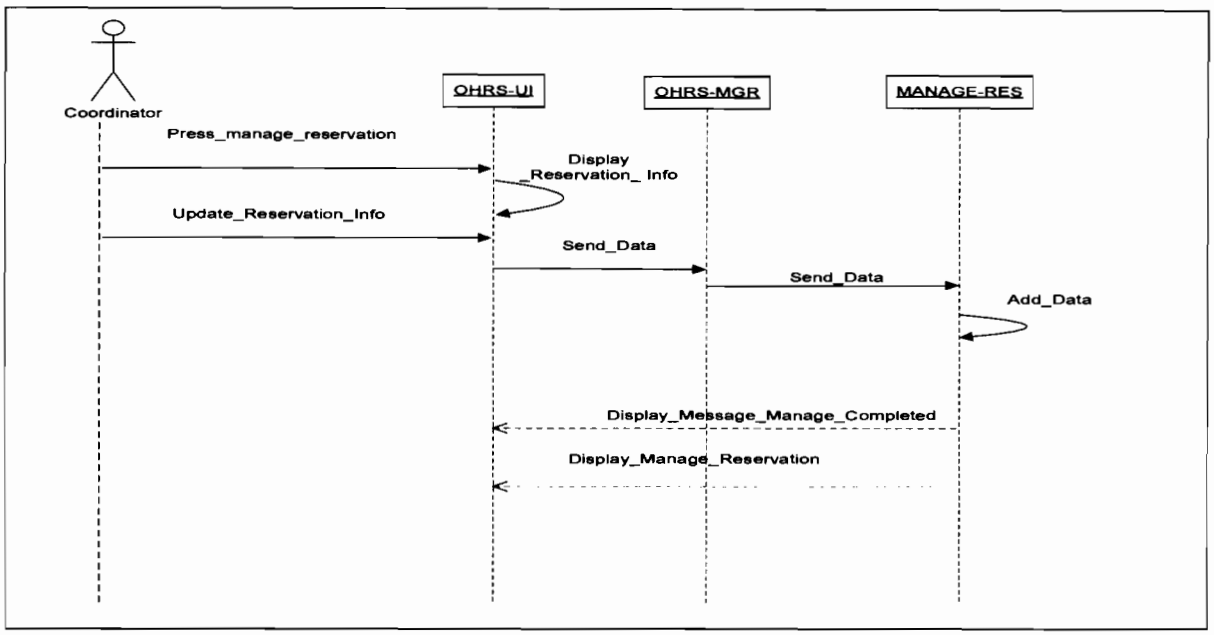


Figure 4.9 Sequence Diagram for Manage Reservation

COLLABORATION

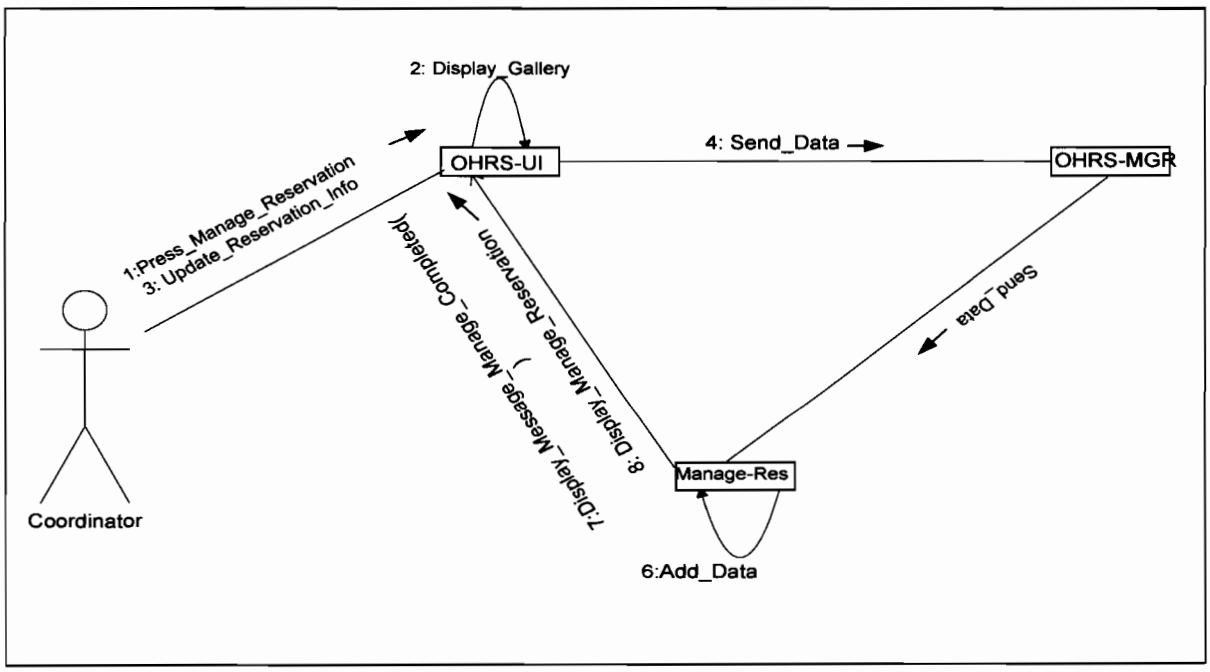


Figure 4.10 Collaboration Diagram for Manage Reservation

MANAGE RESERVATION

- The Coordinator press manage reservation button
- The reservation info will be display to coordinator.
- Coordinator will start update the reservation information and the data will be send to the manager.
- The sending data will be added into the reservation and once complete the message will be display to the coordinator.
- The Manage Reservation will be display again if coordinator wants to add more data.

SEQUENCE DIAGRAM

USE CASE: VIEW HOME (OHRS_06)

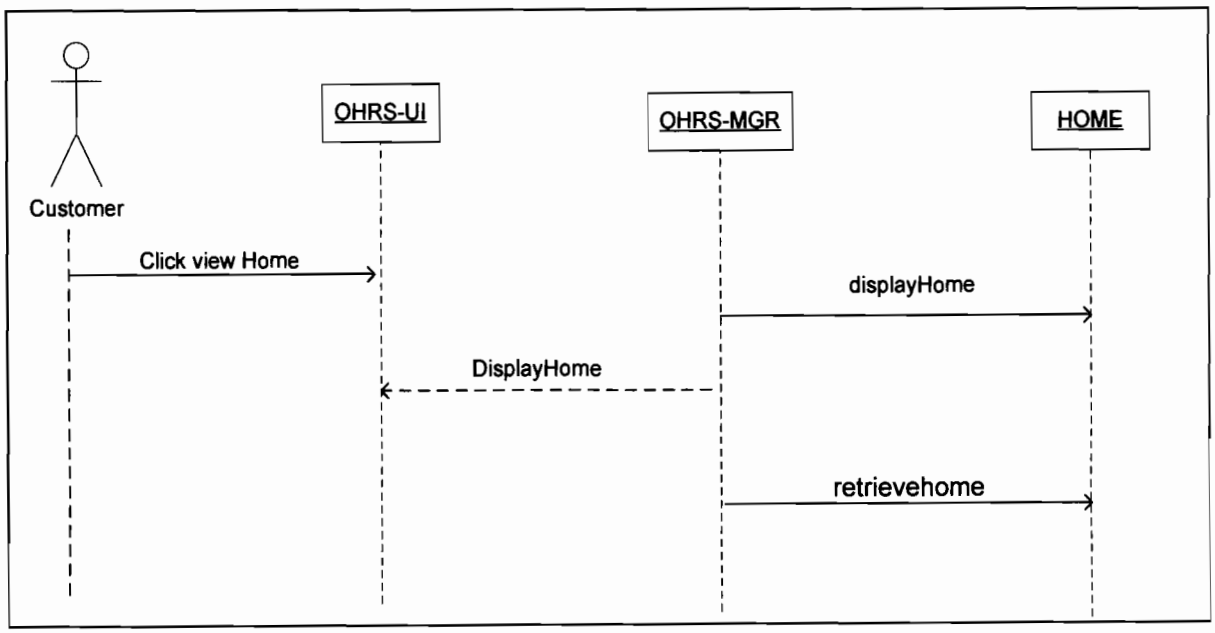


Figure 4.11 Sequence Diagram for View Home

COLLABORATION

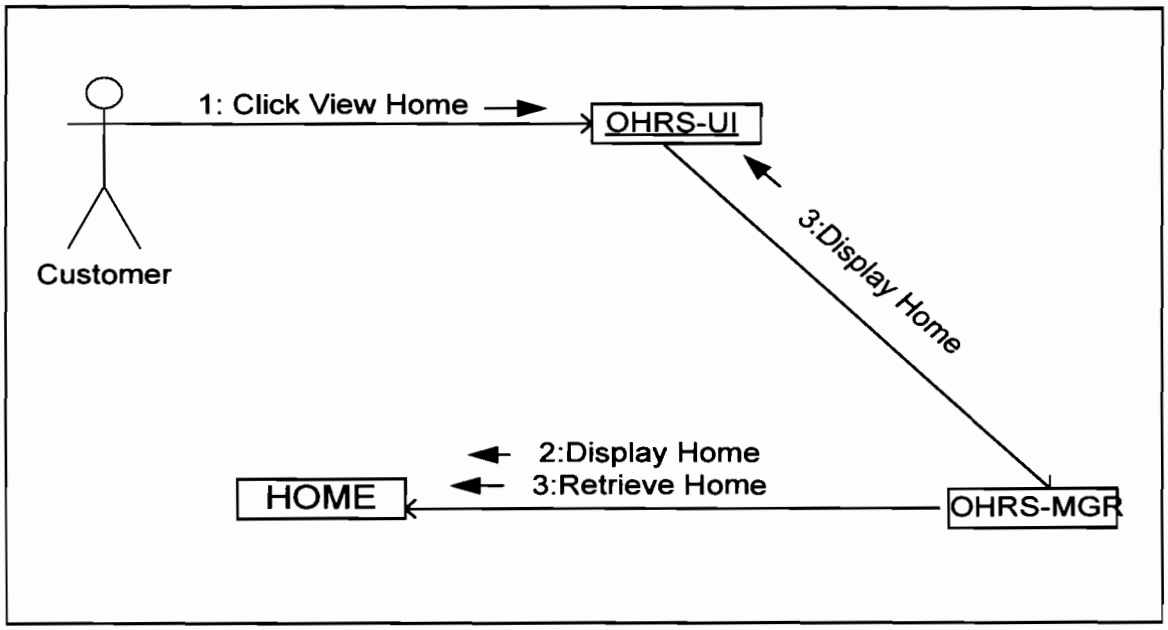


Figure 4.12 Collaboration Diagram for View Home

VIEW HOME

- Customer click on the view home button
- Manager will retrieve and display the Home page to customer.

