

**TRAVEL AGENT WEBSITE OF KOTA  
KINABALU BRANCH ALQUDS TRAVEL**

**AHMAD FAUZI BIN YAHYA**

**A THESIS SUBMITTED IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF BACHELOR OF COMPUTER  
SCIENCE WITH HONOURS  
(SOFTWARE ENGINEERING)**

**FACULTY OF COMPUTING AND INFORMATICS  
UNIVERSITI MALAYSIA SABAH**

**2017**

## **DECLARATION**

I hereby declare that the project is done by my own effort. All the known published works are properly acknowledged in reference of bibliographies.

22<sup>ND</sup> MAY 2017

-----  
AHMAD FAUZI BIN YAHYA

BK13110014

## **CERTIFIED BY**

-----  
(SUPERVISOR)

MISS NORHAYATI DAUT

## **ACKNOWLEDGEMENT**

First and foremost, I would like thankful to Allah SWT. With His kindness, He give me the strengths to carry out this project.

Secondly, I would like to thank you to my supervisor, Ms Norhayati Daut for her guidance and suggestion during carry on this project. She also spent on her time to check for improvement that need to be done either in this report writing and also in the system.

Next, I like to give my thank to my examiner, Dr. Norazlina Khamis. The comments, critics and suggestions given are constructive for improvement especially for the system development. Also not forget, the other lecturers who gave me lessons during my Degree study. With the knowledge that I gain, which can help me to do this project.

Last but not least, I would like to thank to my family and friends. They understand, help and support me throughout this entire project.

AHMAD FAUZI BIN YAHYA

22<sup>ND</sup> MAY 2017

## **ABSTRACT**

AlQuds Travel is one of the travel agent company based in Malaysia that provides and advertises travel packages. The problem that the company is facing are the lacks of the advertisement for tourism places around Sabah and poor of user experiences while browsing throughout the website and the lacks of Search Engine Optimization. Therefore, the project gathered the requirements from users for developing web based tourism site, to develop databases, user interfaces and functions and also to evaluate the system. The scope of the system is the user profile management, tourism information management and reservation management. By carrying out this project, System Prototyping methodology is used in order to gather the requirements from users and analyze it into processes with its related data. After that, the system mock-up is created by creating user interface design and database design to illustrate on how the modules connected by one to another. Next, the development of the system is performed by using PHP programming language. Evaluation is carried out right after the development. The system is tested by the chosen users to ensure the requirement are match and meet their expected. After the evaluation is done, the system able to provide information and promote the tourism places around Sabah to tourists.

## **ABSTRAK**

AlQuds Travel merupakan salah satu agen pelancongan di Malaysia yang membekal dan mengiklankan pakej-pakej penginapan. Masalah yang dihadapi oleh syarikat tersebut ialah kekurangan dalam pengiklanan dalam tempat pelancongan di Sabah dan kepenggunaan dalam laman web mereka dan kekurangan daripada *Search Engine Optimization*. Oleh itu, projek ini telah mengumpul keperluan daripada pengguna-pengguna untuk membangunkan laman web, membuat pangkalan data, antarmuka dan fungsi-fungsi dan tidak lupa juga untuk menguji sistem tersebut. Skop sistem ini ialah pengurusan profil pengguna, pengurusan tempat peranginan dan pengurusan penempahan. Untuk melaksanakan projek ini, kaedah *System Prototyping* digunakan dalam mengumpul keperluan daripada pengguna dan dianalisa menjadi proses bersama data-data yang terlibat. Seterusnya, sistem imitasi dibuat dengan mencipta antarmuka dan pangkalan data untuk memberi illustrasi bagaimana modul-modul disambung antara satu yang lain. Kemudian, pembangunan sistem dijalankan dengan menggunakan bahasa program PHP. Penilaian dijalankan setelah pembangunan selesai. Sistem akan diuji oleh pengguna yang dipilih untuk memastikan keperluan dalam sistem ialah sesuai dan capai jangkaan mereka. Apabila penilaian sudah dilakukan, sistem ini mampu menyediakan informasi dan mempromosikan tempat-tempat peranginan di Sabah kepada pelancong.

## **TABLE OF CONTENT**

	Page
<b>TABLE OF CONTENT</b>	<b>v</b>
<b>LIST OF FIGURES</b>	<b>viii</b>
<b>LIST OF TABLES</b>	<b>xi</b>
<b>CHAPTER 1: INTRODUCTION</b>	<b>1</b>
1.1    Introduction	1
1.2    AlQuds Travel Website	2
1.3    Problem Statement	2
1.4    Objective	3
1.5    Project Scope	3
1.6    Report of Organization	5
<b>CHAPTER 2: LITERATURE REVIEW</b>	<b>7</b>
2.1    Introduction	7
2.2    Tourism	8
2.3    Tourism Website of AlQuds Travel	8
2.4    Itinerary	12
2.5    Reservation	12
2.6    Search Engine Optimization (SEO)	13
2.7    Review of Existing System	14
2.7.1  Sabah Holidays	14
2.7.2  Japan Dream Tour	17
2.7.3  NS Travel	21
2.8    Comparison of Existing System	25
2.9    Conclusion	26

<b>CHAPTER 3: METHODOLOGY</b>	<b>27</b>
3.1    Introduction	27
3.2    Review Methodology Used	27
3.3    Application of Chosen Methodology	29
3.3.1    First Phase (Planning)	29
3.3.2    Second Phase (Analysis)	31
3.3.3    Third Phase (Design)	32
3.3.4    Fourth Phase (Implementation)	33
3.3.5    Fifth Phase (System Prototyping)	33
3.3.6    Sixth Phase (Implementation after System Prototyping)	34
3.3.7    Seventh Phase (Final System)	34
3.4    Software Requirements	34
3.5    Hardware Requirements	36
3.6    Conclusion	38
<b>CHAPTER 4: ANALYSIS AND DESIGN</b>	<b>39</b>
4.1    Introduction	39
4.2    System Analysis	39
4.2.1    Requirement Gathering	40
4.2.1.1    Questionnaire	40
4.2.1.2    Interview	43
4.2.2    Data Flow Diagram (DFD)	45
4.2.2.1    Context Diagram	46
4.2.2.2    Level 0 Diagram	47
4.2.2.3    Level 1 Diagram	48
4.3    System Design	51
4.2.1    Architecture Design	51
4.2.2    User Interface Design	52
4.2.3    Database Design	59
4.2.3.1    Data Dictionary	59
4.2.3.2    Entity Relationship Diagram (ERD)	65
4.4    Conclusion	67
<b>CHAPTER 5: IMPLEMENTATION</b>	<b>68</b>
5.1    Introduction	68
5.2    Implementation	68
5.3    Conclusion	81

<b>CHAPTER 6: TESTING</b>	<b>82</b>
6.1    Introduction	82
6.2    Unit Testing	82
6.3    Integration Testing	88
6.4    System Testing	90
6.5    User Acceptance Testing	92
6.6    Conclusion	94
<b>CHAPTER 7: CONCLUSION</b>	<b>95</b>
7.1    Introduction	95
7.2    Achievements	95
7.3    Summary of the Project	96
7.4    Limitation of the Project	96
7.5    Future Works	97
<b>REFERENCES</b>	<b>98</b>
<b>APPENDICES</b>	<b>101</b>

## LIST OF FIGURES

	Page
Figure 2.1: Homepage of current alQuds Travel website	9
Figure 2.2: Places advertised in the website	9
Figure 2.3: Download prompt when a place is clicked for more information	10
Figure 2.4: The list contacts which can be ask for enquiry	11
Figure 2.5: Address of available branch of alQuds Travel in the website	11
Figure 2.6: The main page of the Sabah Holidays website	14
Figure 2.7: List of itineraries filtered by places	15
Figure 2.8: Page of Usukan Cove	16
Figure 2.9: Reservation page in booking process of an itinerary	16
Figure 2.10: Homepage of the Japan Dream Tour	17
Figure 2.11: Different types of tourism are shown around Japan	18
Figure 2.12: Itinerary of the trip	18
Figure 2.13: Map of Japan are shown	19
Figure 2.14: Tourism places are available based on location	20
Figure 2.15: Reservation agreement	20
Figure 2.16: Reservation form	21
Figure 2.17: Homepage of NS Travel	22
Figure 2.18: Tourism places based on location	22
Figure 2.19: Tourism places based on type of landscape	23
Figure 2.20: Page about a trip	24
Figure 2.21: Itinerary of the trip	24
Figure 3.1: System Prototyping Development Model	28
Figure 4.1: Result of how people find information about tourism places	41
Figure 4.2: Result of people why they want to go a particular place	41
Figure 4.3: Result of suggestion of a place	42

Figure 4.4:	Result of respondents regarding reservation	42
Figure 4.5:	Context diagram of the system	48
Figure 4.6:	Level 0 diagram of the system	47
Figure 4.7:	Level 1 diagram of User Profile Management Module	48
Figure 4.8:	Level 1 diagram of Tourism Module	49
Figure 4.9:	Level 1 diagram of Reservation Module	50
Figure 4.25:	Diagram of three-tier architecture	52
Figure 4.26:	Landing page	53
Figure 4.27:	User profile management page	54
Figure 4.28:	Add user page	54
Figure 4.29:	Edit user page	55
Figure 4.30:	Tourism management page	55
Figure 4.31:	Add tourism page	56
Figure 4.32:	Edit tourism page	56
Figure 4.33:	Tourism advertisement page	57
Figure 4.34:	Tourism details page	57
Figure 4.35:	Reservation management page	58
Figure 4.36:	Add, edit and review reservation page	59
Figure 4.37:	Entity Relationship Diagram (ERD) of the system	66
Figure 5.1:	Main page of the system	69
Figure 5.2:	Random tour packages shown along with footer	70
Figure 5.3:	User create process	70
Figure 5.4:	Main page of the system after register or login	71
Figure 5.5:	User edit process	71
Figure 5.6:	User management	72
Figure 5.7:	User deletion notification	72
Figure 5.8:	Tourism management page	73
Figure 5.9:	Activity create process	74
Figure 5.10:	Tourism edit process	74

Figure 5.11:	Deletion of tourism	75
Figure 5.12:	Tourism advertisement	76
Figure 5.13:	Tourism details page	76
Figure 5.14:	Tourism reservation create process	77
Figure 5.15:	Reservation management page	77
Figure 5.16:	Edit reservation process	78
Figure 5.17:	Reservation payment	78
Figure 5.18:	Reservation in process that need to review	79
Figure 5.19:	Reservation review form	79
Figure 5.20:	Reservation view after payment	80
Figure 5.21:	Reservation view with status and remark	80
Figure 5.22:	Reservation deletion	81

## LIST OF TABLES

	Page
Table 2.1: Comparison of existing systems	25
Table 3.1: Advantages and disadvantages of system prototyping methodologies	28
Table 3.2: Timetable of project	29
Table 3.3: Summary of software requirement for developers	34
Table 3.4: Summary of software requirement for users	36
Table 3.5: Hardware requirements for developers	36
Table 3.6: Hardware requirements for users	37
Table 4.1: Functional requirements and non-functional requirements	44
Table 4.2: Data dictionary of user profile table	60
Table 4.3: Data dictionary of role user	60
Table 4.4: Data dictionary of place tourism table	60
Table 4.5: Data dictionary of type vacation table	61
Table 4.6: Data dictionary of typeable table	61
Table 4.7: Data dictionary of tourismable table	61
Table 4.8: Data dictionary of itinerary table	62
Table 4.9: Data dictionary of tour package table	63
Table 4.10: Data dictionary of itinerary tour	63
Table 4.11: Data dictionary of reservation table	63
Table 4.12: Data dictionary of reservation type	64
Table 4.13: Data dictionary of reservation status	64
Table 4.14: Data dictionary of reservable	65
Table 4.15: Data dictionary of media table	65
Table 6.1: Result of unit testing for User Profile Management Module	83
Table 6.2: Result of unit testing for Tourism Module	84
Table 6.3: Result of unit testing for Reservation Management Module	86

Table 6.4:	Result of integration testing	88
Table 6.5:	Result of system testing	90
Table 6.6:	Responses of user acceptance	92
Table 6.7:	Evaluation form user	94
Table 7.1:	Achievement of objective	95

# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Introduction**

The content of this chapter is about the background and problem statements that bring direction to this study. The definitive objective and purposes to initialize this study are listed and the scope of the study is detailed. Moreover, the organization of the report are described and also the outline of the study is shown. Before proceeding to the next chapter, the idea on developing the proposed system is determined based on the challenges faced that have been mentioned. The system will achieve the objective and the scope which will be able to solve stated problems.

This project is focused on the Kota Kinabalu branch of AlQuds Travel company (Companies Commision of Malaysia registration no - 518013M and tourism registration no – 3656/6). Their goal is to promote and advertise the beautiful nature which have potential to a place for tourism. Their website can be seen at <http://alqudstravel.com>.

## **1.2 AlQuds Travel Website**

In the website, the company advertises the travel packages. One of the way they promote the packages through online. This is because people easily access the website from all over the world (Miltiadis D. Lytras, 2008). The main packages that available are the Hajj and Umrah due to the core of the company is to contribute the Muslim to travel and pray at the Holy Makkah, Saudi Arabia. Since the company has the uniqueness than any other travel agent which is Islamic oriented, they also promoting such places around the world related with the Islamic places like Medan & Banda Aceh, Indonesia and Uzbekistan. The company's aim to attracts tourists especially Muslims to take their travel services that is not against to Islam guidelines during the journey.

## **1.3 Problem Statement**

The existing website have caused some difficulties and disadvantages. The problems are stated as shown below:

1. The existing website (main AlQuds branch website) currently is emphasizing more onto Muslim packages like Hajj and Umrah packages and the absence of information in tourism places for Sabah. The company, Kota Kinabalu branch of Alquds Travel knows that the lacks of exposing different type vacation is causing the site has less competitive compared to the others. Not only that, the non-Muslim tourists expect that this site is explicitly focus on Muslim tourists only.
2. The current site has poor of user experiences. Many criticisms from travelers they get after surfing through their site. Huge size of data is needed to be loaded is one root cause the site takes a huge duration of time on loading the site. Not only that, it also impacts the performance of the site when it is viewed on smartphone and mobile computers. This leads to the poor reputation on the site itself and directly loses their customers.
3. The lacks of competitive in virtual world may produces the poor ability to compete in reality world. The lacks of Search Engine Optimization (SEO) in the current site

is the factor tourists hardly to find the site on the Internet. As people nowadays prefer to use search engine on finding something, the site to be displayed in the search engine result is not on the first page which people especially tourists less likely to be visited.

#### **1.4 Objective**

1. To elicit and gather the user requirements on developing web based system which aid in displaying the information about the tourism places in Sabah in more effective way.
2. To design and develop databases, user interfaces and functions for web based system in managing the information about the places advertised, services for tourism and reservation in Sabah.
3. To evaluate the usability of the proposed system in advertising the tourism places around Sabah to the targeted users.

#### **1.5 Project Scope**

To ensure the objectives of the system achieved its target, the scope has been determined to facilitate the development of the system. The scope covered are detailed as shown

1. The system operates online which can be accessed anytime, anywhere. To improve the efficiency and usability of web based system, the Search Engine Optimization (SEO) is implemented. This is used for help the system to be found on the top search result when people especially tourists who want to find information related to the system itself. With the help of SEO, it can improve the popularity of the website thus it can be more exposed to people, reader or even tourists themselves

2. The target user of the system are admins, executive staffs and tourists.
3. The modules of the system contain
  - User Profile Management Module
    - In this module, the system allows users to be registered into the system. The new admin, who will be used by chief officer and any upper position employee will be added into the system by registered admin to ensure there are no random people into the system who holding the highest privileges in the system. Their task is to control and manage the registered users and also maintain the content of the tourism places and itinerary and lastly handle the tourist reservation.
    - Next, executive staffs will be added into the system through the same way and reason as the admin. However, the scope of executive staffs is same as the admin with no user management.
    - For the tourist, they can register themselves into the system. They only privileges that tourist can get is to create a reservation for their own trip.
    - After the registration, the users need to login into the system in order to do their tasks. Incorrect username and password will be block the users from getting into the system.
  - Tourism Module
    - This module used to gather the information given from the admin and executive staffs about the tourism places and its following itinerary which will be viewed to the tourists. The crucial information such as name of the tourism place, descriptions and figures are filled in a form and then the data retrieved will be organized and shown into a page that will be seen to users especially tourists. These content also can be added, edited and deleted from time to time.