SEQUENCE DIAGRAM

USE CASE: CONTACT US (OHRS_07)

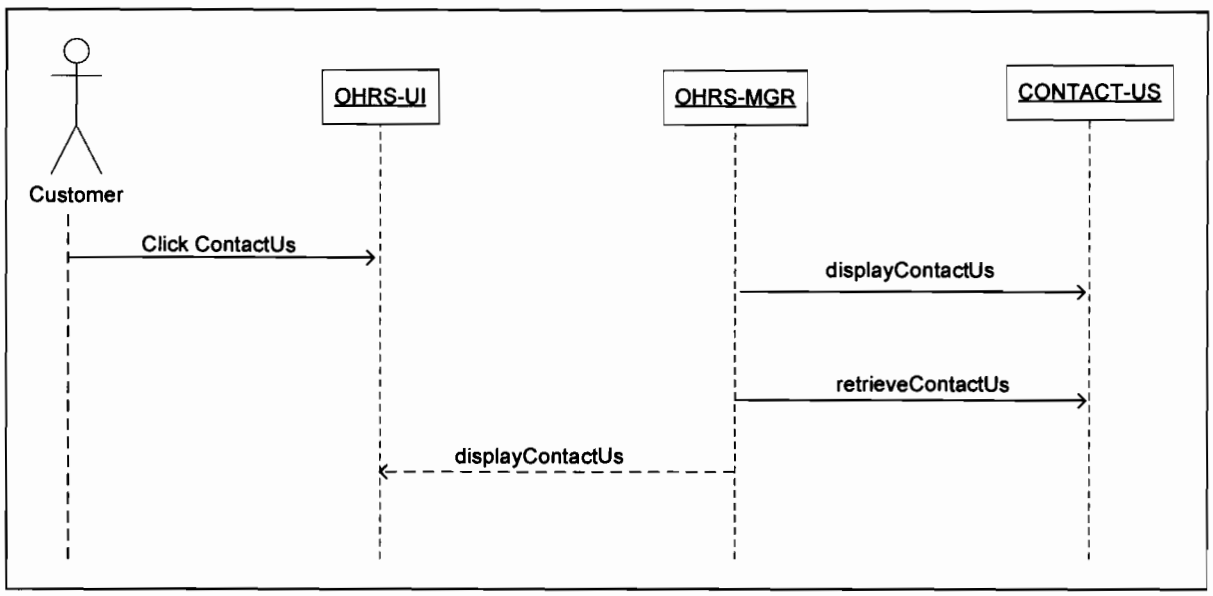


Figure 4.13 Sequence Diagram for Contact Us

COLLABORATION

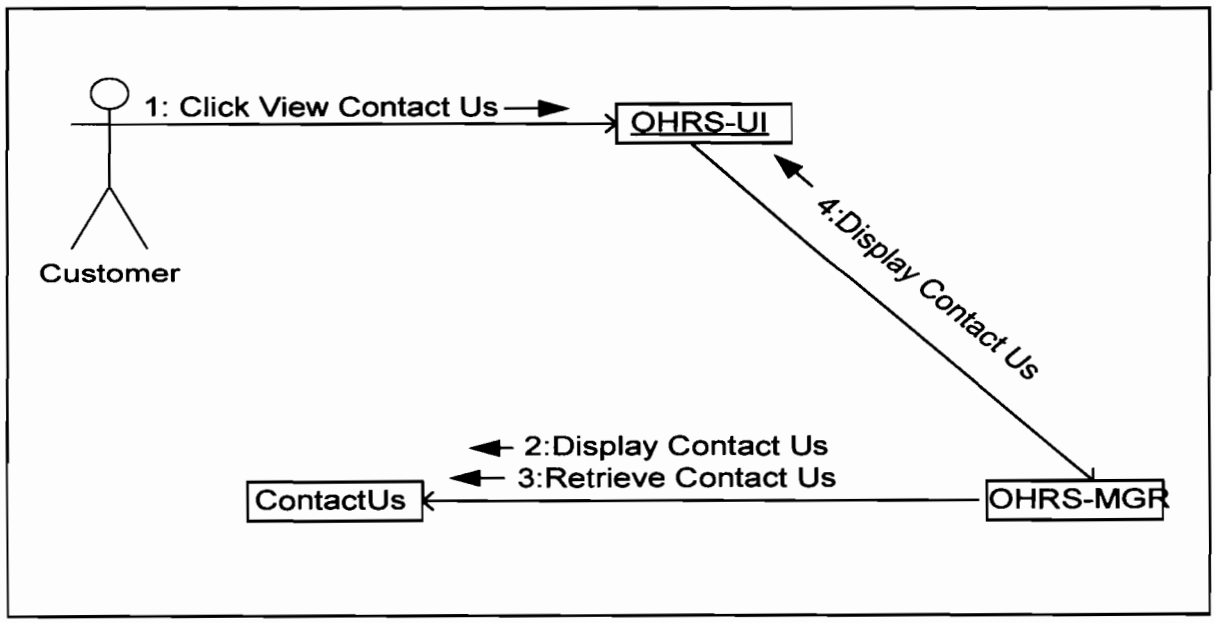


Figure 4.14 Collaboration Diagram for View Contact Us

CONTACT US

- Customer click on the Contact Us button.
- Manager will retrieve the contact us page and display it to the customer.

4.8 CLASS DIAGRAM

Wikipedia (2010) defined the term Class Diagram as type of static structure diagram which is use to describe the structure of a system by showing it system classes, attributes and the relationships between the classes, Class Diagram are draw based on the collaboration diagram of the system. Class Diagrams are used for variety purposes, including in the conceptual/domain modelling and detailed design modelling. It also use to explore the domain concepts in the form of domain model and to analyse the requirements in the form of a conceptual/analysis model (Scott, 2004).

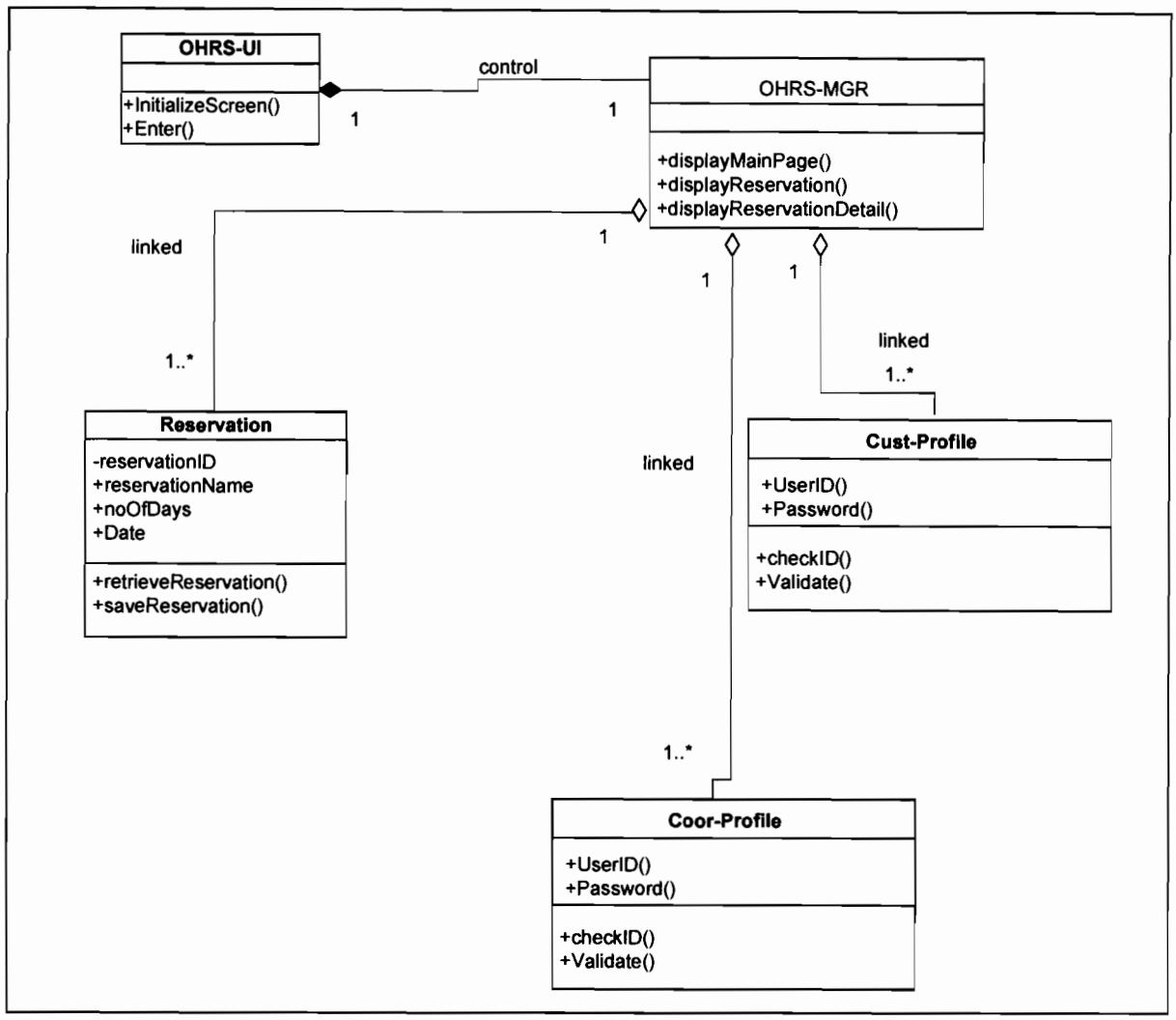


Figure 4.15 Class Diagram for Online Homestay Reservation System

4.9 CONCLUSION

This chapter summarizes the use case for this system which is uses to show the actor involves in this system and it associated activities. It also presented the analysis of sequence diagram and collaboration diagram for each menu in this system. Moreover, these chapters are also presented the functional and non-functional requirement as a base to develop this system.

CHAPTER 5

FINDINGS

5.1 INTRODUCTION

In this chapter we will see the finding of this project which is the interface design of the Online Homestay Reservation System (OHRS). In this project, the design is divided into four menu which is Home/About Us which containing the details of the *Homestay* such as history and the information on how to get there. The Gallery menu containing the pictures on the activities at the *Homestay*, The reservation menu which use to let the customer to make their reservation and also Contact Us menu where customer can get the contact details of the *Homestay* to let them make a call to the *Homestay* for any inquiries.

5.2 STORY BOARD

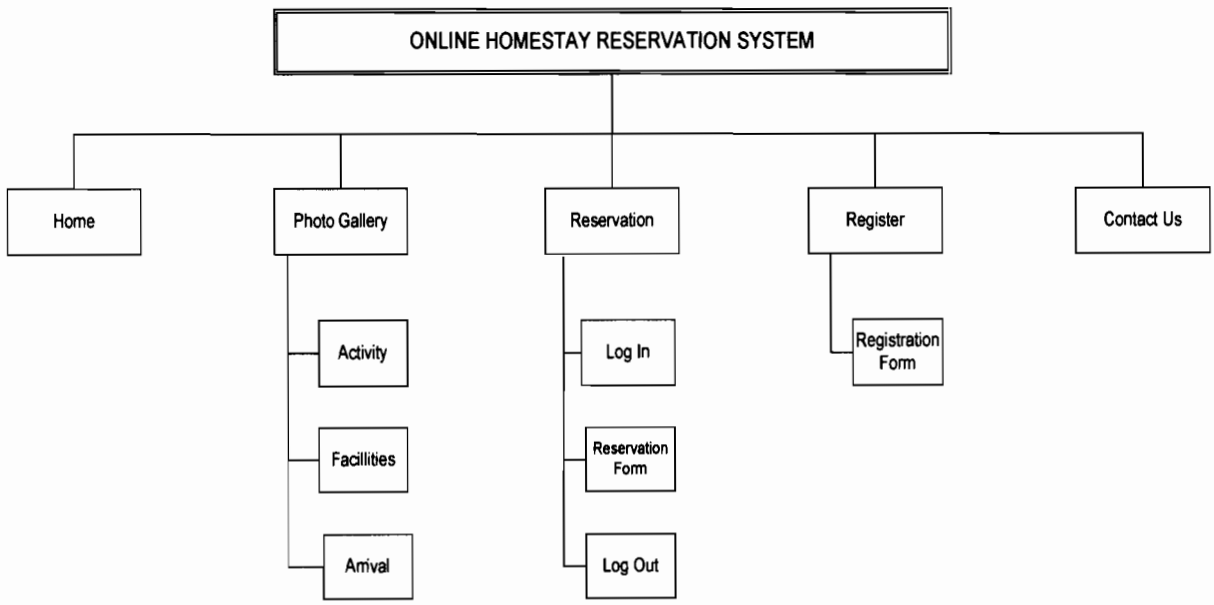


Figure 5.0 Storyboard for Online Homestay Reservation System

5.3 INTERFACE DESIGN

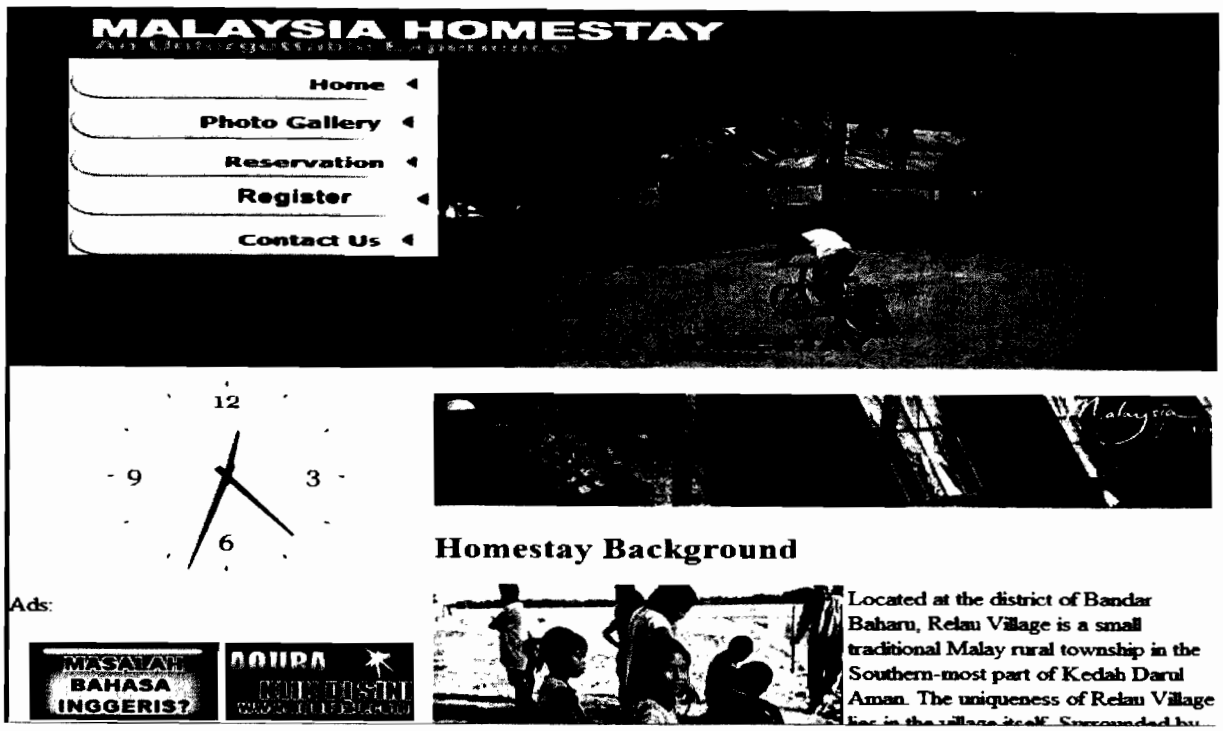


Figure 5.1 Home Page

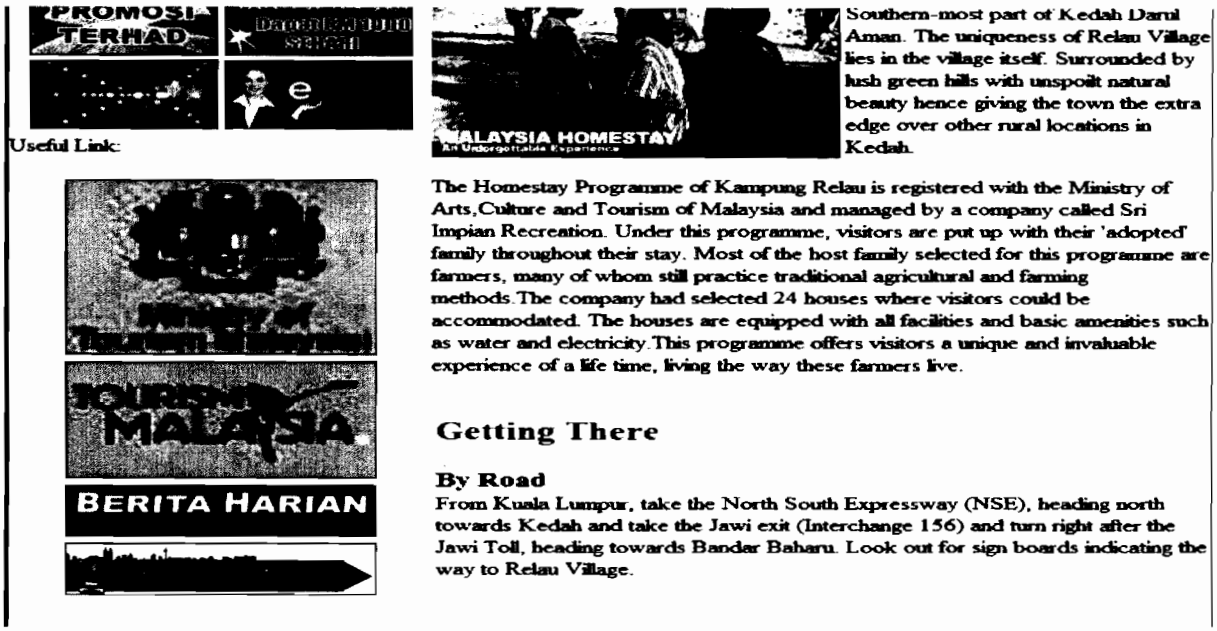


Figure 5.2 Getting There Page

Figure 5.1 shows the home page of the Online Homestay Reservation System (OHRS) where in this page, customers are able to know the history of the *Homestay*

and the uniqueness of the *Homestay*. At this page, customer also can get the information on How to Get There. (Figure 5.1)