- The itineraries will be shown to the tourists under the tourism place. The needed information such as name of itinerary, estimation duration, type of itinerary (sports or nature for example) and so on are explained. Admins and executive staffs are responsible in adding, editing and removing the itineraries. These will be organized by types of the itinerary and location of places. Also, there is a suggestion itinerary which helps tourists to choose what they will plan choose itinerary after they chose one.
- The other way around is to pick a tour package. This case is useful for tourists who want fast and completely provided from the beginning until the end. They only need to take for reservation, pay and ready for vacation.
  
- Reservation Module
  - In this module, the system let the registered tourists to enter the data needed for reservation. This reservation covers the itineraries or tour packages based on tourist's preferences. The overall reservation information will be shown like the overall duration taken for the journey along with the payment. Besides, the proof of payment is needed either deposit or full payment before submitting the reservation. Tourists have the ability to show the proof of full payment (for deposit paid reservation), change the content of their reservation or cancel within the given time. After successful reservation, tourists will be able to see the status of the reservation either it is accepted or not.

## **1.6 Report of Organization**

In Chapter 1, the problem background is mentioned as the reason of the beginning on developing the proposed system which can be useful for the company on their management and advertisement. This chapter also describes the introduction to the project, objectives, scope and problem statement.

During Chapter 2, the major factors which becomes the bias of measuring the quality along with the source from industry used for collecting information. In this chapter also doing the researches reviews the concurrent systems that are similar to the project along with techniques, methods, requirement or technologies which will be applied on the project.

In the next chapter (Chapter 3), the approaches and overall framework chosen in building the system will be reviewed. The techniques and approaches will be applied during design and implementation of the project and justification regarding methods and approaches used. Not forget to mentioned, this chapter also contains the hardware and software requirement.

Later, in chapter 4, the system mock-up which is user interface design, database design, techniques, methods and related algorithm are detailed. All related models and diagrams to support and aid the system development are included. And also all the project result is summarized by this chapter.

After that, chapter 5 explained the implementation of the system based on the design which have been done in previous chapter (Chapter 4). All the design is converted into web page which will be used in the future for the admin and tourists.

Then, chapter 6 elaborated about the evaluation of the system. The system will be tested to the targeted users and followed by the feedback from them. Those feedbacks are used to improve the system and achieve its objectives.

Lastly, chapter 7 explained about the conclusion of overall project. It shows the objectives that have been achieved. This chapters elaborated the limitations of the project and future works that will be carried out.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter will review and discuss the researches done related to the tourism site and Search Engine Optimization (SEO). This is also including some instances of available system which can be found today in order to observe the methods and techniques are integrated in the system.

Websites or to be written as web site or site, is a set of web pages which include elements of multimedia. Usually websites identified through its domain name and deployed or published by a server – at least (David Lowe, 2005). It can be accessible through IP address as known as Internet Protocol by calling its Uniform Resource Locator (URL) which corresponds to the site.

Web pages, the fundamental element in websites are typically composed in Hypertext Markup Language (HTML) format (H. Li, 2015). These pages are transported from the server to the client end via Hypertext Transfer Protocol (HTTP). A web browser is essential in client end in order to open the web pages. The way of webpages connected to one another through hyperlink. The link is embedded into a page which corresponds to another page based on the user action. Once it is clicked or tapped, it will show the another page to reveal the content of another pages (C. Wang, 2015).

## **2.2 Tourism**

Tourism is an activity where an individual or a group of people going to places outside their hometown (Ivanovic, 2008). Usually this activity will be done on holidays along with friends and family. Most of the goals are to release tension and tiredness from work and commitment, some said to strengthen the bond among the people they go to trip together and many more. As people have their own preferences, there are many places that potentially attract tourists to go and enjoying their leisure in it. Some people like the nature which is located away from the metropolitan city. They found that looking the flora and fauna are exciting as they never seen it before. There are people who seek for tough activities like sea activity games such as kayaking, fly boarding and more. The reason is that they like to relieve the stress by doing some sports and at the same time to maintain a healthy body that are getting strain due to being static in long period of time while doing work. In the end, all the activities and moments among people who joined the trip together will become a sweet memory that will be remember in their life (Roy, 2014).

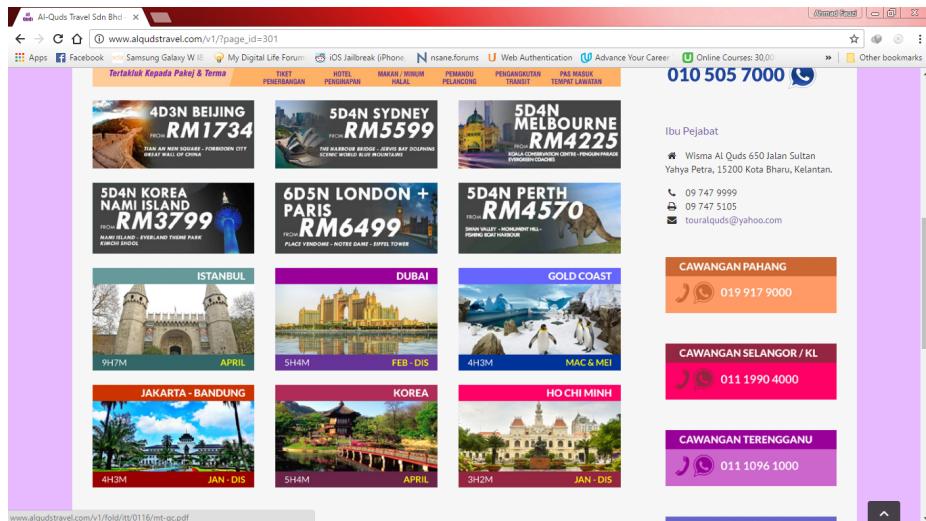
## **2.3 Tourism Website of AlQuds Travel**

Currently the company itself has their own website. The website controlled by the main branch located in Kelantan. As can be seen in Figure 2.1, this is homepage of the website. This can be seen from the figure below, the company emphasizing the Muslim tour like Haji and Umrah as their core business. In Malaysia, majority of its people are Muslim and for those who able pilgrimage (doing Haji), they are compulsory to do so. Besides, Islam are strict in controlling Muslim behavior and foods that they can consume. Therefore, tourists in Malaysia feel safe and less worried if they taking Muslim travel agent.



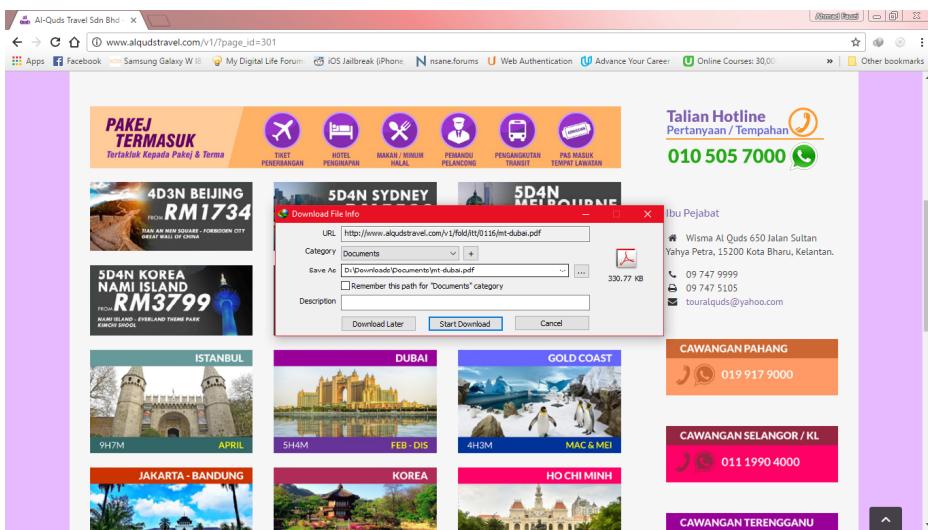
**Figure 2.1: Homepage of current alQuds Travel website.**

They also provide other tour packages but still in the same kind of package. They offering places outside Malaysia like China, Australia and more. Figure 2.2 shows the screenshot of the places that they advertised. Unfortunately, there are no domestic places in Malaysia especially Sabah.



**Figure 2.2: Places advertised in the website.**

Then, if the readers especially tourists want to know more information about a place, they need to click on that particular place. After that, a pdf file will be downloaded and details will be shown when the file successfully downloaded. This may cause some people feel uncomfortable and inconveniences because they need to download and open with different software while the information can be opened and viewed through web page. Figure 2.3 shows the download prompt after a place has been clicked.



**Figure 2.3: Download prompt when a place is clicked for more information.**

Last but not least, list of contacts is shown for easy inquiry. For inbound or domestic tourists, this is useful to contact to the nearest branch for better explanation and answers about related tours that provided by the travel agent. Figure 2.4 shows the list of staffs that can be contacted. The list is divided by the branch available around Malaysia.

<b>PASIR GUDANG</b>	ABD RAZAK BIN OMAR	013-222 7501	<b>PASIR GUDANG</b>	NORAFIDAH BINTI SARIF	013-772 6390
<b>Kedah Darul Aman</b>					
<b>LANGKAWI</b>	UST AHMAD NAZRI RIN TAINOI	011-1990 3000	<b>YAN</b>	MOHAMAD TURMIJI RIN ROMI I	012-576 0779
<b>LANGKAWI</b>	HASYIREEN BINTI MOHD HASSAN	011-1094 3900	<b>ALOR SETAR</b>	UST. FAKHRUL ANWAR BIN ISHAK	012-221 7758
<b>SERDANG</b>	UST. ROHAIZAT BIN JAAFAR	013-411 5959	<b>SG. PETANI</b>	UST. JAMIL BIN HUSSEIN	016-436 9123
<b>Kelantan Darul Naim</b>					
<b>PASIR MAS</b>	UST. AHMAD ZIKRI BIN MOHAMED ASHARI	017-648 3810	<b>KOTA BHARU</b>	UST. MOHD TARMIZI BIN YUSOF	019-979 6546
<b>PASIR MAS</b>	UST. HESHAM BIN MAHYUDIN	011-2555 3331	<b>KOTA BHARU</b>	UST. TARMIZE BIN OHAR	019-909 7569
<b>TANAH MERAH</b>	UST. HI. LOTFI IBRAHIM	013-922 0500	<b>KOTA BHARU</b>	NIK MOHD ARIF BIN ZAKARIA	011-1311 1086
<b>TUMPAT</b>	UST. WAN RAHIN WAN YUSUFF	017-987 2804	<b>TAWANG</b>	UST. MUHAMMAD	018-900 6586
<b>BACHOK</b>	UST. ABDUL AZIZ BIN ALI	013-280 2430	<b>GUA MUSANG</b>	HL. AHMAD BIN ABDULLAH	013-947 5000
<b>MACHANG</b>	UST. NASARUDIN BIN MUHAMMAD	019-987 0073			

**Figure 2.4: The list contacts which can be ask for enquiry.**

In addition, if tourists want to walk in to the office to meet their staffs directly, they can refer to the address given as shown in Figure 2.5. It shows all available branches around Malaysia starting from main branch in Kelantan to Kota Kinabalu branch which is located in Sabah.

<b>KKKP : 3856</b>	<b>IBU PEJABAT</b>	<b>TERENGGANU</b>	<b>SABAH (TAWAU)</b>
<b>al Quds TRAVEL SDN BHD</b> (518013 MI)	Wisma Al Quds 650 Jalan Sultan Yahya Petra, 15200 Kota Bharu, Kelantan. Tel : 09 747 9999 Faks : 09 747 5105 Emel : touralquds@yahoo.com / marketinalquds@gmail.com	(KPL/LN 3656/5) No 7 Aras 1, Pusat Komersil Cabang 3, 21000 Kuala Terengganu, Terengganu. Tel: 09-620 5555 / 011 1060 9000 / 011 1070 9000 / 011 1080 9000 Emel : tawau@alquds.com	(KLP/LN 3656/3) TB 4512 Block D, Ba Zhong Commercial Centre, 91000 Tawau, Sabah. Tel: 089 773 444 Faks : 089 761 444 HP : 011 1990 2000 Emel : tawau@tawau@gmail.com
<b>SELANGOR</b>	<b>PHANGAN</b>	<b>SABAH (KOTA KINABALU)</b>	
(KPL/LN 3656/2) No 1-32 Jalan 8/35 Seri Bangi, Seksyen 8, 43650 Bandar Baru Bangi, Selangor. Tel : 03-8970 9000 Faks : 03-8970 9998 HP : 013 945 5000 / 011 1990 4000 Emel : kotaqudstravel@gmail.com	(KPL/LN 3656/4) A45 Block B 1st Floor, Kuantan Industrial 1, Jalan Tun Ismail 1, 25000 Kuantan, Pahang. Tel : 09 517 3151 / 09 512 4000 Faks : 09 517 3273 TEL : 019 917 9000 / 010 532 2000 Emel : pahangalquds@gmail.com	(KPL/LN 3656/6) No A-2, 7, 2nd Floor, Block A, Sultan Sentral, Jalan Sepanggar Bay, 88450 Kota Kinabalu, Sabah. Tel : 088 473 222 HP : 014 852 7000 / 014 835 2000 Emel : alqudsdk@yahoo.com	

**Figure 2.5: Address of available branch of alQuds Travel in the website.**

## **2.4 Itinerary**

Itinerary is related to schedule or flow of the trip in which to be filled with activities around the tourism places (Veal, 2010). Examples of events that will be done are visiting unique, historical, attractive and beautiful places like museum, park, garden, beach, and many more. In addition, sports also can be fitted into the event like hiking, snorkeling, jungle tracking and so on. There are many more activities to be listed into the itinerary like exploring the culture of the local people around the tourism places, foods and entertainment. This will be offered either in packages which have been set up by the company or the tourists can set their own itineraries based on what they want.

In Sabah, there are some interesting places that have potential to attract tourists around the world. There are some places they enjoy the view of scenery in Desa Cattle Farm while having warm pool water from mountains in Kundasang. Some people also enjoy the culture of some place like Monsopiad Cultural Village. It is because they want to see the uniqueness like dressing, foods and so on in the place that they visited.

## **2.5 Reservation**

Reserve or some people may call it as “booking” is to a process make a place for them in a certain period before an event or activity started (Li, 2003). This is needed due to the limitation number of offer of the trip or tour available. In some cases, a proof for reserving is needed like ID card or down payment is needed to ensure the people who reserve do not play a prank that causing loss of energy and time.

In the website, an agreement must be made to the registered tourists so that they agree with the terms and conditions of the company. After all the inputs and selection of itineraries or tour packages by them, payment must be made before submitting a reservation and tourists have the option to pay either deposit or full payment. Then, a proof of payment is filled into the form of reservation as reference to the payment. In a period of time, tourists able to manage like adding or removing some itineraries and also cancel the reservations. They also can see the status of their

reservation either it is still in progress or confirmed by the company. Some reservations may be rejected due to some circumstances like natural disaster and more.

## **2.6 Search Engine Optimization (SEO)**

Search Engine Optimization or to be known as SEO, part in the website where it helps to reveal the websites to the users who use search engine like Google Search, Yahoo! Search and so on (Microsoft Corporation, 2011). This becomes a business in world of websites in order to get the top ranking in search output which having a huge probability on getting visited by the users. As the result, the website will be appearing on the top of the search result which brings beneficial in competitive with other websites with the same field. Company who owns the SEO optimized websites gained higher traffics and automatically increases the popularity and profits due to high number of visits by the tourists.

Basically, SEO can be implemented by 2 techniques which are on-page SEO and off-page SEO. On-page SEO is a technique where the optimization done in the website. The way of content, web elements and keyword including metadata, title and design layouts must be efficient and the word used must be related or synonym with the input from the search engine input by users, or in this case, tourist. These components mentioned above must be friendly to the web crawler, who responsible on setting the popularity of the search engine. It is because the web crawler is an automated bot which only read texts and match it with the corresponding input. The lacks of on-page SEO will cause the crawler unable to fetch and read the content even though the website is closely related with the search engine input.

On the other hand, off-page SEO is a technique which be done outside from the website. This technique using link submission to other websites such social sites, forums, and also search engine sites. The idea is to promote the website to other sites and will be clicked by the audiences who see the link. Therefore, it can contribute to the increase of web traffic of that promoted website.