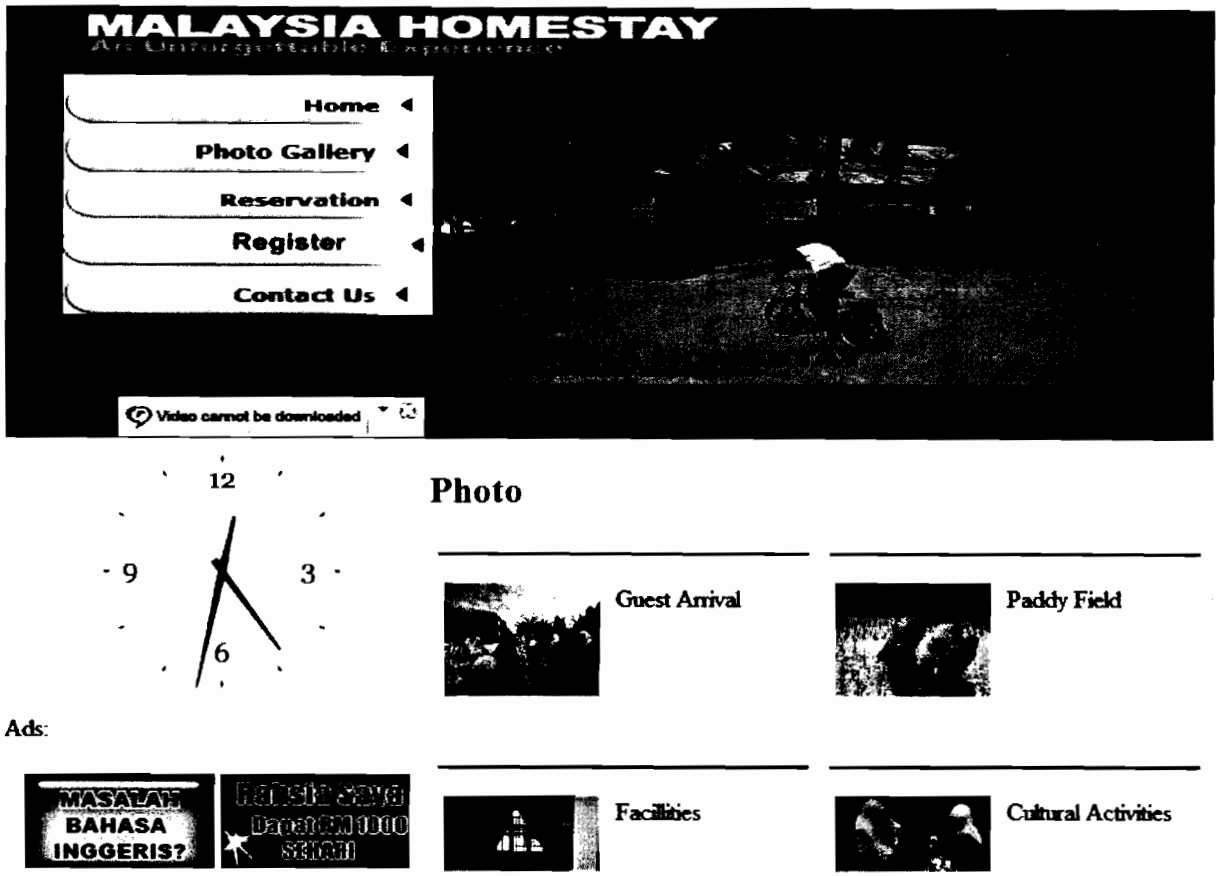


Figure 5.3 Photo Gallery Page

At this page customer are able to see the photo collection of the activities done at the *Homestay* such as the Guest Arrival, The scenery of the Village, the facilities provided by the coordinator and also the cultural activities that they can involve when they stay at this *Homestay*.

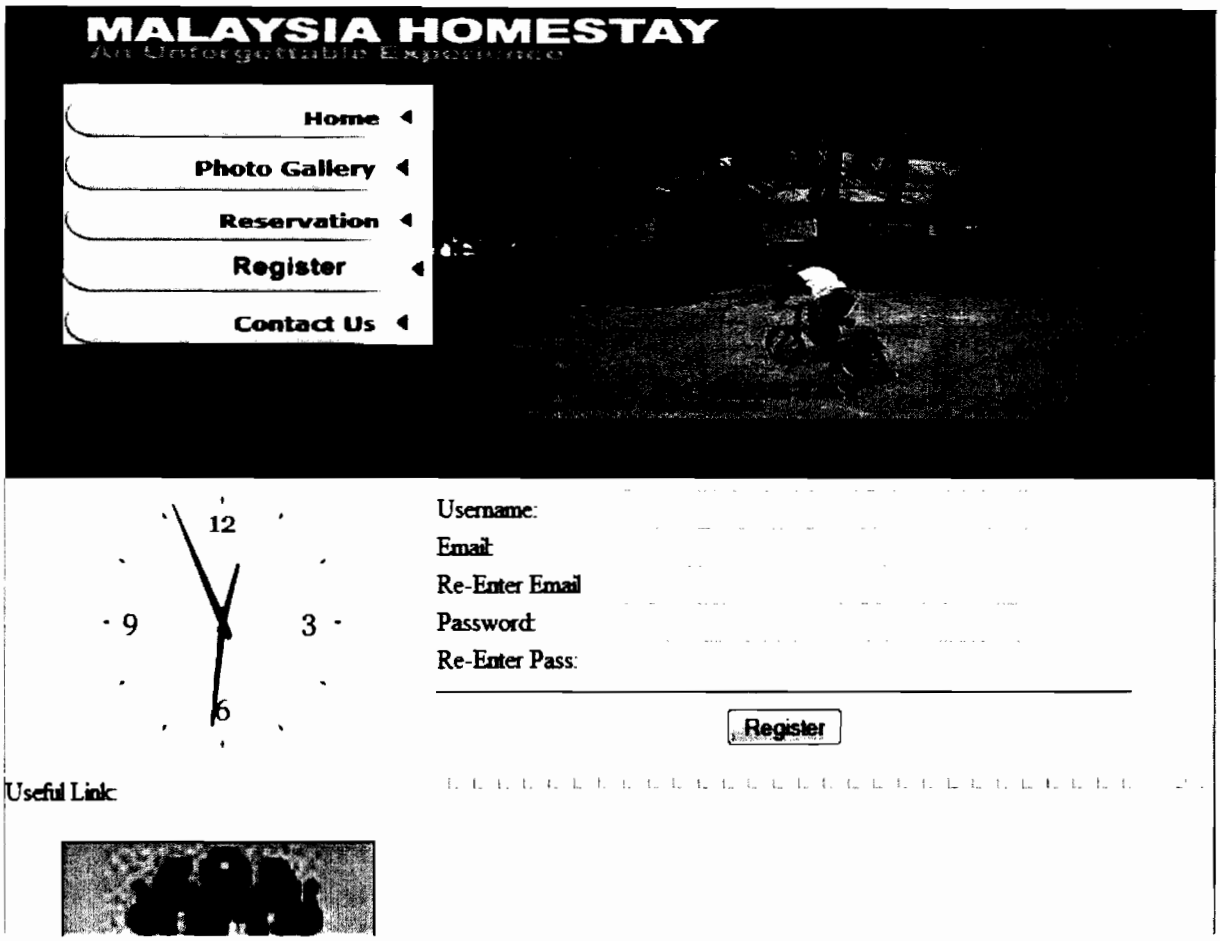


Figure 5.4 Registration Page

The above figure shows the page for registration. Customers need to register as the user of this system before they can proceed with the reservation. The registrations are important to protect customer's information from being misused by others.