For this project, the optimization is more focus on to the on-page SEO. The contents, titles, layout design must be optimized enough for web crawler, GoogleBot for example to fetch the keywords for search engine result. At the same time, the website must avoid any plugin that caused the web crawler unable to read the keywords thus lost in search engine ranking page.

## 2.7 Review of Existing System

The existing system of similar concept system is that will be developed are reviewed. As many tourism websites can be found on the Internet, there are 3 systems that will be covered to be reviewed. These systems are:

- Sabah Holidays (<http://www.sabahholidays.com>)
- Japan Dream Tour (<http://www.japandreamtour.com>)
- NS Travel (<http://www.nstravel.com>)

### 2.7.1 Sabah Holidays

Figure 2.6 shows the homepage of the website. It seems that the website more focus on nature kind of tourism. In terms of user interface, it has easy accessible tabs which easy for tourists to navigate entire website.

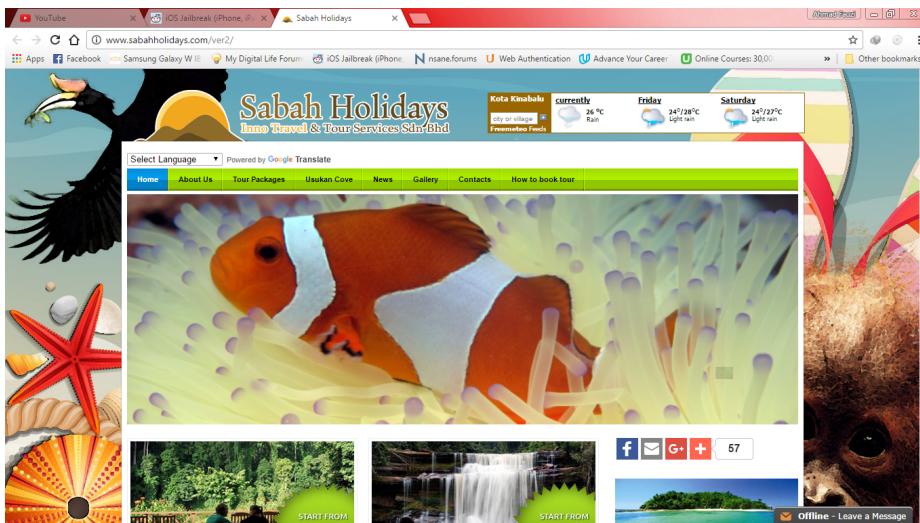
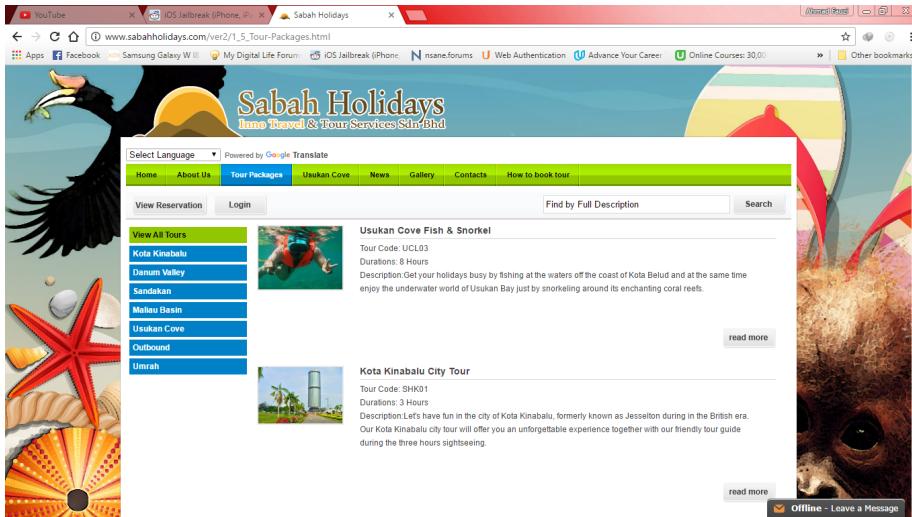


Figure 2.6: The main page of the Sabah Holidays website.

The site shown in the figure 2.7 divides the itineraries by places. Each itinerary shows a picture on what and how it looks like along with some important information like the tour code, estimated duration and some descriptions.



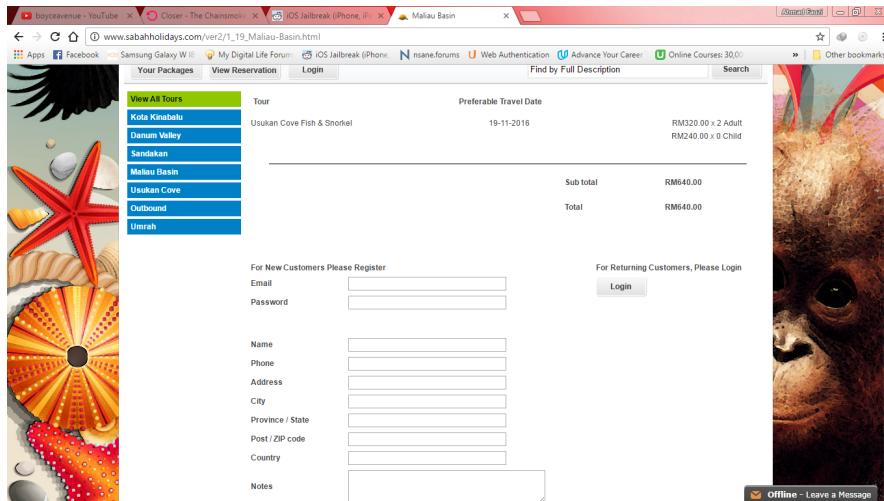
**Figure 2.7: List of itineraries filtered by places.**

This page shows what the most special tourism places that they can provide. It is because the location where it is placed is same as places as the other main tabs for navigation. In that page as shown in figure 2.8, it tells the introduction and uniqueness of Usukan Cove.



**Figure 2.8: Page of Usukan Cove.**

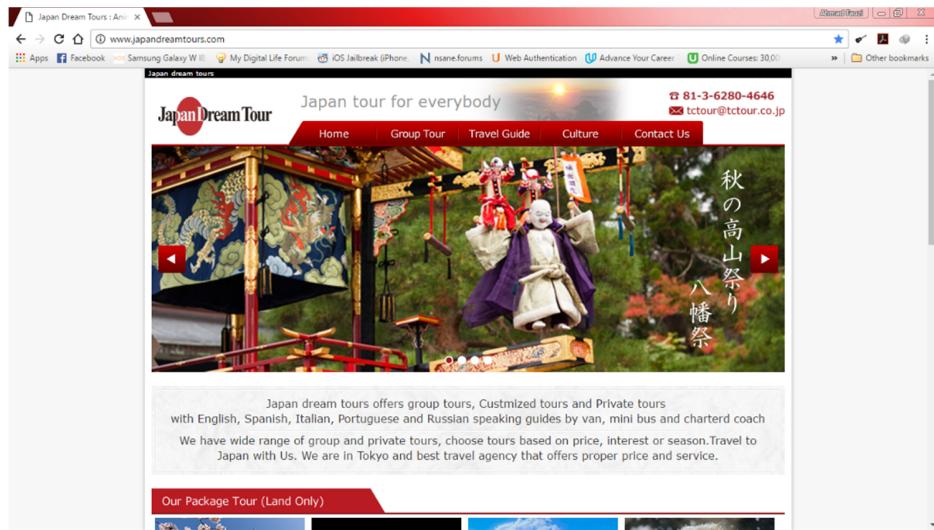
When the tourist is interested, they can make a reservation through the website. When an itinerary is selected and choose for booking, a page will be shown and a form must be filled by the tourist for registration. If the tourist is registered, they can see their reservation. The figure 2.9 shows reservation page.



**Figure 2.9: Reservation page in booking process of an itinerary.**

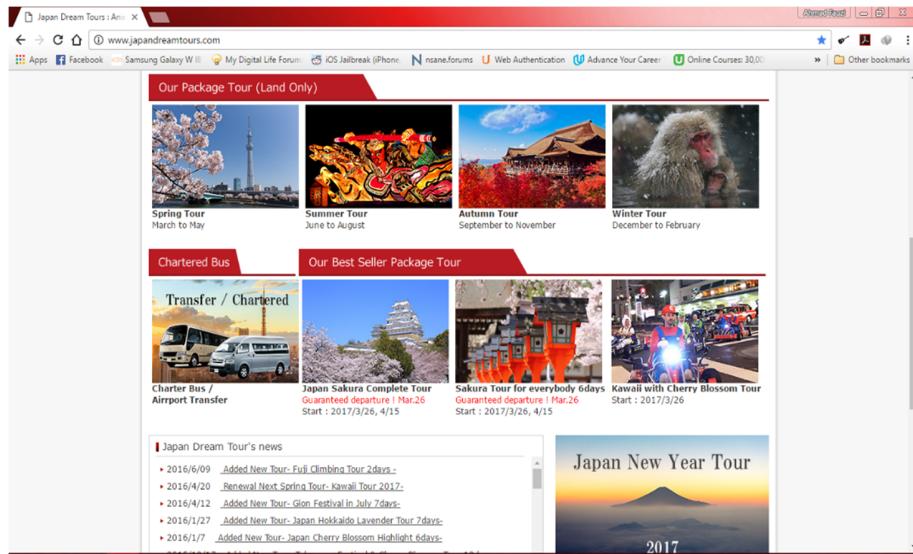
## 2.7.2 Japan Dream Tour

This website is promoting Japan places and cultures as shown in figure 2.10. As the first impression of the site, it looks pack with texts and pictures in the middle. The reason is to focus the view of information in the middle instead of putting it on the side.



**Figure 2.10: Homepage of the Japan Dream Tour**

This site is offering type of tours like spring, summer autumn and winter since Japan is one the 4 seasons country as shown in figure 2.11. From here, it shows that the tourism module exists in the system. They also advertising their best tour packages by exposing their own trademark culture Anime franchise, religion and so on. This technique used to attract people since Japan is synonym for these culture.



**Figure 2.11: Different types of tourism are shown around Japan.**

The course of the tour in figure 2.12 is detailed by time to show when the tour begins and ends. From here it is proof that itinerary module is present. They can see the activities with their respective estimation duration. This is essential so they can have the free time to go wherever they like without missing any tours event.

The screenshot shows the 'Mt.Fuji climbing Tour' page. At the top, there's a navigation bar with links like 'Home', 'About Us', 'Contact Us', and 'FAQ'. Below the header, there's a section titled 'Tour schedule' with two days of itinerary:

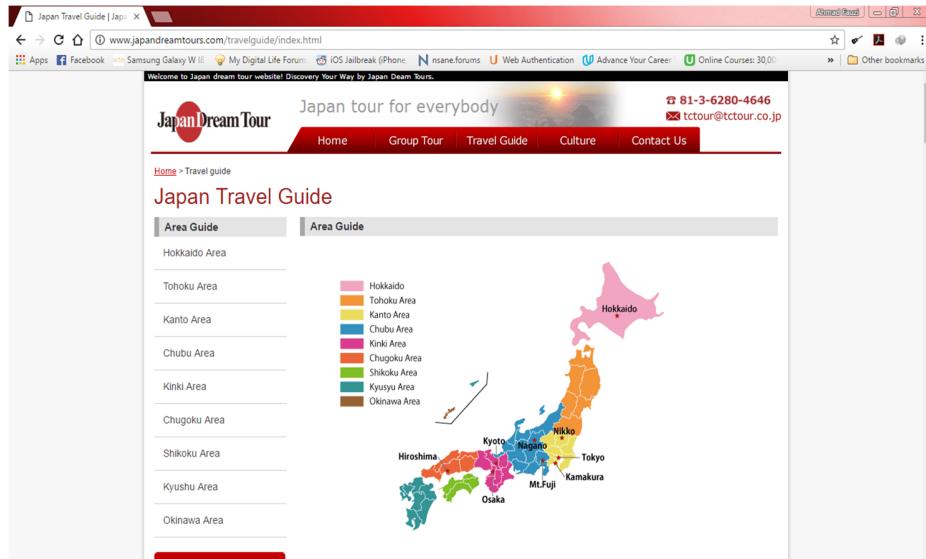
- Day 1**
  - 08:00 Pick up at shinjuku area, leave for Mt Fuji 5th stations via Chuo express highway.
  - 11:30 Arrive At Mt.Fuji 5th stations (2,350m) and prepare to climb
  - 15:00 Start climbing, Mt Fuji 5th stations Ma-Yoshida ascending route. It takes about 5 to 6 hours to 8th station.
  - 18:00 Arrive at 8th station(3,250m). Stay at Mountain Hut (Dinner and Rest)
- Day 2**
  - 02:00 Leave Mountain Hut for summit
  - 04:00 Arrive at summits of Mt Fuji (**Enjoy sunrise**)
  - 05:00 Leave summit via Kawaguchi-Yoshida descending route
  - 10:00 Arrive at 5th stations, and take a rest.
  - 11:00 Leave 5th stations by van, berakfast on the way and enjoy hot spring spa (Onsen)
  - 15:00 Arrive at Shinjuku area

Below the schedule, there's a note: "※Above schedule is subject change according to weather and traffic conditions. Hotels are not arranged." There's also a 'Notice' section with information about climbing cancellation due to weather and security reasons, and a note about insurance. At the bottom, there's a 'Booking and Contact us' section with a table showing price and included services.

Price	Adult
43,900 yen per person + 8% Tax	
Include	Shinjuku pick-up, drop off, one-night stay at an Authentic Mountain Hut Private English speaking mountain guide. All toll and parking fees. Natural Hot Spring "Onsen" experience at the beautiful Mt. Fuji Onsen.

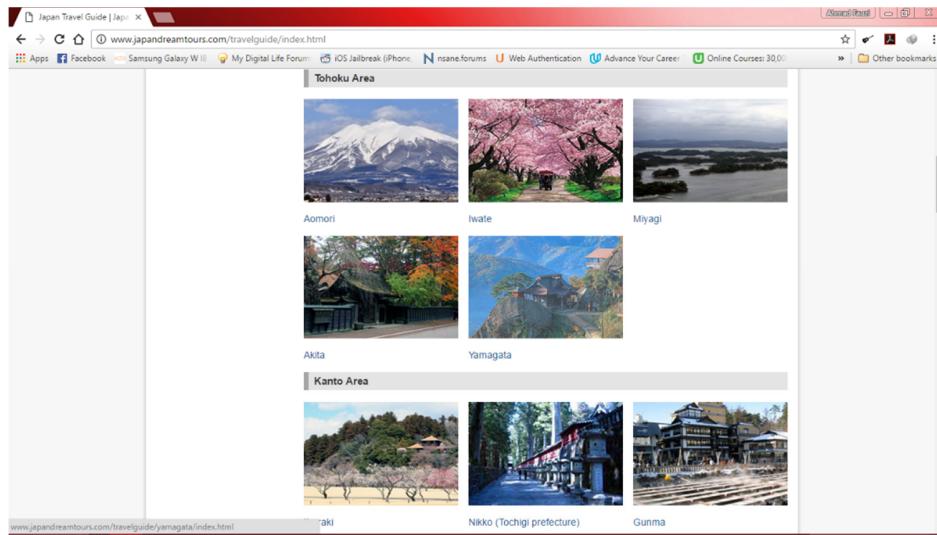
**Figure 2.12: Itinerary of the trip**

Figure 2.13 shows the map which is one of the useful information to see where the trip is located. It tells where is the location of each states in Japan by representing different colors for each state.



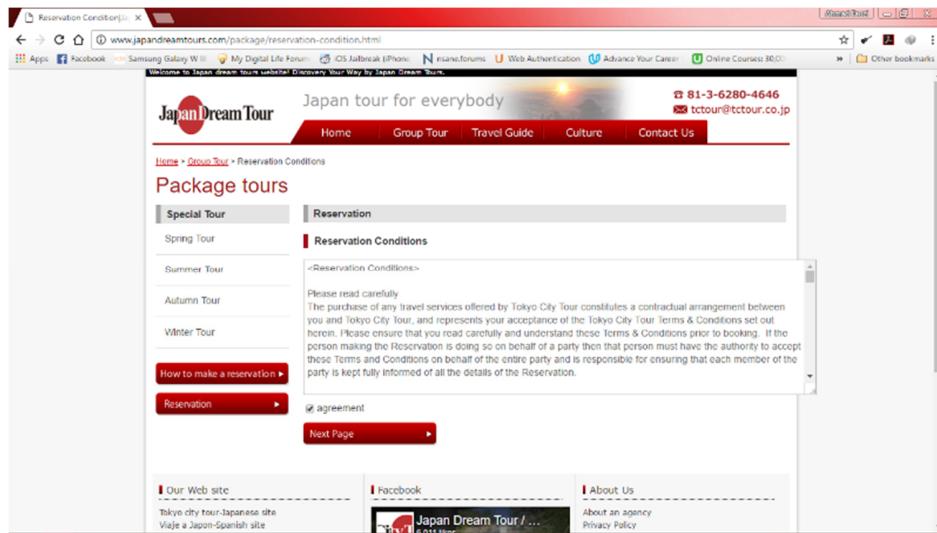
**Figure 2.13: Map of Japan are shown.**

The places are positioned in figure 2.14 with its respective state in Japan. It gives a better idea on what are the trip looks like if they go to one site of state so they can maximize their tourism experiences by not missing any places to go. Besides, this exposes the specialty of each state which is not every tourist knows about it.



**Figure 2.14: Tourism places available based on location.**

In figure 2.15 shows the reservation module by displaying the reservation agreement before proceeding to the reservation form. This is important so tourists can get idea of terms and conditions about the system's reservation.



**Figure 2.15: Reservation agreement**

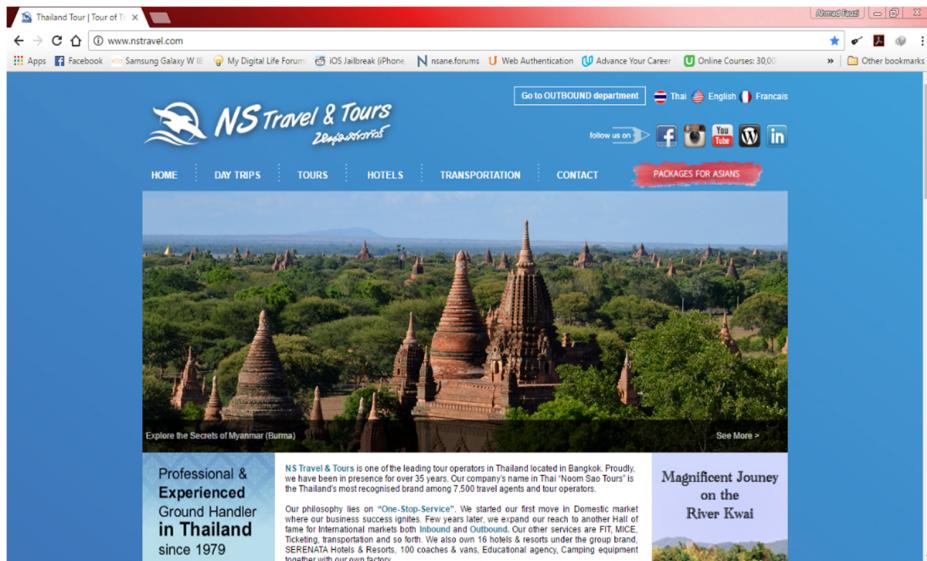
The reservation form which displayed in figure 2.16 requesting input from tourists to fill in the data needed for reservation. The tourist's information like name, age, hometown and so on are mandatory to be filled for the company of the system contact to the particular tourists.

The screenshot shows a web browser window for 'Reservation Form|Japan'. The URL is [www.japandreamtours.com/package/reservation-form.html](http://www.japandreamtours.com/package/reservation-form.html). The page title is 'Japan tour for everybody' with the subtitle 'Welcome to Japan dream tours website! Discover Your Way by Japan Dream Tours.' The header includes links for Home, Group Tour, Travel Guide, Culture, and Contact Us. A phone number 81-3-6280-4646 and email tctour@tctour.co.jp are also present. The main content area is titled 'Package tours' and contains a 'Special Tour' sidebar with options for Spring, Summer, Autumn, and Winter Tours. The main form is titled 'Reservation Form' and includes fields for 'Tour Name', 'Tour Start Date (MM/DD/YY)', 'Number of adult guests', 'Number of child guests (under 12)', 'Departure Airport (Your Home Airport)', and 'Hotel Room Type' (with options for Single, Twin, Double, Triple, Smoking, and Non Smoking). There are also buttons for 'How to make a reservation' and 'Reservation'.

**Figure 2.16: Reservation form**

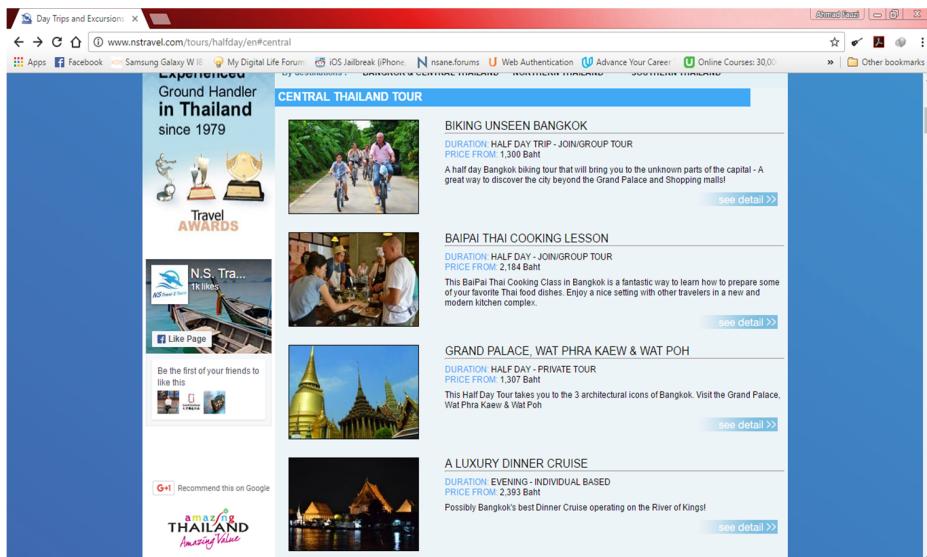
### 2.7.3 NS Travel

This website in figure 2.17 uncovers the places which full of its attractiveness. For the first impression, the site is simple yet informative and really fulfil the tourists need to gain some ideas what are trips available and looks like.



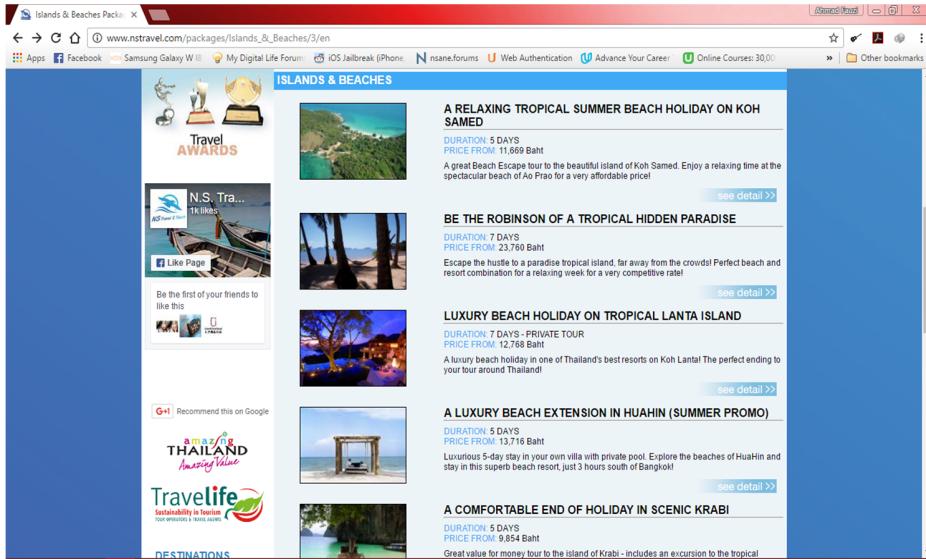
**Figure 2.17: Homepage of NS Travel**

This site shown in figure 2.18 separates the trips based on location. The tourism places module and along with the itinerary module are combined together in this system. The crucial information like duration and price are displayed, this is really helpful for tourists who want to know this kind of information only without clicking into the details of each trip.



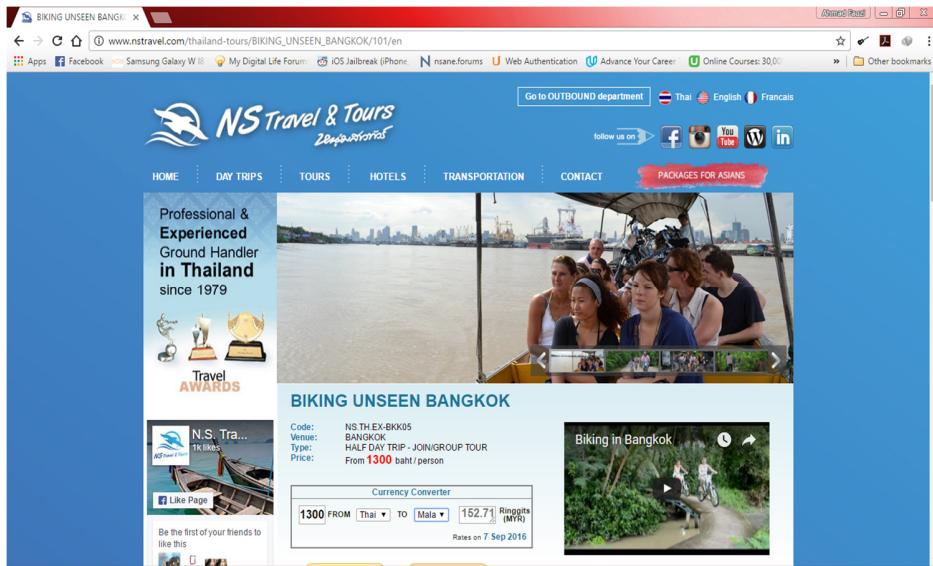
**Figure 2.18: Tourism places based on location**

From the site, it shows the type of trips based on landscape in figure 2.19. It is essential and favorable for tourists to filter what type of trips they want. Some tourists focus on what they want for vacation such as nature, honeymoon, sports and so on.



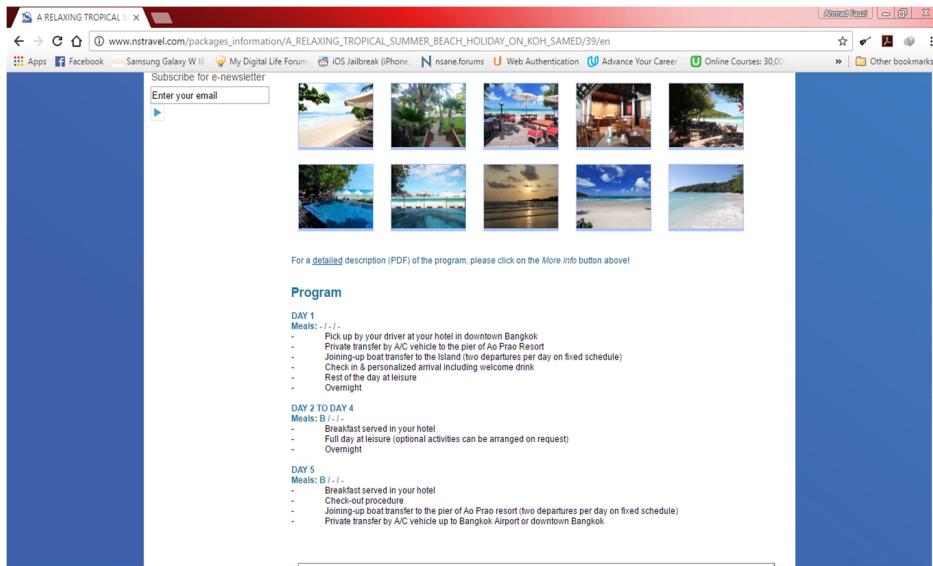
**Figure 2.19: Tourism place based on type of landscape**

If one of the trip is entered like in figure 2.20, the one interesting thing available is the currency exchanger. This also including the pictures and information which are necessary to obtain some info about it. Thus, the tourism places module is present.



**Figure 2.20: Page about a trip**

Specifications about the trips are shown in figure 2.21 like description, pictures and schedule of each day of the trip. This means that itinerary module is exist. It may not as detail like having specific time shown in each activity, but still useful for tourists.



**Figure 2.21: Itinerary of the trip**

## 2.8 Comparison of Existing System

After reviewing all the existing systems, the Table 2.1 shows the comparisons with the proposed system.

**Table 2.1: Comparison of existing systems.**

Aspects / Features	Sabah Holidays	Japan Dream Tour	NS Travel	AlQuds Travel KK Branch website
<b>USER INTERFACE</b>				
Aesthetics	YES	YES	YES	YES
Consistent	YES	YES	YES	YES
<b>MODULES</b>				
<b>User Management Module</b>				
Tourist Registration	YES	NO	NO	YES
<b>Tourism Module</b>				
Description	YES	YES	YES	YES
Media (Pictures)	YES	YES	YES	YES
Filtered by places	YES	YES	YES	YES
Filtered by type	NO	YES	NO	YES
Details with time and place	YES	YES	YES	YES
Tour packages	NO	YES	NO	YES
<b>Reservation Module</b>				
Reserve itineraries / tours	YES	YES	NO	YES

The tourism website that will be develop must have the details of the trip as the three existing systems also have. The descriptions and details which telling the tourists what are the places look like, what are the specialties and uniqueness available, along with

the help of media such as pictures and videos. With that, the tourists have the idea and may interested on going that particular place. Then, the itinerary is essential for tourists because of their curiosity of knowing the activities that set up for them in certain duration. If there are any available free time, they can have their own events to do to fill the time with enjoyment during that trip. Last but not least, the reservation can be done in the website thus minimizing the effort of tourists on doing extra process like calling the staffs of the tourism agency or sending email and so on.

On the administration side, the admin able to login to the website. In order to register another admin, the current admin must enter the data in registration form. Next, the admin can manage in which they can add, edit and remove the trips in the website to ensure the updated information available in the website. They also able to provide the profile information like contact number, email and more. This is essential for tourists for enquiring regarding the trip.

## **2.9 Conclusion**

Based on the analysis and review done, each system has the similar usage and goals. However, the features and functionalities are different from one another. The systems are designed and developed to fulfill the requests from different tourism company or agency thus it have its own strengths and weaknesses. Some features are found in the existing systems will be integrated into the developed system along with the improvement. Therefore, it is hoped that the developed system able to solve the problems which are faced by the company.

# **CHAPTER 3**

## **METHODOLOGY**

### **3.1 Introduction**

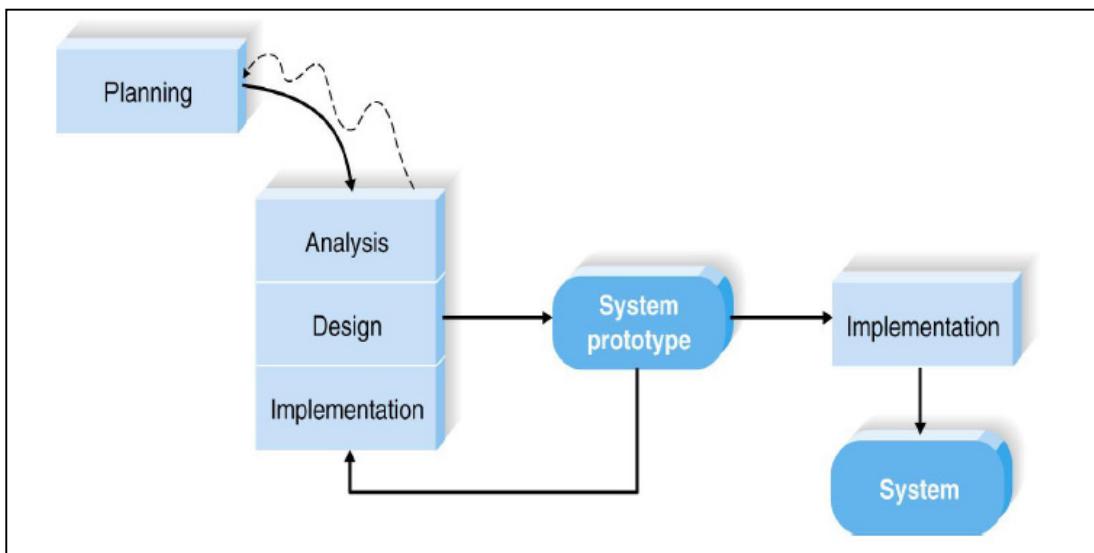
This chapter will cover about the study that includes problem background and problem statements which lead to this project. The specific objective and purposes to conduct this project are listed and the scope of the project is finally described. Next, the organization report is detailed and outline of the project is shown. At the end of the chapter, the idea of proposing the system is understood based on the problem which have been stated. The proposed system will achieve the objective and solve the problem mentioned.