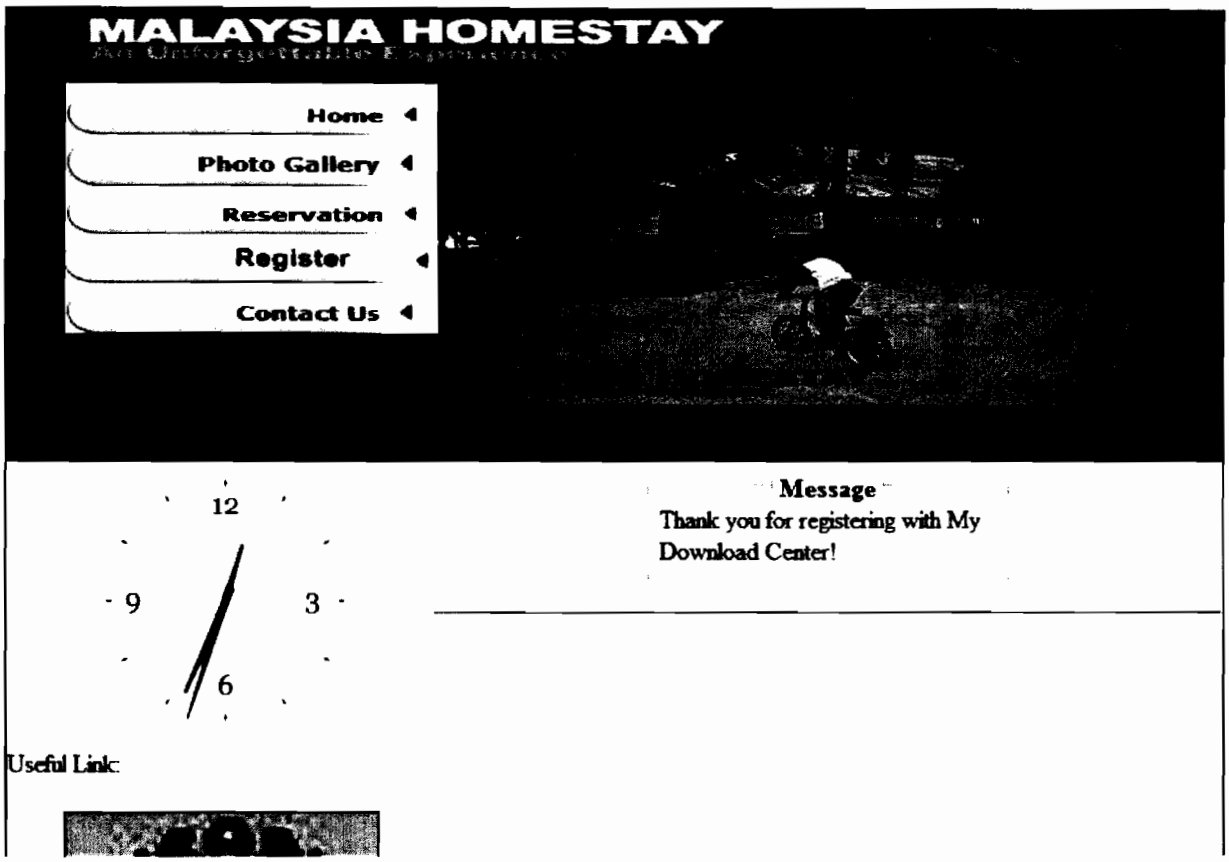


Figure 5.5 Successful Registration Page

Once customers are done with the registration process, the above alert will be prompt to let the customers know that they have successfully registered as the user of the website.

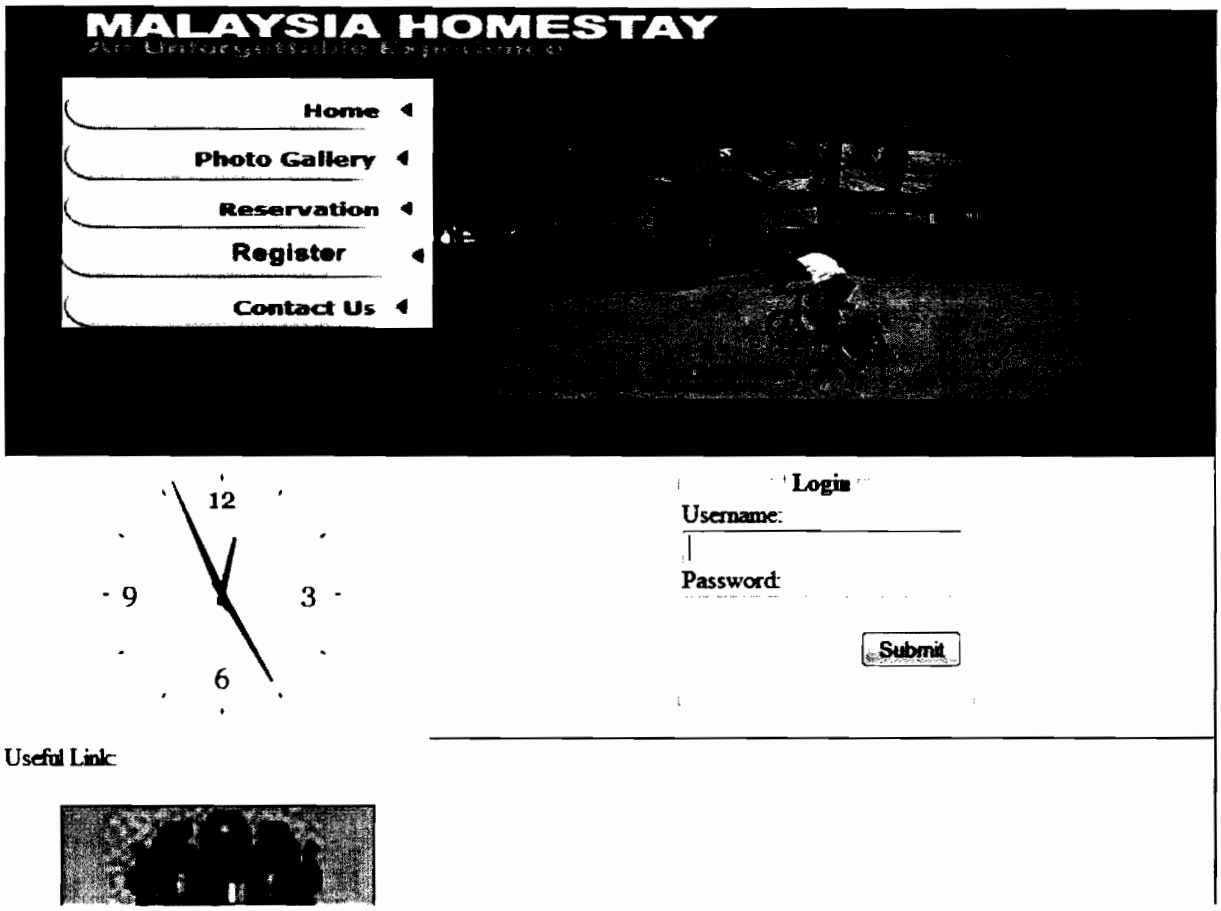


Figure 5.6 Login Page

The above page shows the log in page for this system. Before customers proceed with their reservation, they need to log in to the system. This is important to ensure the security of customers reservation and to avoid the misused of customers information by other people.

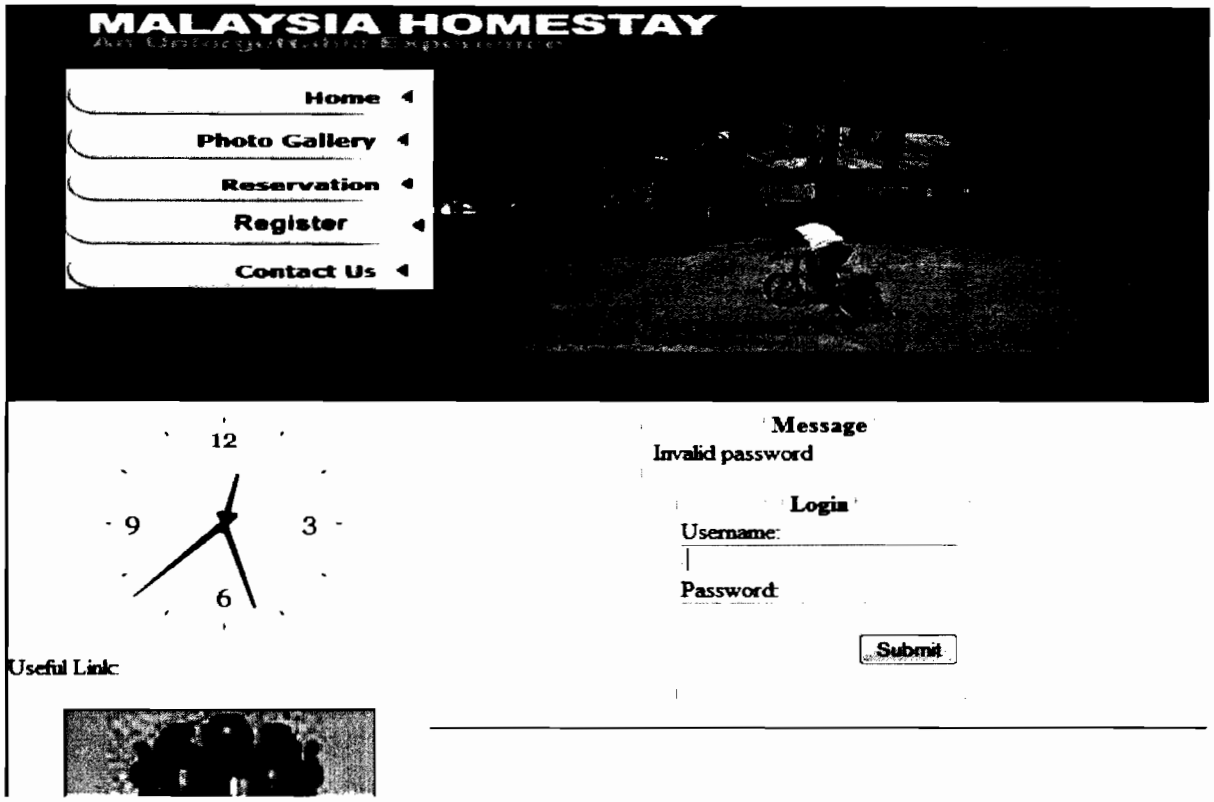


Figure 5.7 Invalid Password Page

If customers enter either a wrong username or password or the combination of it, the alert will be prompt to them to let them know it.