### **3.2 Review Methodology Used**

Based on the system that will be developed, the chosen methodology is System Prototyping. By using this methodology, there is a state which is called system prototyping. This is where the initial system which completely implemented from design to be tested and evaluated by users. In this state also users can give feedback and review based on the system prototyping then request for changes of improvement in the next prototyping and final system. The details about this methodology will be discussed in this chapter.

System Prototyping method is a software development model that allows developer to create a system prototype or testing system before proceeding the final

product of the system. From the figure 3.1 can be shown that the looping shape between analysis, design and implementation phases with the system prototyping phase, which can be easily seen that the 3 phases (analysis, design and implementation) are revised in every loop to seek for improvement after evaluation and testing (Alan Dennis, 2006).



**Figure 3.1: System Prototyping Development Model**

There are some advantages and disadvantages in using System Prototyping methodologies. The details are concluded into table shown in Table 3.1.

**Table 3.1: Advantages and disadvantages of system prototyping methodologies**

ADVANTAGES	DISADVANTAGES
Any flaws or bugs can be caught by the users during system prototyping state in which can be fixed or improved before entering final product system (Sparrow, 2011).	Time are more spend on the loop of analysis, design and implementation with system prototyping state if there are many system prototype have been done and revised (Intelligence on Tap, 2009).

The goal objectives are securely achieved by numbers of testing and evaluating by the involvement of users (ISTQB Exam Certification, n.d.).	Many changes cause the flow in the development may disturbed.
Users gain better knowledge and understanding about the developed system (ISTQB Exam Certification, n.d.).	

### 3.3 Application of Chosen Methodology

The System Prototyping consists of a series of short and iterative development cycles. As this methodology conducts analysis, design and implementation at the same time, developer needs to revise every single time once the testing and evaluation is done to fix that particular area of the system and adding features into next prototype system and final system. The loops will end once users reach satisfaction and to be proceed into final product system.

#### 3.3.1 First Phase (Planning)

At the first phase, the background of the problem was studied and dive into the problem statements. The timeline of the project as shown in Table 3.2 is created to ensure the project will run according to the plan smoothly.

**Table 3.2: Timetable of project**

Week	Actions
Week 1 -3	<ul style="list-style-type: none"> <li>• Set up project proposal</li> <li>• Discuss and gather information from the company <ul style="list-style-type: none"> <li>◦ Problem statement</li> <li>◦ Objective</li> <li>◦ Project Scope</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ Modules required in the system</li> </ul>
Week 4 - 7	<p>Planning phase</p> <ul style="list-style-type: none"> <li>● Discuss and gather information in more details from the company           <ul style="list-style-type: none"> <li>○ Project Scope</li> <li>○ Modules required in the system</li> </ul> </li> <li>● Set up timeline project.</li> <li>● Carry out literature review</li> <li>● Choose software methodology.</li> </ul>
Week 8 - 9	<p>Analysis phase</p> <ul style="list-style-type: none"> <li>● Find the requirements from user's perspectives by gathering the information through:           <ul style="list-style-type: none"> <li>○ Questionnaire</li> <li>○ Interview</li> </ul> </li> <li>● Analyze the requirements into:           <ul style="list-style-type: none"> <li>○ Data Flow Diagram</li> <li>○ Entity Relationship Diagram</li> </ul> </li> </ul>
Week 10 - 11	<p>Design phase</p> <ul style="list-style-type: none"> <li>● Create a mock-up design based on the diagram from findings in analysis phase:           <ul style="list-style-type: none"> <li>○ Storyboard for interface mock-ups.</li> <li>○ Database listing to see what are the attributes needed in each entity.</li> </ul> </li> </ul>
Week 12 – 21	<p>Implementation phase</p> <ul style="list-style-type: none"> <li>● Turn all designs into coding and real system.           <ul style="list-style-type: none"> <li>○ Includes back-end and front-end of the system.</li> </ul> </li> </ul>

The information was gained after the short explanation from the managing director of AlQuds Travel company of Kota Kinabalu branch, Mr. Hazrul Hassan. The current website

of the company which owned by the main branch has the disadvantages on promoting the places in Sabah, has low user experiences and lacks of Search Engine Optimization (SEO) technique. After the problems are stated, the objectives are defined in order to solve the problems faced. The proposed system will be able to advertising the tourism places around Sabah, with better user experiences, functional databases and processes, and test the proposed to the users including the SEO functionality. By following the objectives, the project scopes are detailed by describing the modules included into the proposed system. After the discussion with supervisor and requirement gained from company side, the modules are detailed correspond to the tasks of users involved. Admin manages the users, tourism places along with its itineraries or tour packages and reservations. While executive staffs have privilege as admin without user management. As for tourists, they only able to manage their own trip and create reservations.

### **3.3.2 Second Phase (Analysis)**

During this phase, the requirement elicitation is done. Interviews, surveys and observations are the examples of the methods on getting the requirements from users and environments.

First, literature review is done to get the idea on the design of the system including its functional and non-functional requirements. Firstly, the definition of each term regarding the system is well defined to ensure there are no misunderstanding during the development of the system. This also helps on reaching the users requirements and expectations. From the review of existing system which are Sabah Holidays, Japan Dream Tour and NS Travel that have the similar objective, it can be seen that one system has advantages from the other based on the requests which need to fulfill by the users. From the functional requirements, what are the modules and functions are present and absent in the system. And also, the non-functional requirement is observed to see the characteristics like security and performance affect the functionality of the system. For the sake of the innovation and improvement, the proposed system must be the best among the other existing systems.

Next, the questionnaire is made to gain requirements from users. The questionnaire is made online and consists of general questions that related to the system and its modules. It published through social sites because most of users can be found in here. And also, from there, the response getting from users are more than any other medium.

Besides, interview is carried out to get more technical matters about the developed system. The interview session done with Mr. Hazrul Hassan, the managing director and Mr. Yusrizal Yusof, the marketing executive of the company. The requirements gathered here mostly on the flow of the system including on how the modules operate, data organization and more to ensure the developed system matched with their expectations.

Then, software and hardware requirements are detailed for preparations in system development. After all the requirement are gathered, the interpretation of requirement is carried out. The related diagram such as Data Flow Diagram and Entity Relationship Diagram are created to get the better understanding before continuing to next phase.

### **3.3.3 Third Phase (Design)**

This is where the design of the system begins. In this phase, the design of database is carried out. This is where the entity with its following attributes are gathered with given datatype. Since it is database, some tables are connected from one another based on Entity Relationship Diagram created. Then, the database must be ensured that it has less redundancy for better storage database efficiency.

Next, the mock up interface for the developed system is done. The user interface must cover the whole modules and functionalities with the correct flow based on the

previous phase during requirement interpretation which is Data Flow Diagram. Must not forget that, the principles of the user interface and user experiences must be obeyed for better system usability. This includes the consistency of the navigation button, the contrast of color choosing in the system and so on.

### **3.3.4 Fourth Phase (Implementation)**

In this phase, all the tasks in the design phase will be implemented into initial version of the system. The databases are created in MySQL and connected to the system. At the same time, the processes which are included in each module are coded into the system based on the stated programming language which are Java Servlet using Eclipse IDE. Next, the user interface which are designed in previous phase and implemented by using HTML, CSS and JavaScript with additional plugins and dependencies. After that, the implementation, the testing (alpha testing) is done to ensure the functions are running and visible bugs are removed before continuing on System Prototyping phase.

### **3.3.5 Fifth Phase (System Prototyping)**

During this phase, the evaluation and testing of the system are done. The system is explained to the users to get the ideas on how to use the system. The description must consist of the modules and functionalities and to be matched with the user expectations and requirements. After testing, the discussions are made to get the result from the system prototype. Change requests are taken to make corrections and improvement along with the bug reports which are found by the users. After the evaluation, the analysis, design and implementation phase are revisited, revise and done with feedback retrieved from users.

### **3.3.6 Sixth Phase (Implementation after System Prototyping)**

This phase is where users satisfied with the latest version of system prototyping. The implementation is done by transferring all the system including the front end to the back end of the system and push to the server. After that, the deployment of the server will be performed and tested to ensure there are no flaws found which are not happening on the latest system prototype. If new bugs found, the debugging process will be carried out.

### **3.3.7 Seventh Phase (Final System)**

During this phase, the system will be doing several testing from unit testing, integration testing, system testing and lastly user acceptance testing. When the system passed all these testing, it will be ready to be released and used to the public.

## **3.4 Software Requirements**

The software requirements of the proposed system will elaborate what are the tools used for the development. This also includes the programming tools used, databases, operating system, web developer tools, server and localhost browser. Table 3.3 shown below is the software required in developing the web tourism system.

**Table 3.3: Summary of software requirement for developers**

<b>SOFTWARE</b>	<b>DESCRIPTION</b>	<b>MINIMUM REQUIREMENTS</b>
Programming Languages	PHP Framework (Laravel): Programming language used for function processes/	<ul style="list-style-type: none"><li>• PHP Framework (Laravel)</li><li>• HTML5</li><li>• CSS3</li><li>• JavaScript1.7</li></ul>

	HTML, CSS, JavaScript: Syntax used for developing front end of the system.	
Database software	Software used for developing the database of the system.	<ul style="list-style-type: none"> <li>MySQL 5.0.x or later</li> </ul>
Operating System	The minimum requirement of operating system for development without any issues.	<ul style="list-style-type: none"> <li>Windows 7 or later</li> </ul>
IDE Software	Text editor which also used for coding the programming language into system.	<ul style="list-style-type: none"> <li>PHPStorm 16.3 or later</li> </ul>
System Deployment Software	The software needed for deploying system to the connected network.	<ul style="list-style-type: none"> <li>Xampp 7.0.4 or later</li> </ul>
Repository Manager	Software used to fetch packages required for the system.	<ul style="list-style-type: none"> <li>Composer 4.5.0.0 or later</li> <li>Node Package Manager (npm) 4.1.2 or later</li> </ul>
Versioning Control	Software tool needed to control the version and changes of the system	<ul style="list-style-type: none"> <li>Git 2.12.0 or later</li> </ul>
Web Browser	Web browser used for testing and debugging processes – mostly on front end and processes.	<ul style="list-style-type: none"> <li>Google Chrome 53 or later</li> </ul>

Also in Table 3.4 shown below is the software required for users to display and use the proposed system.

**Table 3.4: Summary of software requirement for users**

SOFTWARE	DESCRIPTION	MINIMUM REQUIREMENTS
Web Browser	The web browser software for viewing and using the system	<ul style="list-style-type: none"><li>• Google Chrome 53 or later or Internet Explorer 11 or Edge or Mozilla Firefox 49 or later</li></ul>

### 3.5 Hardware Requirements

The hardware required in developing the tourism website are detailed. This hardware discussed including processor, memory, storage, video card, screen resolution and input type necessary in order to manage developing the system. Table 3.5 are shown the hardware requirement for developers.

**Table 3.5: Hardware requirements for developers**

HARDWARE	DESCRIPTION	MINIMUM REQUIREMENTS
Processor	The estimated minimum specification for processor to develop, test and debug the system.	Any dual Core Intel / AMD CPU
Memory	The estimated minimum memory to avoid out of memory error during development and testing of the system.	4GB or higher

Storage	The space of storage needed for databases, files and so on needed for the system.	10GB of available free space
Video Card	The minimum specification to ensure the smoothness during development of system.	Any card supports video hardware acceleration
Screen Resolution	The screen resolution for viewing the system during development and testing.	1366 x 768 or higher
Input devices	Mandatory devices used for coding and input data testing.	Keyboard and Mouse / Touchpad

Also, table 3.6 are shown the hardware requirement for users.

**Table 3.6: Hardware requirements for users**

HARDWARE	DESCRIPTION	MINIMUM REQUIREMENTS
Processor	The minimum horsepower needed to run the system smoothly.	Any dual core Intel / AMD CPU
Memory	The minimum memory needed to ensure the system having enough workspace.	1GB or higher

Video Card	The specification for graphics to maximize the user experiences of the system.	Any card supports hardware acceleration in web application
Resolution	The screen resolution the system to be viewed.	480 x 800 or higher
Input devices	Devices will be used in user end for input that leads to process and output of the system.	Keyboard and Mouse / Touchpad or Touchscreen

### 3.6 Conclusion

With the help of System Prototyping software development model approach, this project will be conducted in more systematic way. This methodology is selected because it clearly defines the flow of each phases in the project which are planning, analysis, design, implementation, system and final product of the system. This will bring upper hand to the developer to trace the bugs and flaws easier with the involvement of users and will be improved in next prototype. Besides, it also helps developer to focus and achieve the objective of the system because the before the system enter final product phase, the users must be satisfied and fulfill its system required modules.

## **CHAPTER 4**

### **SYSTEM ANALYSIS AND DESIGN**

#### **4.1 Introduction**

This chapter shows the requirements gathered through some methods which are questionnaires and interview. The reason is to get the balance requirements of both breaths and depths of the system. After that, the requirements are interpreted into diagrams which is more understandable in terms of the flow of system and relationship of each data entity such as Data Flow Diagram and Entity Data Relationship diagram.

Once all the analysis process is done, next phase will be carried out. The process will be done in design phase is create a mock-up design in which to get the basic user interface (UI) and database design. This will be useful as reference on system development during implementation phase later on.

#### **4.2 System Analysis**

System analysis defined as process of the defining and understanding the specifications needed for the system. These specifications and requirements are received from users who will use the system and also people or party who experts on this kind of field. That is where the questionnaires and interviews are carried out. In the end of both processes, the requirements are interpreted into diagrams which bring meanings and to be used in later phases.

In this project, the questionnaires and interviews are done to ask regarding the system related. For the questionnaire, it distributes to public and the questions are more into general which does not require any additional about the field of management of the system. However, it still helps on developing the system on what the users or tourists will want to include into the system. Meanwhile, the interview is more into specific questions regarding the system. Some of questions are technical and the flow of the systems. The interviewee consists of people in the company, Kota Kinabalu branch of AlQuds Travel who hold the admin and executive and executive staffs. The output is to get the idea of the flow and the operation of the system which they wanted to be.

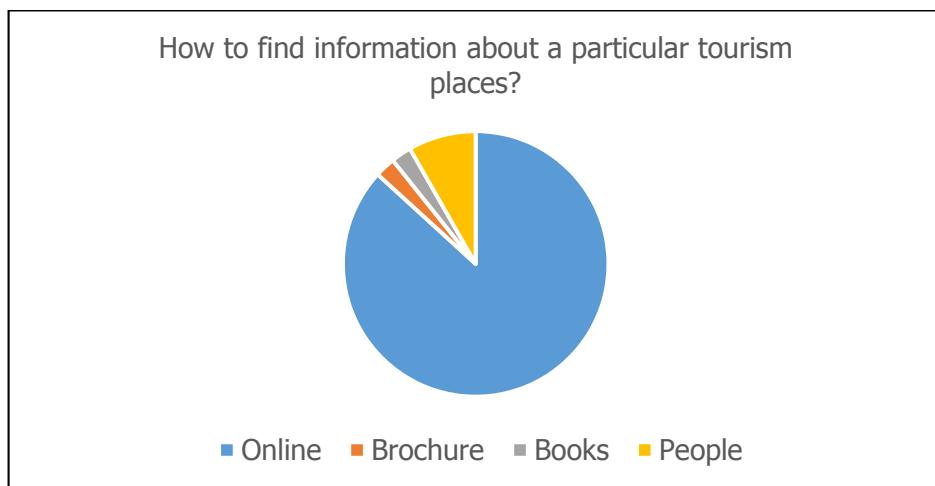
#### **4.2.1 Requirement Gathering**

The aim of this process to elicit the requirements from the users. As it is the vital process in the analysis phase, it will help on creating diagrams like Data Flow Diagrams and Entity Relationship Diagram. There are two methods will be done which are questionnaires and interviews. More of the details will be described below.

##### **4.2.1.1 Questionnaires**

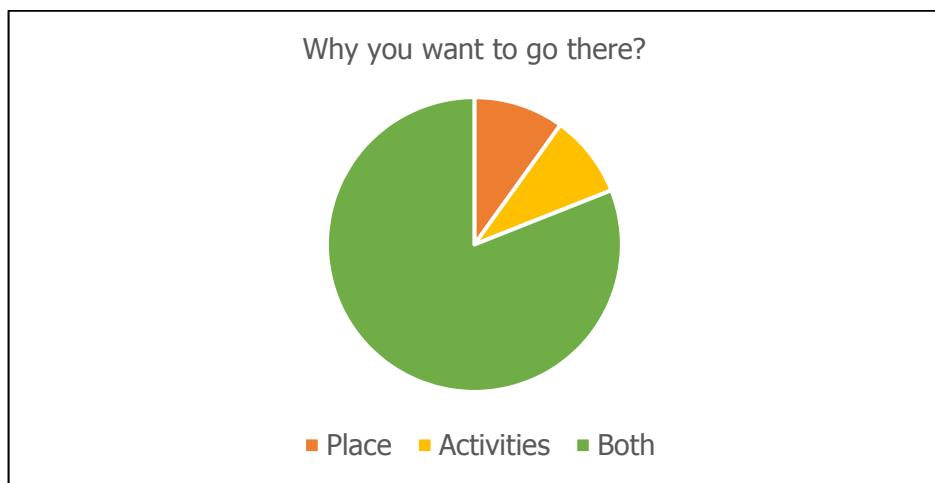
During this process, there are 121 responses with 32 of them are male and the rest are female. Majority of them are within 18 to 25 years old. In this age, most of them are travelling when they have any leisure time and saving money.

From the interview, it shows that most of them are willing to use the technology of Internet rather than the others. When to find information especially about the tourism places, itineraries and tour packages, they more on choosing online method than any other traditional methods. Figure 4.1 shows the results on how they are going to find information about a particular tourism places.



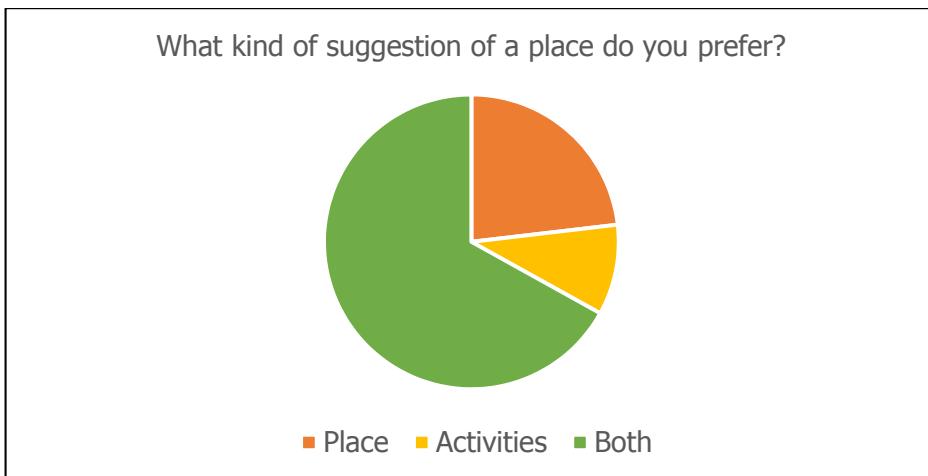
**Figure 4.1: Result of how people find information about tourism places.**

The reason they want to go to a particular place majority of them due to the places like the nature of it and also the activities that are held in there such as sports events and so on. It means that they want to maximize the trip by enjoying what are the places can offer and at the same time participates the activities that are running at there as it described in result as in Figure 4.2.



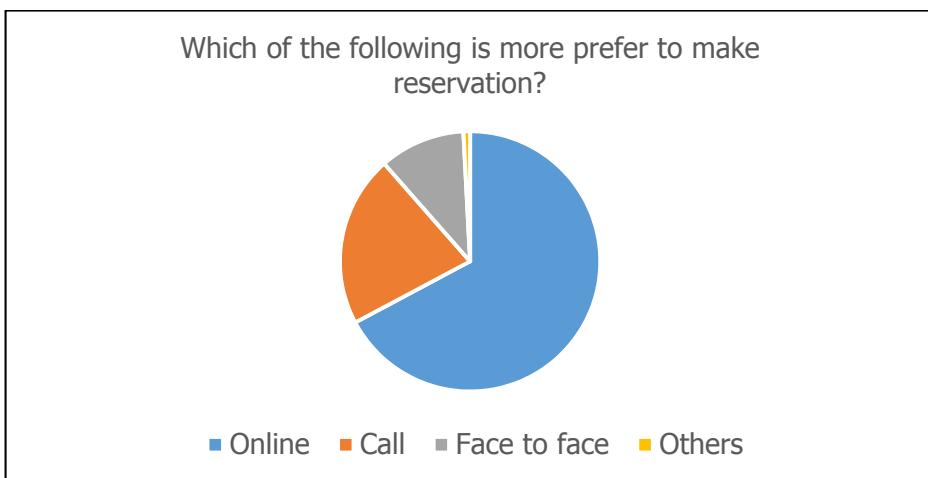
**Figure 4.2: Result of people why they want to go a particular place.**

The next question is about suggestion. Most of the respondents choose to have both in suggesting place based on places and activities. In which, it looks similar to previous question. The Figure 4.3 shows the result of suggesting question.



**Figure 4.3: Result of suggestion of a place.**

Last question will be asked to the respondents is about reservation. Most of them prefer to make reservation through online rather than any other methods. The Figure 4.4 shows the result of the respondents regarding reservation.



**Figure 4.4: Result of respondents regarding reservation.**

Based on the questionnaire, the web based system for tourism is necessary because it can be proof from Figure 4.1 that most the users nowadays find and gather the information from online resources due to the ease of use, save time and energy. This also answers that most users categorize tourism places based on both which are the place itself and the activities or type of tourism available. This can conclude from Figure 4.2 so in the tourism places section, it must have these 2 attributes for users to filter what tourism that they desire. For the suggestion for other places, users also prefer to have both criteria to be shown as in Figure 4.3 shows most users like to have both. In the system, when displaying a tourism place, the suggestion must have these two attributes based on the tourism place that user chose. Finally, the reservation section is necessary to ease users to book the tourism places that they want. As shown in Figure 4.4, users are more likely to choose online way to reserve a tourism place when it compares to other approaches.

#### **4.2.1.2 Interview**

The interview is done to the staff in the company itself which are Miss Raihana Ngatiran. Mr. Hazrul Hassan and Mr. Yusrizal Yusof. The brief information of the interview can be found in the appendix. It includes the brief information of interviewee, the location of interviews is held on and also the topics are discussed during each interview.

From the first interview, the problem statements and objective are detailed which contribute to the development of the system. They have their own website that promotes their businesses but unfortunately it does not cover everything like any other places and activities that causes them to gain less profit than it should. Secondly, the user interface looks less appealing and hassling when users like tourists want to see the details about a place as mentioned in Chapter 1 and Chapter 2. From here, the target users and businesses value are described to get the idea on how the developed system will be to ensure that the system can solve the problems. By doing that, there are several modules are listed which contain several processes and functionalities.

The requirement that received from the second interview is about the details and flows of the system. This includes on the way of the system organizes and displays the itineraries and reservation. Next, the design and development of the system are discussed. The user interface of the system are explained so what are the content that need to be shown to the users. Also, the attributes of each entity table are defined so what are the information needed in each entity table of data manipulation.

From the requirement gatherings above, the functional requirements and non-functional are defined in Table 4.1.

**Table 4.1: Functional requirements and non-functional requirements**

Functional Requirement	Non-functional Requirement
<p>Tourism Module:</p> <ul style="list-style-type: none"> <li>• Able to manipulate the information of tourism including the itineraries and full packages vacation by admins and executive staffs. <ul style="list-style-type: none"> <li>◦ Create</li> <li>◦ Update</li> <li>◦ Delete</li> </ul> </li> <li>• Able to organize the information of the itineraries through categories <ul style="list-style-type: none"> <li>◦ Tourism places</li> <li>◦ Type of itineraries</li> </ul> </li> <li>• Able to point out suggestion based on <ul style="list-style-type: none"> <li>◦ Itineraries nearby</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Each module able to perform its sub-processes within short amount of time (3 seconds at most).</li> <li>• Able to provide user-friendly interface for better usability (clear fonts, consistent layouts, good quality media)</li> <li>• Have security in the system so the private data can be keep confidential safely (strict access, encrypted passwords)</li> </ul>

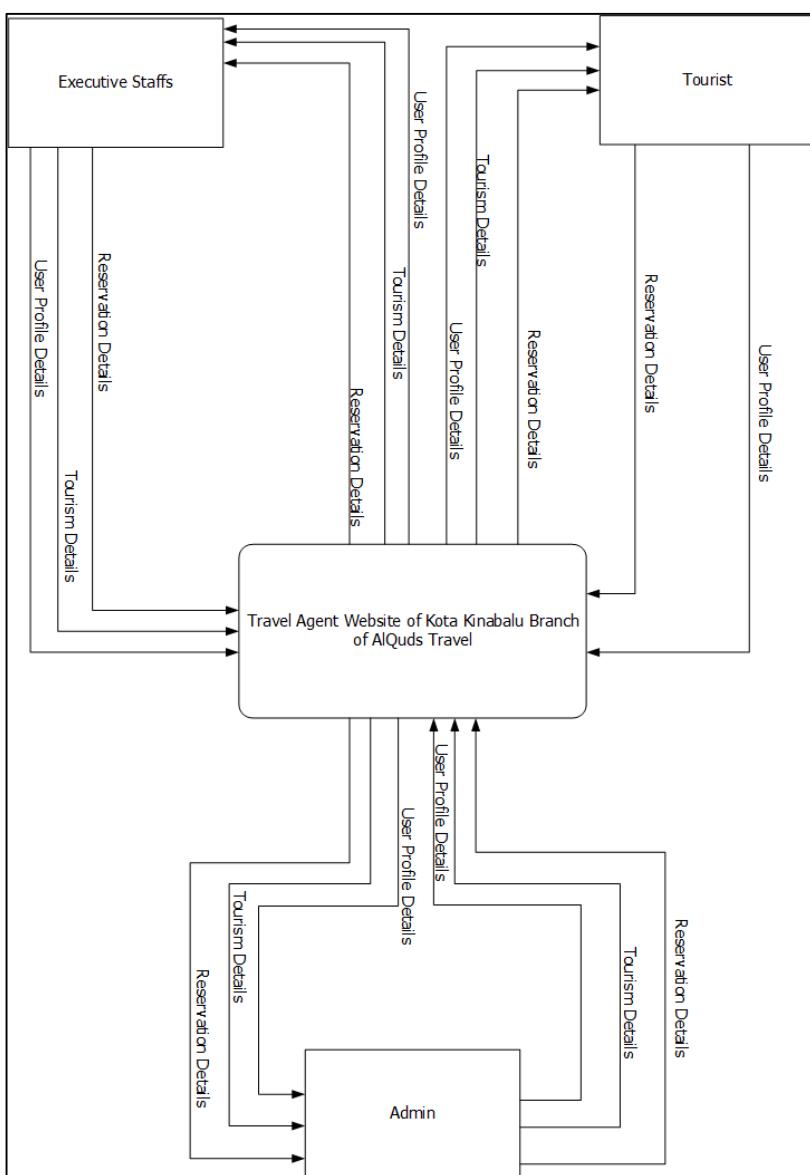
<ul style="list-style-type: none"> <li>○ Type of itineraries</li> </ul> <p>User Module:</p> <ul style="list-style-type: none"> <li>• Able to manipulate the information of user's detail           <ul style="list-style-type: none"> <li>○ Create</li> <li>○ Update</li> <li>○ Delete</li> </ul> </li> </ul> <p>Reservation Module:</p> <ul style="list-style-type: none"> <li>• Able to manipulate the information of reservation's detail within amount of time           <ul style="list-style-type: none"> <li>○ Create</li> <li>○ Update</li> <li>○ Delete</li> </ul> </li> <li>• Admins and executive staffs able to review the tourist's reservation either to approve or decline.</li> </ul>	
---	--

#### 4.2.2 Data Flow Diagram (DFD)

Data Flow Diagram or to be known as DFD is diagram that shows the path or flow the needed requirements in each process of modules. The DFD will be shown from the top to the bottom – from abstract to the detail of each process. It is useful for the development to see what the data are needed and what flow of the system are since it is mapped from the beginning until end of each process.

#### 4.2.2.1 Context Diagram

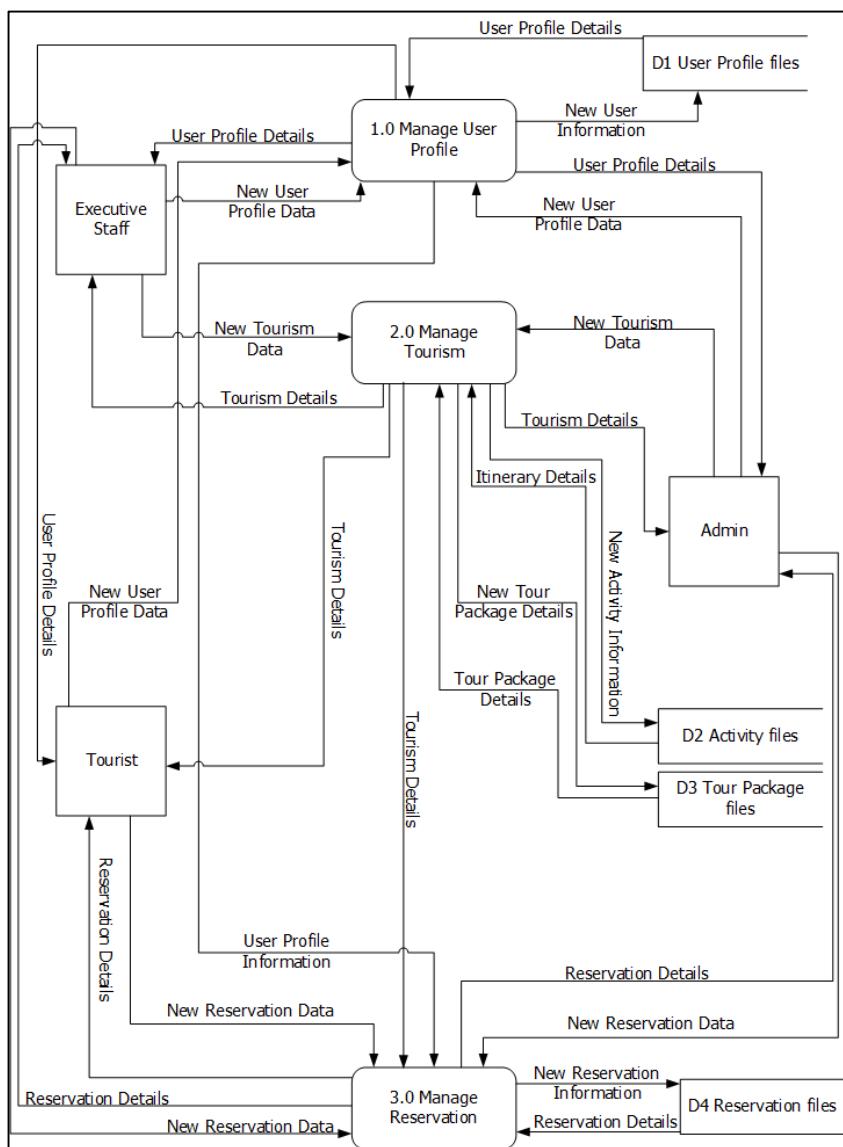
Context diagram is to be known as the top of the DFD. It is because it shows the overall system with the flow needed requirements. The Figure 4.5 shows the overall context diagram which represents each user and what are data needed for the system. Although the data of each user are almost identical, the differences can be seen as the diagram dive into more detail (level 0, level 1) which will be explained later.