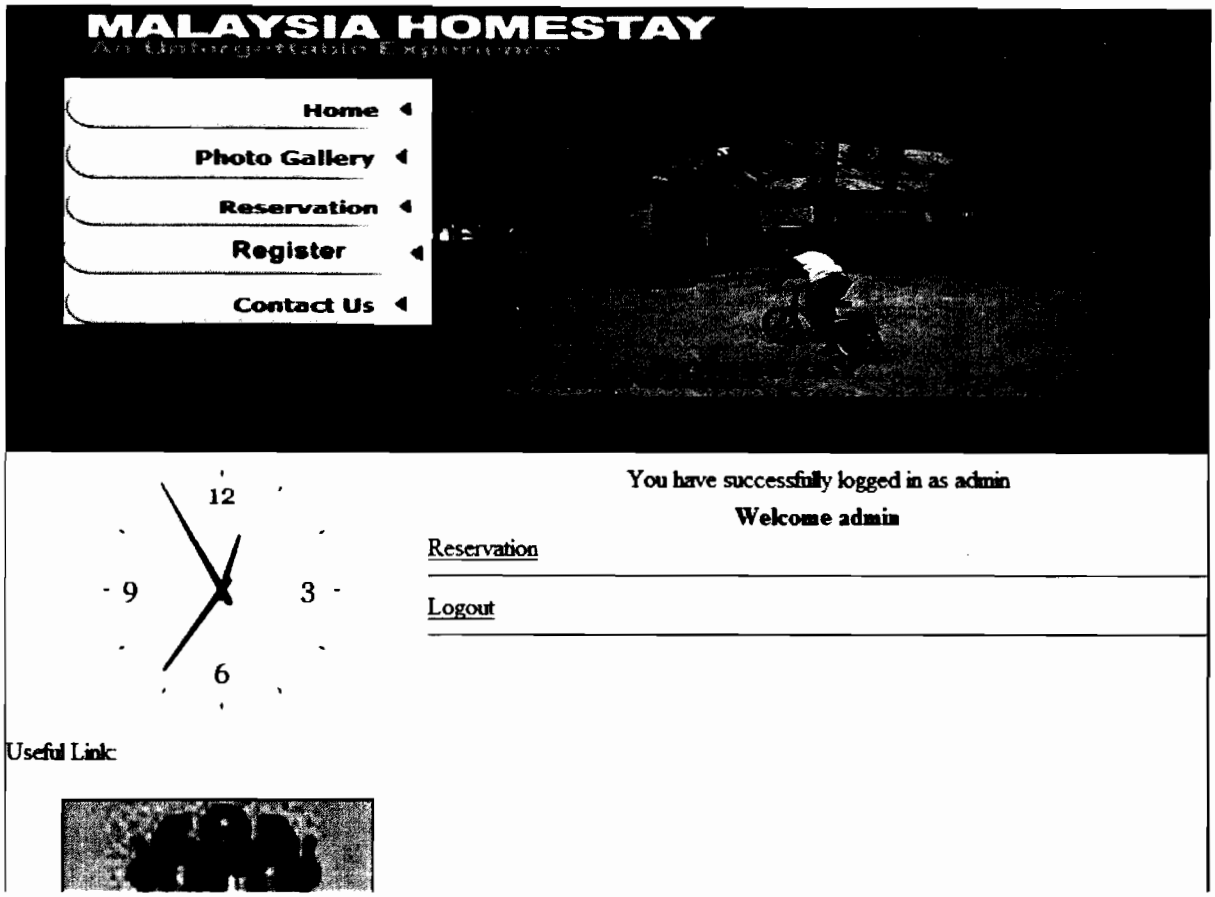


Figure 5.8 Successfully Logged In Page

Welcome note and message prompt when customers have successfully logged in to the system.

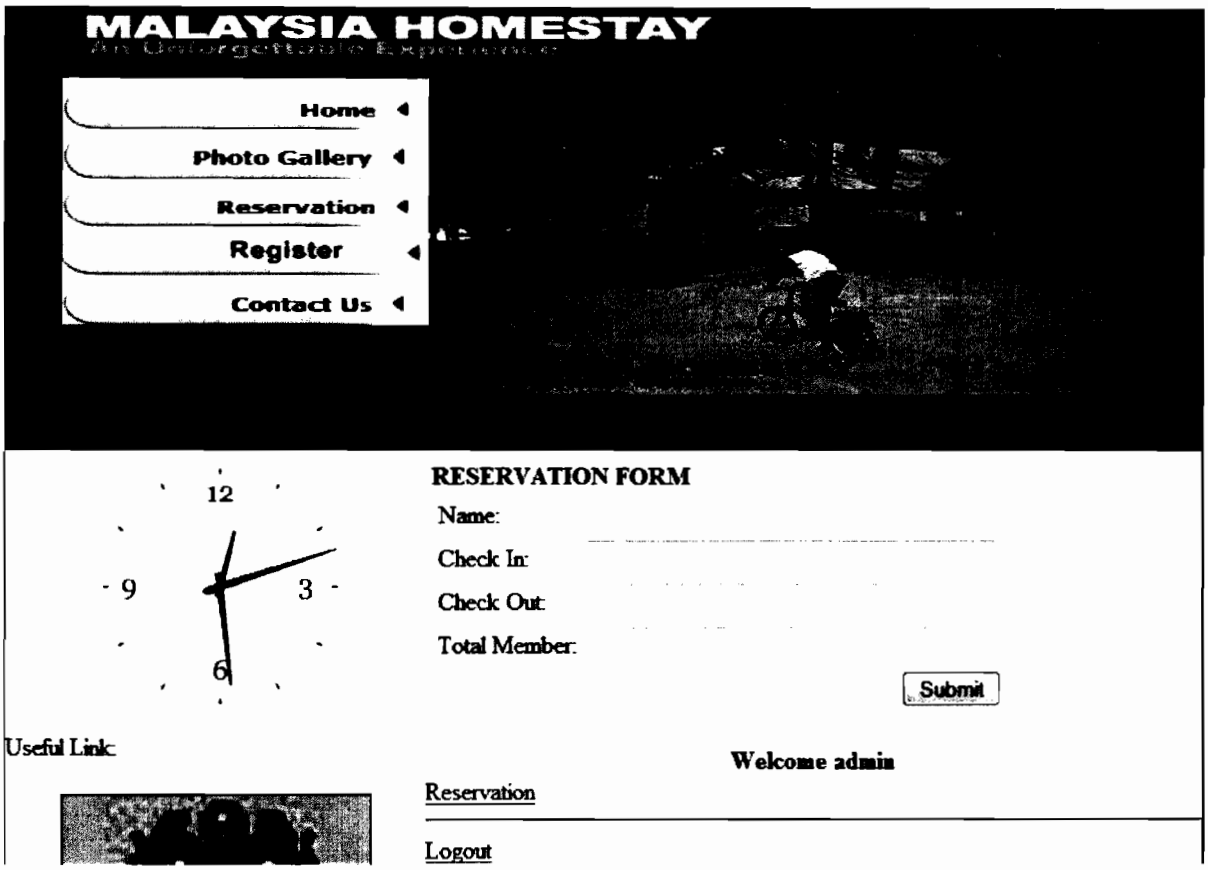


Figure 5.9 Reservation Form Page

To make the reservation, customers need to fill the registration form which containing their full name, date of check in and check out and also the total number of member who will be stay at the homestay. All this information is important to be keep by the coordinator as their future record.

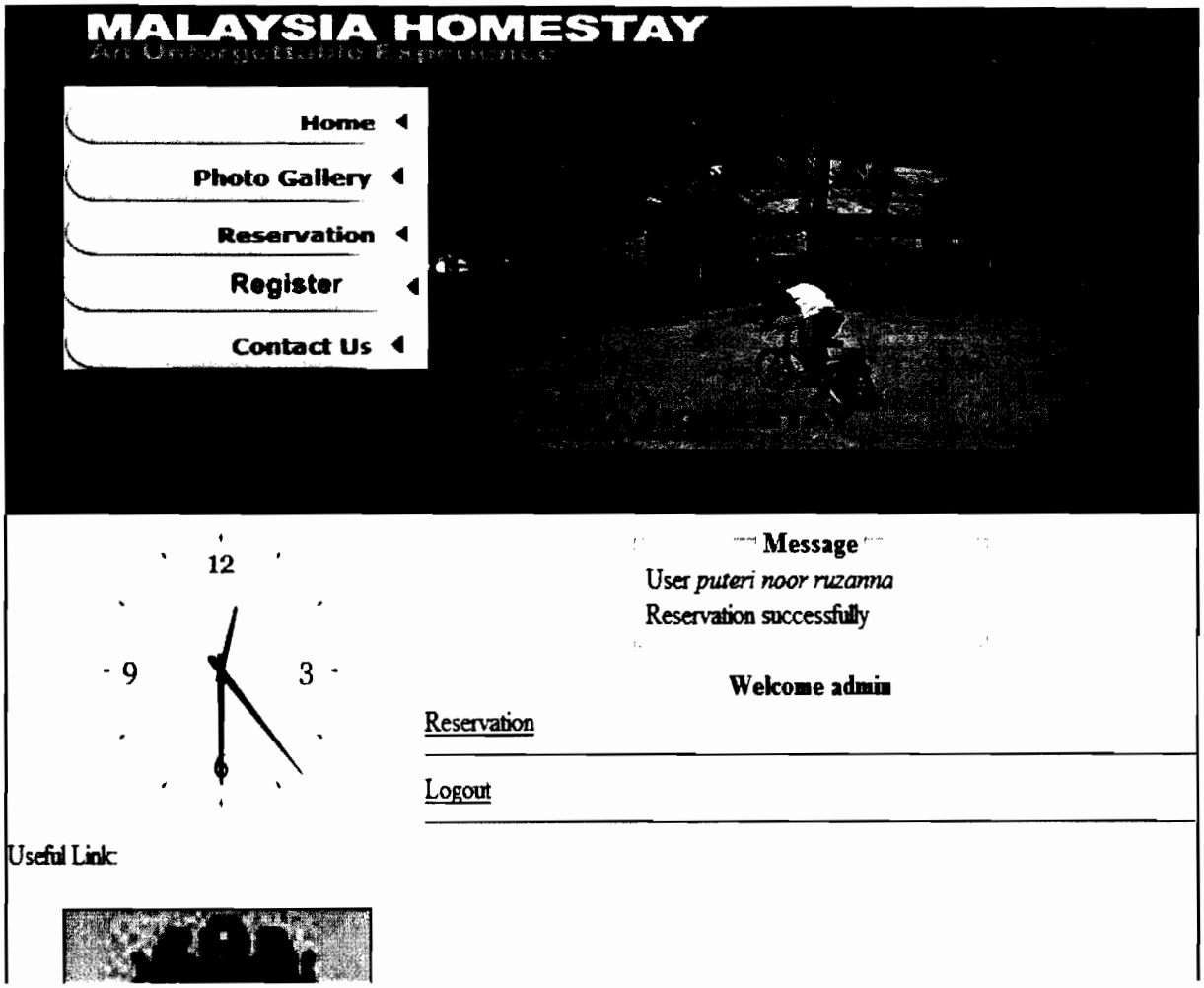


Figure 5.10 Reservations Successfully Page

When the reservation process is done, customers will be noted with the reservation successfully note.