**Figure 4.5: Context diagram of the system.**

#### 4.2.2.2 Level 0 Diagram

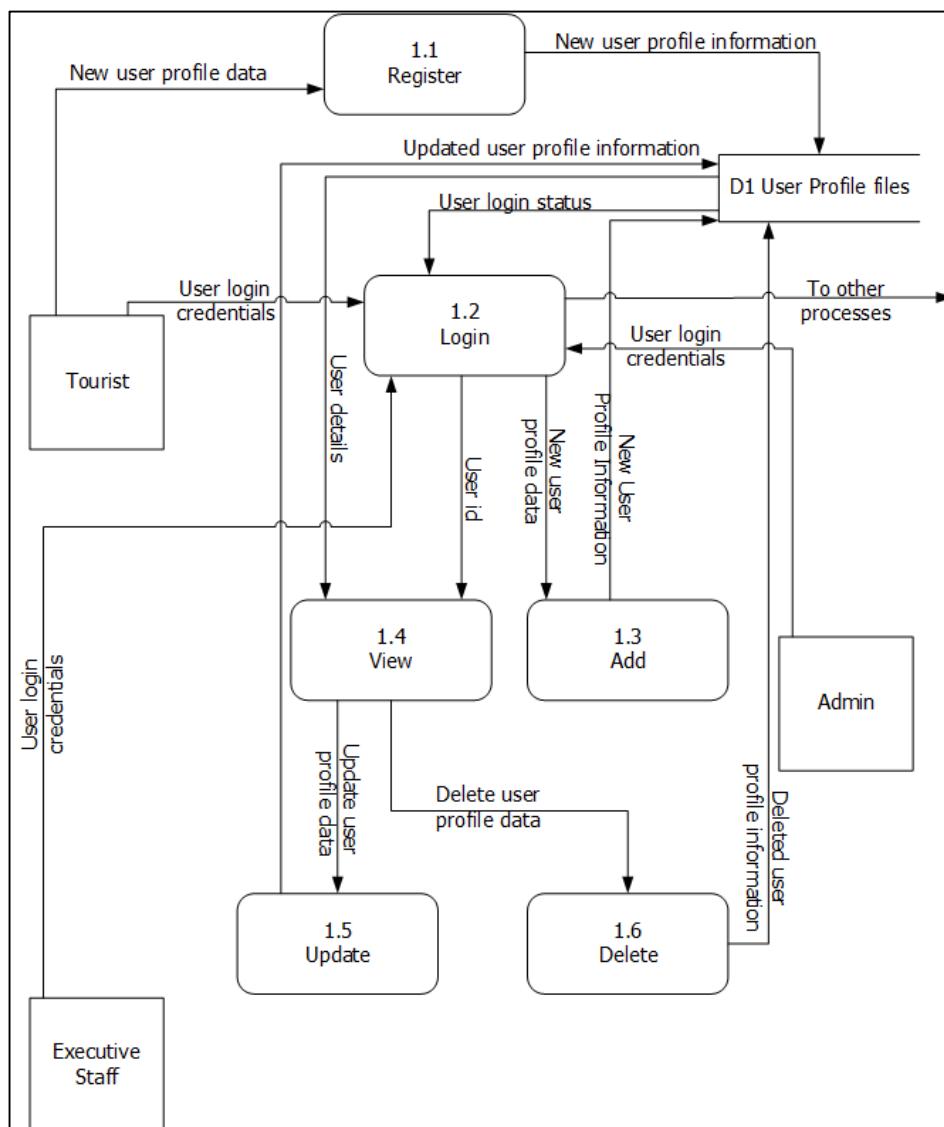
From the context diagram, it can only see the system with the users who involve when using the system. In this diagram, it shows one step further details which breaks down into modules. From here, it can be seen what data or requirements are responsible for each module. In Figure 4.6, the diagram clearly shows the data throughout the map. And also, the present of the data store – which is one of the component of DFD can be seen to show that the location of the module read and write the data.



**Figure 4.6: Level 0 Diagram of the system**

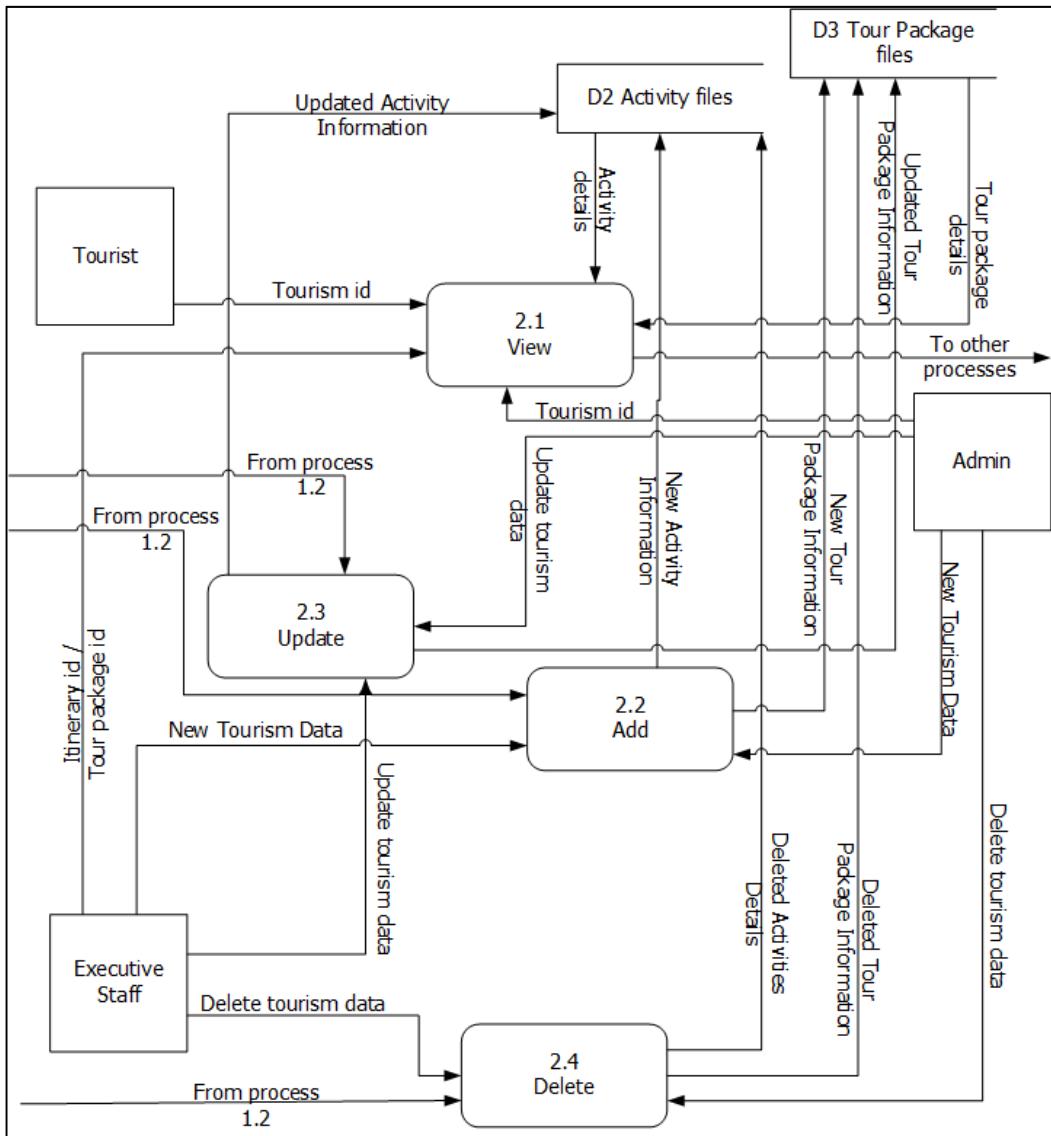
#### 4.2.2.3 Level 1 Diagram

Once the modules are explained, the data flow of each process is shown in Level 1 diagram. Each module will be decomposed into several processes for more details about the data flows. Starting out with the user profile management as shown in Figure 4.7. Noted that, some processes can be done with all users such as view and update users. However, only the admin has the ability to view and update other users while the others only able to do with their own profile.



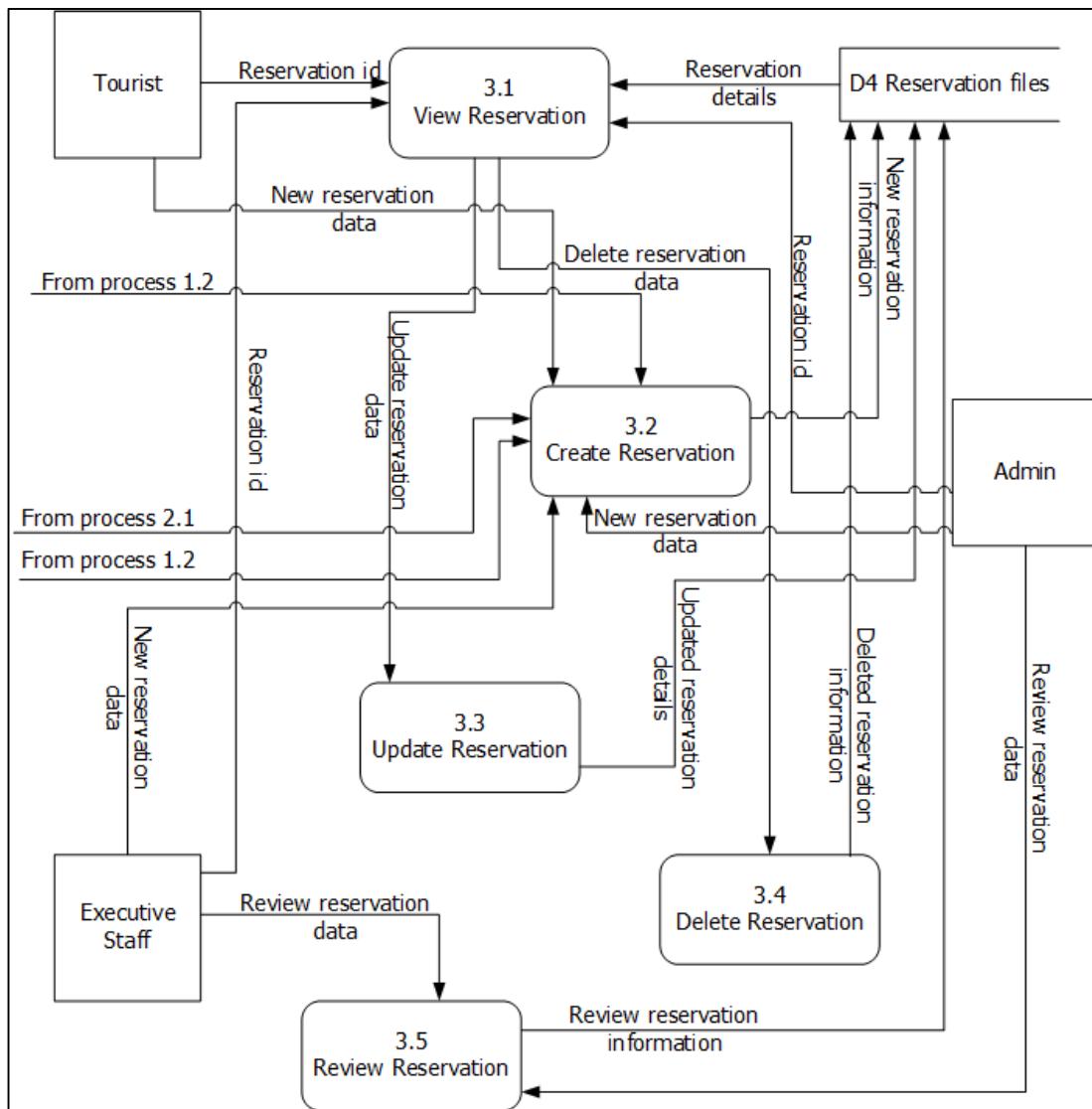
**Figure 4.7: Level 1 Diagram of User Profile Management Module.**

Next, elaboration of tourism module. The Figure 4 shows the level 1 diagram of the module. The Figure 4.8 consists of view and add functionalities.



**Figure 4.8: Level 1 Diagram of Tourism module.**

The last module, reservation module level 1 diagram is shown in Figure 4.9. From the diagram only tourist able to manipulate their own reservation while the other admins and executive staffs able to review the reservation to tourists.



**Figure 4.9: Level 1 Diagram of Reservation Module.**

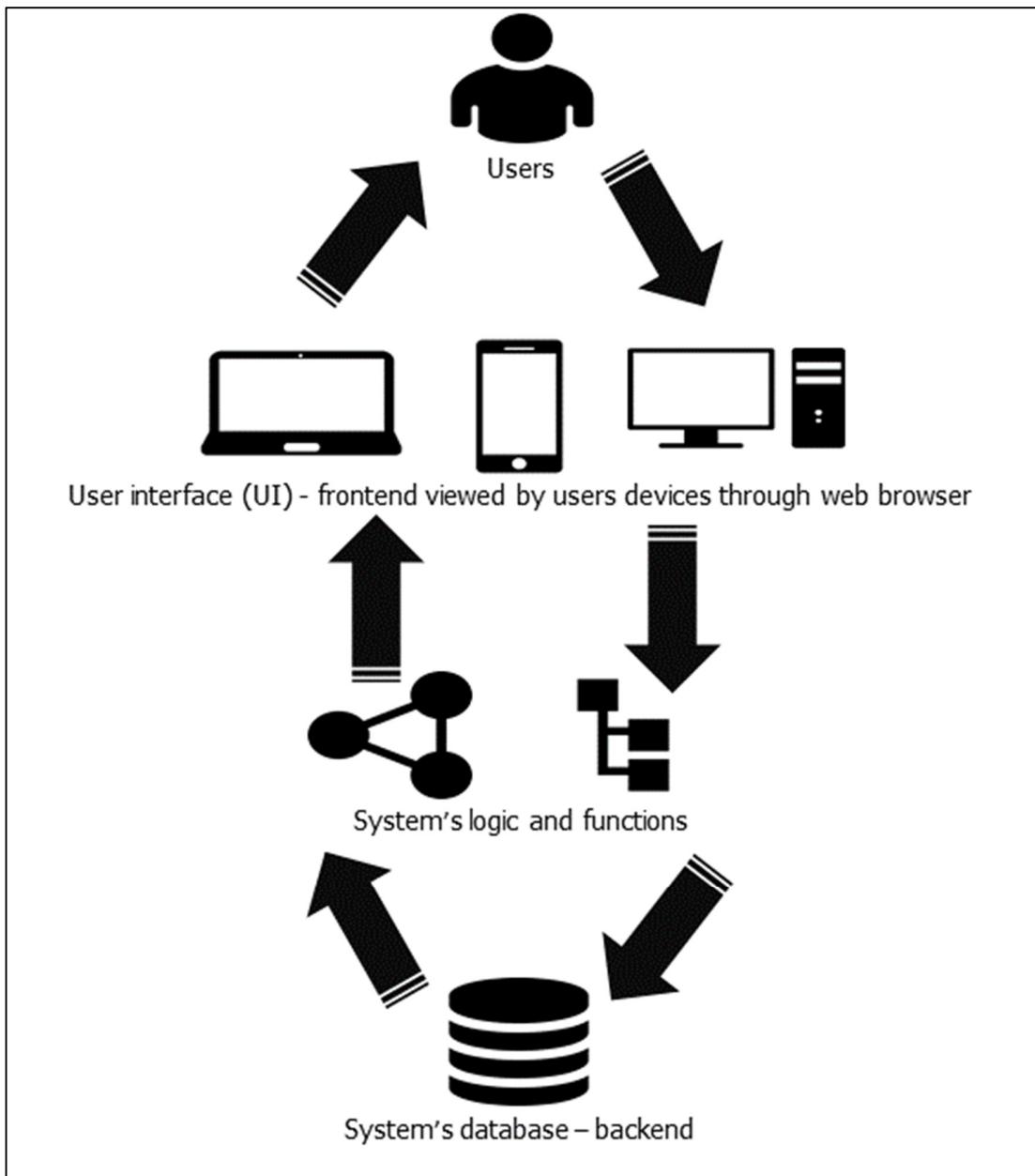
## **4.3 System Design**

After all the requirements have been gathered and interpreted, it is time to design the system. In developing system, the steps must be systematic and traceable so any problems and mistakes can be found easier during debugging process. Thus, the usage of design phase is to create to mock-up design before going into coding before developing the real system. In here, there are three main aspects will be described which are architectural design, user interface (UI) design and database design. These are the core foundation before starting up into development as these will be used as reference.

### **4.3.1 Architecture Design**

In this project, the architecture that will be implemented is three-tier architecture or client-server architecture. This also well known as web-based or web application design architecture because the client only need web browser to access and use the system. On the top layer, the users able to see the user interface where they can interact with including able to fill in text input to and receive output from the system. This also known as frontend of the system. On second layer, this is the intermediate between top with the bottom layer. It consists of application logics like functions and manage the data to store and retrieve from the database. The bottom layer or known as the backend system only consists of databases and data store. This is where the data of the system stored by the users and will be used back when users want to retrieve back.