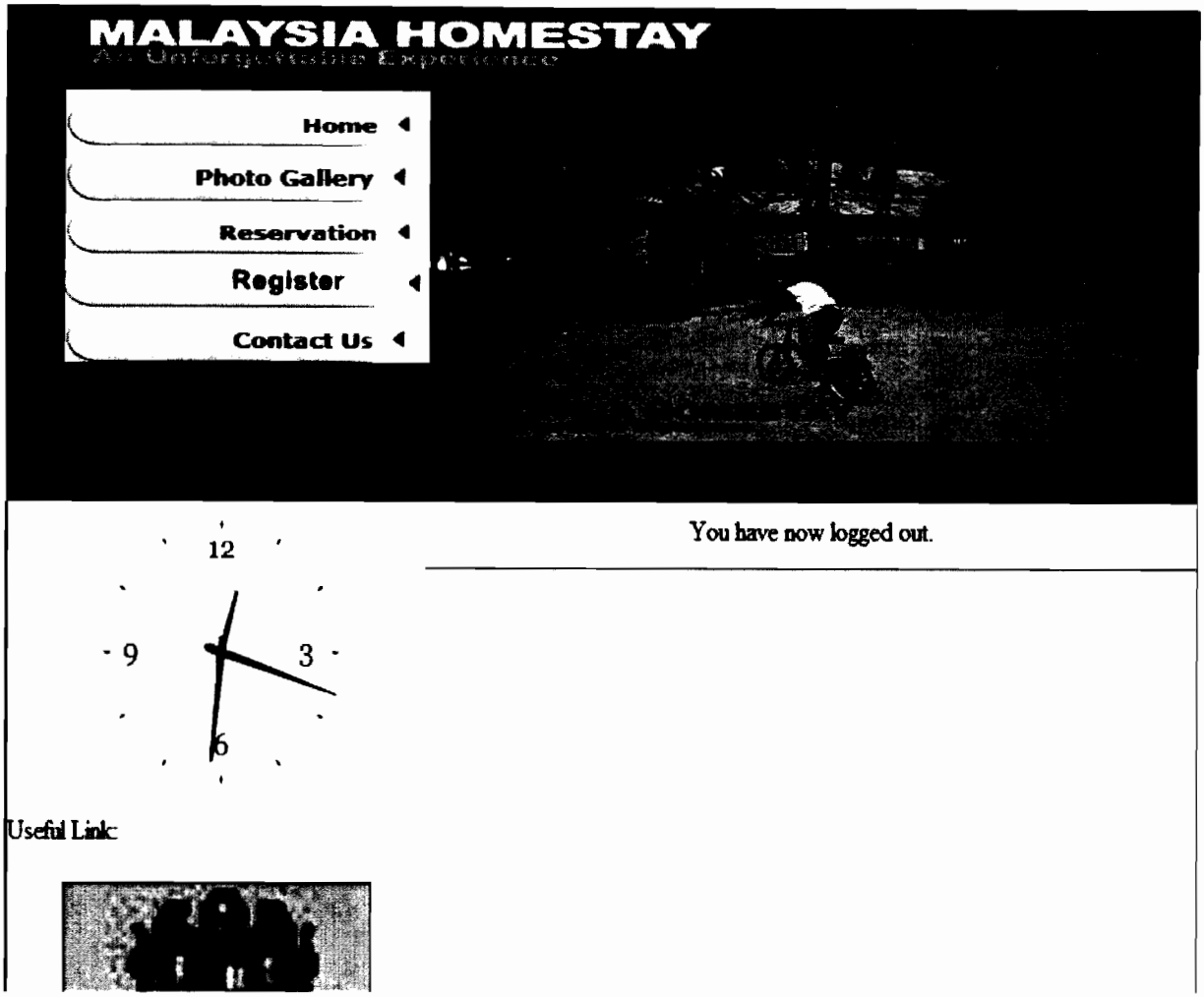


Figure 5.11 Logout page

The figure above shows the page when customers click the log out button when they have done with their reservation process.

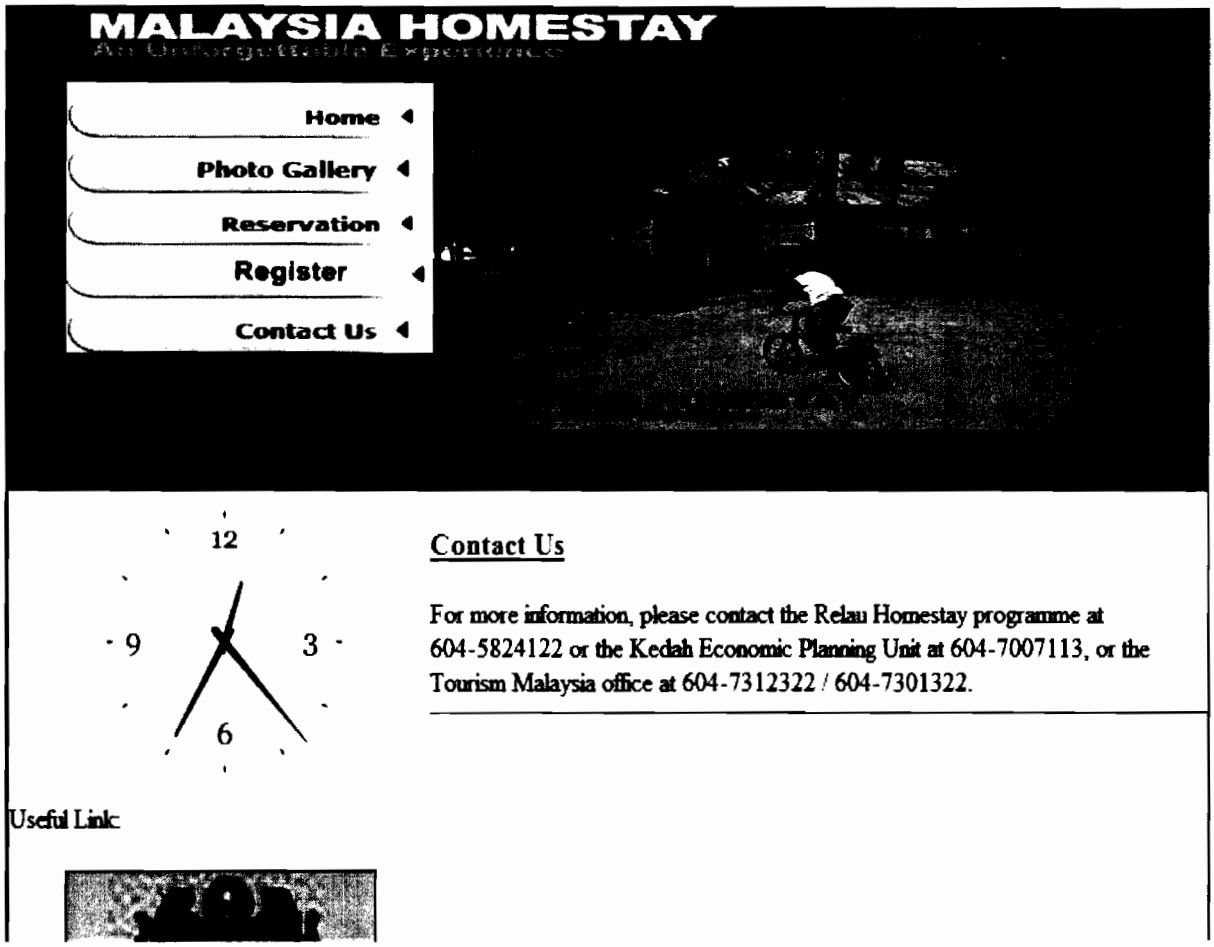


Figure 5.12 Contact Us Page

Figure 5.11 shows the contact details of the Homestay for the customer to call if they have any inquiries regarding the Homestay programme or if they have any problem regarding their reservation process.

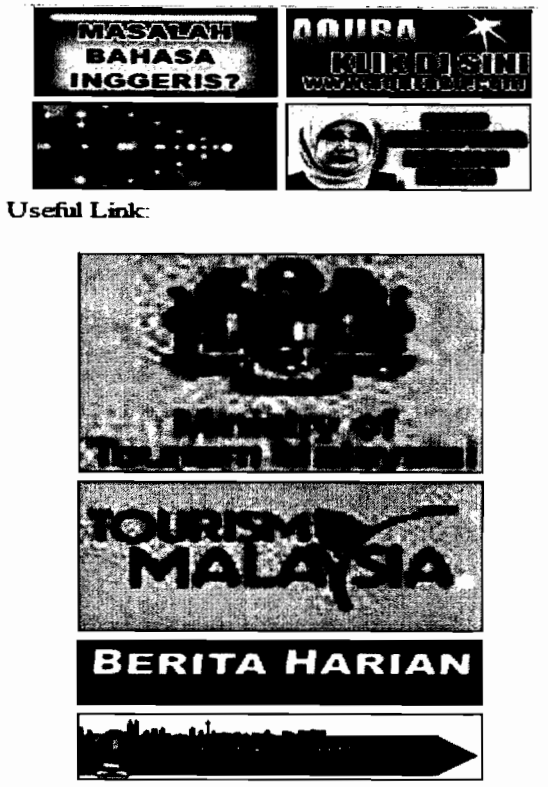


Figure 5.13 useful Links

Figure 5.13 shows the useful links, which will link customers to specific link when they click to the icon. Other than that, the coordinator also provided business ads for those who are interested to advertise their business product in this system.

5.4 CONCLUSION

As a conclusion, implementing the reservation process for the *Homestay* industries using a web based system is a very comprehensive way to help the coordinator to promote their *Homestay* interactively. On the other hand, it can easily attract customers to join this programme because customers are able to view the activities and all the facilities provided by the coordinator by viewing photo gallery menu in this system. The entrepreneurs also get the benefits of having this system, where it can help them to promote their product by advertising it in this system.

CHAPTER 6

CONCLUSION AND RECOMMENDATION

6.1 INTRODUCTION

This chapter will review and summarize the finding of the Online Homestay Reservation System and also the contribution of this project toward *Homestay* industries. In another hand, the comparison between using manual system and automated system are also discussed in this chapter. It is import to have the comparison to show the effectiveness of using automated system in reservation process.

6.2 PROJECT CONTRIBUTION

The main purpose of doing this project is to develop a prototype which is use to demonstrate *Homestay* reservation process. The uses of web based are very useful to improve the reservation process for *Homestay* industries where it will give a better way for the customer to make their reservation without facing any hassle. Other than that, by using web based application, the promotion for *Homestay* can be done interactively where customer can view the gallery to help them to get information about the *Homestay* before they proceed with their reservation.

These projects are important to help the organization to accelerate their business information and at the same time it is very useful to help them updating their business information. Moreover, this project gives a very big impact towards *Homestay* industry, where it can help the efficiency and the effectiveness of the *Homestay* reservation process.

6.3 LIMITATION

There are a few limitations in this project which is:

- Data Collection: there is some problem occur in order to collect the data needed in order to develop this project such as the limitation of time. Some of the data or information need to be analyse before it can be use in this project.
- Date: for the time being, customer need to key in the check-in and check-out date manually because there is no pop-up calendar provided in this system. Other than that, this system cannot detect if there is a redundant date enter by customers.

6.4 RECOMMENDATIONS FOR FUTURE WORKS

Online Homestay Reservation System (OHRS) are developed to help customer to have an affective and efficient way of *Homestay* reservation. There are many features can be implement in this system for the future use, for example an alert of *Homestay* promotion rate. The coordinator may able to send an email to their previous customer to remind them the promotion that they have at their *Homestay*. By implementing this, it will let the customer to enjoy the promotion provided by the coordinator.

This system can be enhanced by providing the pop-up calendar features which will help the customer to choose the reservation date by clicking on the calendar. This will help them to confirm their reservation date and day so it will help reduce the mistakes during the reservation process.

Other than that, this system can be enhanced by making a new menu which will let the customer to pay their *Homestay* bill online. This payment menu is directed to local bank using the FPX system, customer also can make a payment using their credit card or using a pay pal system. The implementations of this system not only help the customer to make their payment faster but at the same time, it will help the coordinator to manage the payment properly.

6.5 CONCLUSION

The uses of web base application in Homestay industries are very important to help the coordinator to accelerate their business information. By using this application, they can promote their *Homestay* in an interactive way which is more efficient in this era. Other than that, by making a reservation system, the coordinator can manage their *Homestay* reservation properly than using a manual system so it will help them to reduce the data loses and increase their customer. So it is very useful to apply this system to all *Homestay* programme.

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APPENDIX

INTERVIEW

1. **Bagaimanakah promosi dijalankan oleh pihak pengurusan Homestay untuk menarik minat pelanggan menggunakan perkhidmatan yang disediakan?**

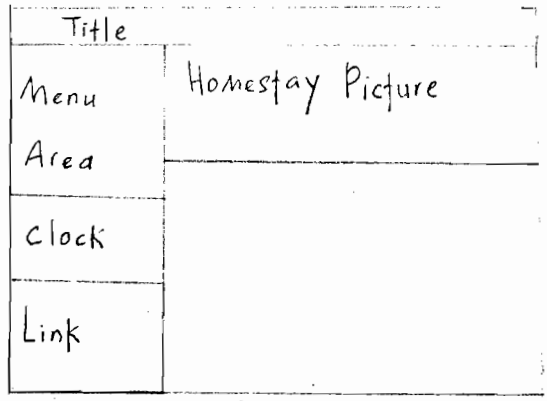
2. **Bagaimanakah sambutan yang diberikan oleh pelanggan atau bakal pelanggan dengan kaedah promosi yang digunakan?**

3. **Apakah kaedah yang digunakan bagi membolehkan pelanggan membuat tempahan?**

4. **Apakah kaedah yang digunakan untuk menguruskan maklumat tempahan pengguna?**

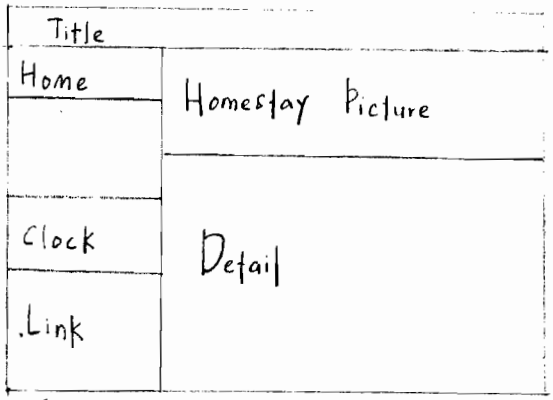
5. **Apakah pendapat anda dengan kaedah tempahan dan pengurusan maklumat yang telah digunakan?**

(STORYBOARD)



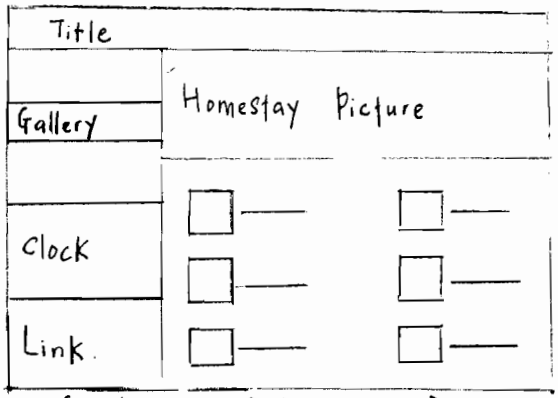
(Basic Page)

→ The basic design of system layout that should appear in every pages.



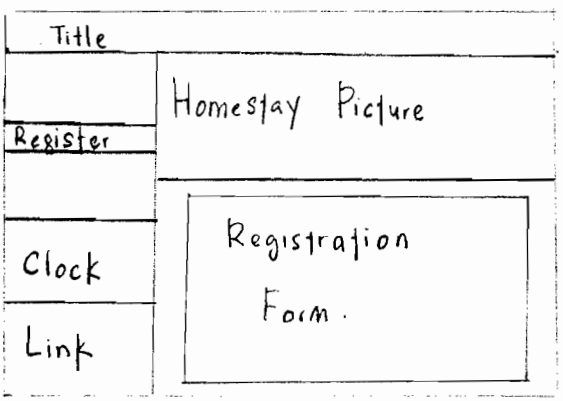
(Main Page - Home Page)

→ The layout design for homepage, which Containing the homestay details.



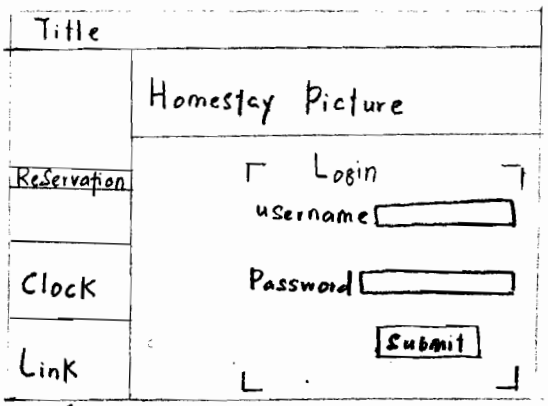
(2nd page - Gallery page)

→ Design for page photo Gallery. View the activities and facilities provided at the homestay.



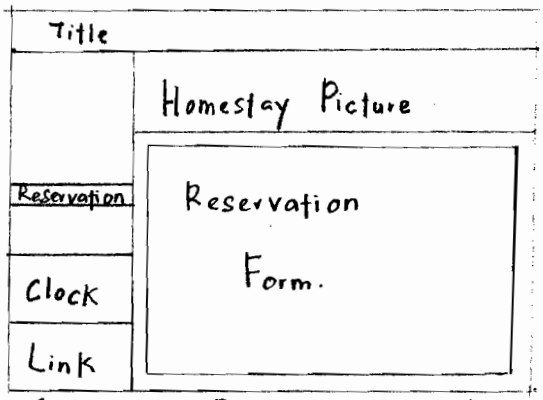
(3rd page - Registration Page)

→ The registration page for Customer to register as the user of the system.



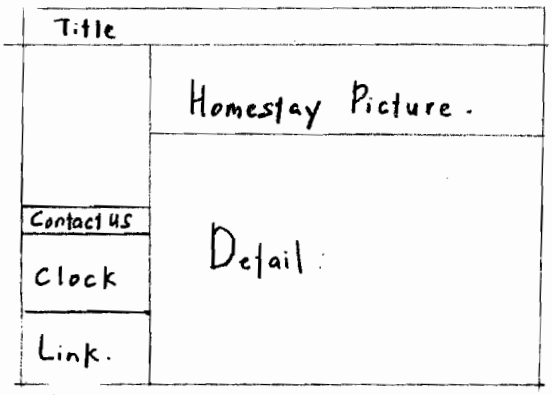
(4th page - Log in for Reservation)

Login page at reservation page.



(5th page - Reservation page)

Reservation form that need to be fill by Customers.



(6th page - Contact Us)

Page Contact us that Containing Homestay Contact number.