The benefits of using this architecture is that it is easier to do maintenance process. It is because the process does not require the involvement of users. The maintenance only done in the server side since user only need web browser to access the system and not need any application to install or update. The Figure 4.25 shows the concept of three-tier architecture.

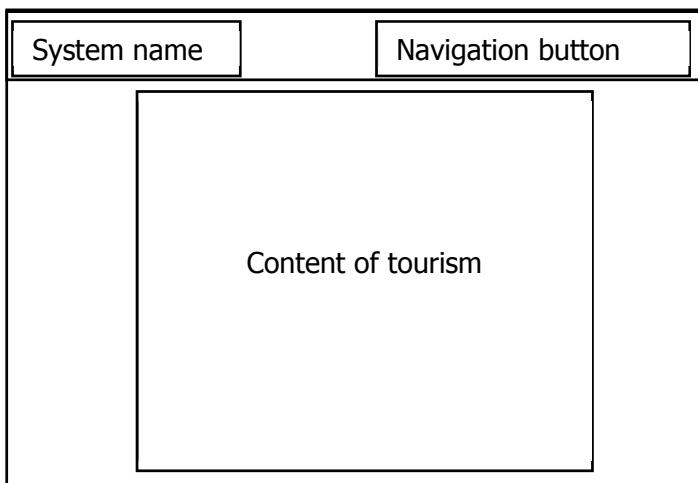


**Figure 4.25: Diagram of three-tier architecture.**

#### **4.3.2 User Interface Design**

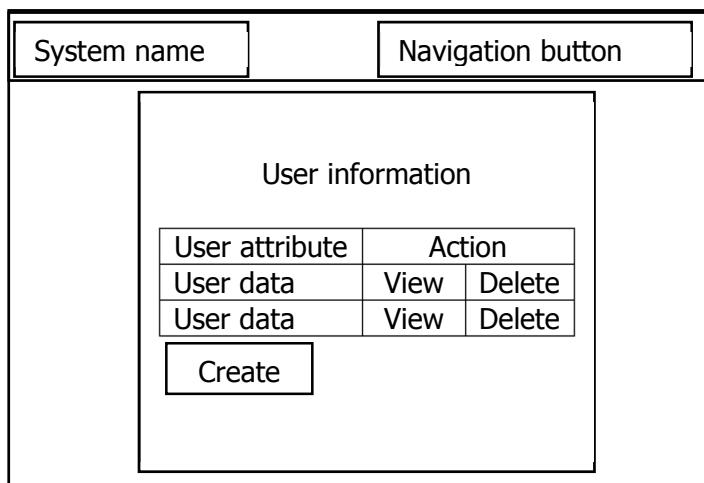
This is where the mock-up design created to get the basic idea on how the system would look like. The path and logic based Data Flow Diagram (DFD).

The first page will be landing page shown in Figure 4.26. Navigation buttons will redirect to other pages of the system. The navigation buttons are home, activities, tour package and user account.



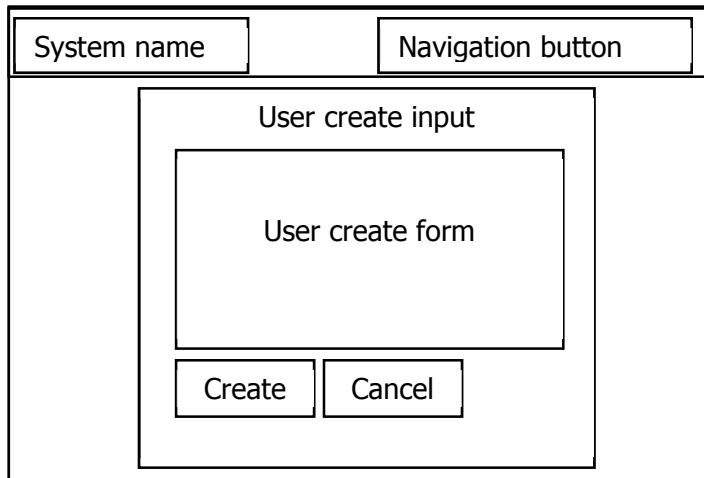
**Figure 4.26: Landing page.**

The user profile management will be shown in Figure 4.27. This page is only available for admin. This includes button to create, view and delete. Create button will redirect to the page of creating user. View button to view the user profile and edit as well. Delete button will perform delete action to the selected user.



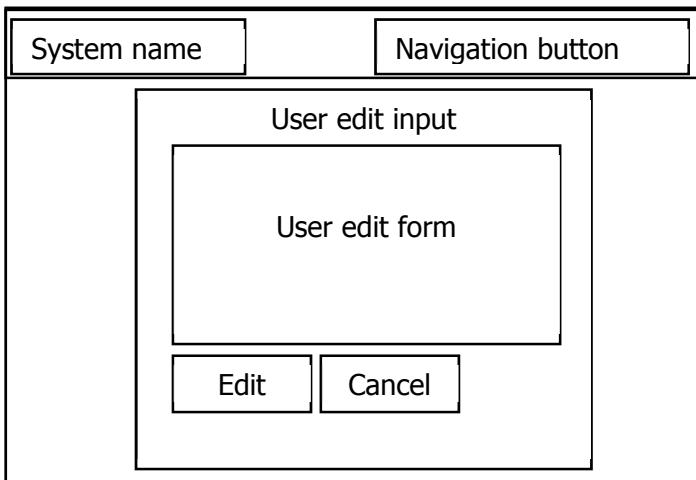
**Figure 4.27: User profile management page.**

Figure 4.28 shows add user page. This will be similar look for the user registration for tourist. User need to give input in the user create form and click create button for system to save into database. Cancel button performs redirect to user profile menu.



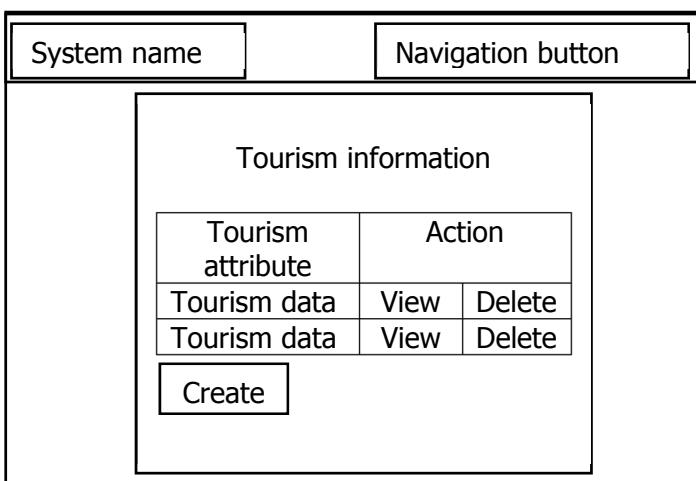
**Figure 4.28: Add user page.**

Figure 4.29 shows the view and edit user. The page will be similar with the add user page. The only change that edit user button instead add user which performs the save changes data action into database. Cancel button is used to cancel the edit user process that redirect to user profile management page.



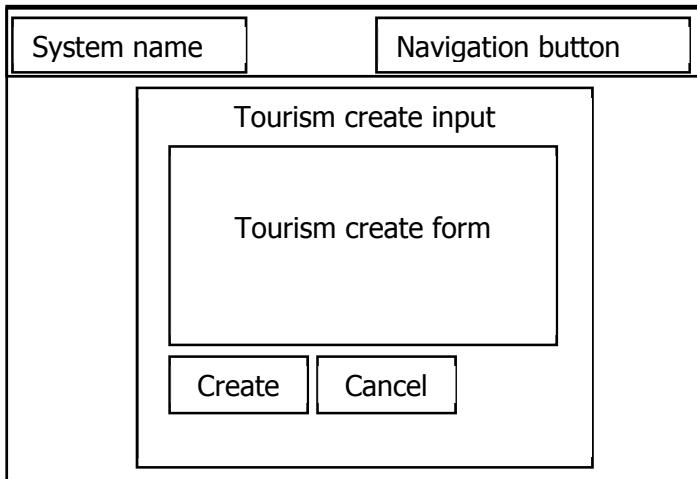
**Figure 4.29: Edit user page.**

The interface for the other module is almost the same, for easy adaptation. Tourism will be divided into two, activities and tour package. However, these two share almost similar interface. The Figure 4.30 shows the manage tourism page.



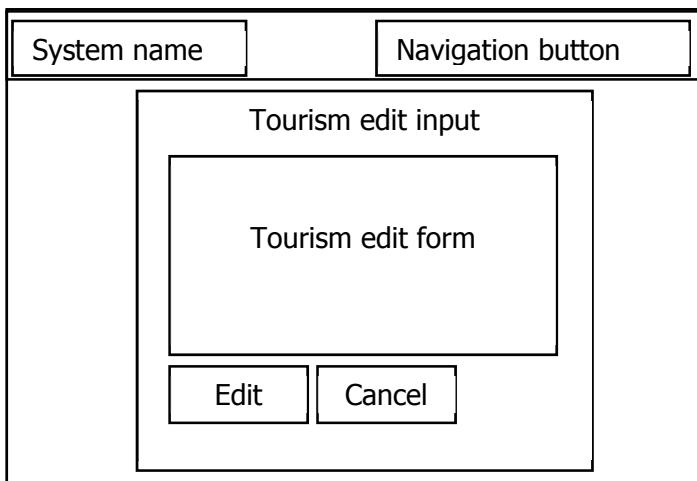
**Figure 4.30: Tourism management page.**

Adding tourism page will look like in Figure 4.31. This page will collect the data of tourism in tourism create form. Create button to save the data into database and cancel button to cancel the create tourism process.



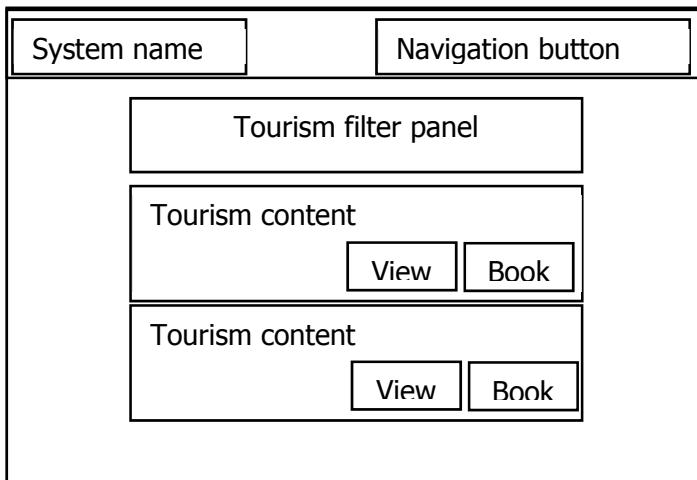
**Figure 4.31: Add tourism page.**

View and edit tourism shown in Figure 4.32. Edit tourism will be used to save the changes from the form into database. To cancel, cancel button available and redirect to tourism management page.



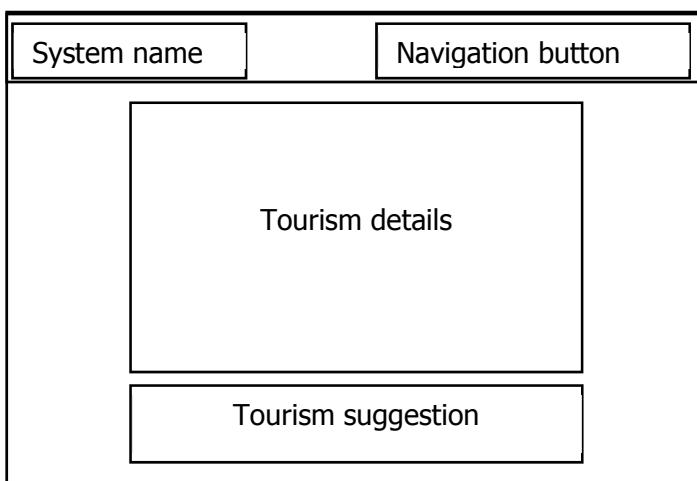
**Figure 4.32: Edit tourism page.**

Page for advertise tourism is shown in Figure 4.33. The tourism filter consists of type of vacation and place of tourism. If user want to narrow down based on what they want, this is useful to show what tourism are needed. View button will redirect to the details of tourism page meanwhile the book button will bring to the reservation page.



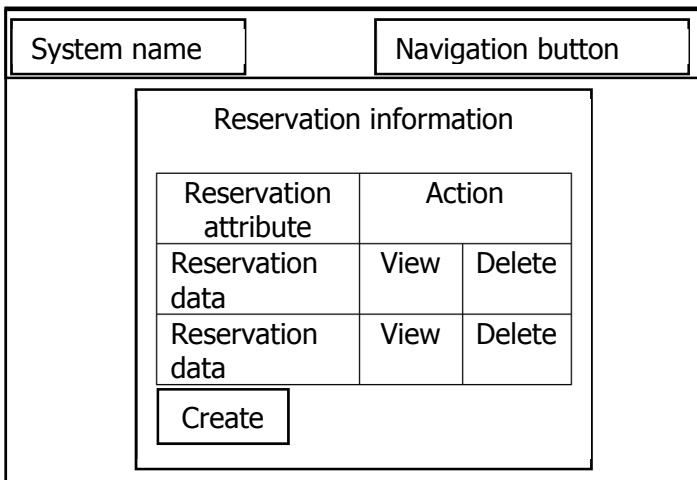
**Figure 4.33: Tourism advertisement page.**

Details of tourism shown in Figure 4.34. This includes photos of the tourism, description, duration and other tourism attributes. This page also shows suggestion for other tourisms related to the tourism chose.



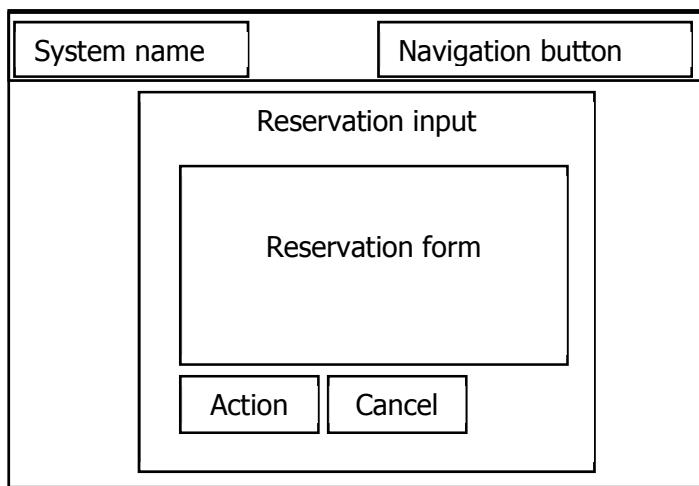
**Figure 4.34: Tourism details page.**

Figure 4.35 shows the reservation management page. The create is used to create reservation and choose what activity or tour package that user want. View button will redirect to reservation details and delete button used to delete reservation that longer used.



**Figure 4.35: Reservation management page.**

The view of adding, editing and reviewing reservation is show in in Figure 4.36. The reservations add, edit and review share the same interface. When the book button is clicked from the tourism page, it will redirect to this page with pre-defined value in the form. Some values need input from user however like number of adults and start vacation. Action button is based on the process. For example, the add action, the button will add the reservation data into database and same goes to edit. Cancel button is used to cancel the process of adding or editing reservation.



**Figure 4.36: Add, edit and review reservation page.**

### 4.3.3 Database Design

From the analysis done in Entity Relationship Diagram (ERD), this is where the database entity with respective attributes are detailed. Each attributes are explained and shown which of the following represent as the primary key. This information can be gained through database dictionary. Each entity will represent in a table along with its attribute. The details of each attribute is shown with the description what the data that it holds.

#### 4.3.3.1 Database Dictionary

The data dictionary will be described by table. The first table (Table 4.2), shows the data dictionary for user profile which is responsible to holding data for user profile module. To ensure the data dictionary is correct, the table must be revised back with the ERD either it is correct in terms of attributes and relationship.

**Table 4.2: Data dictionary of user profile table.**

<b>Attributes</b>	<b>Data Type</b>	<b>Length</b>	<b>Description</b>
id	Integer	5	User ID (primary key).
name	Varchar	20	Name of the user.
email	Varchar	50	User's email to be used as username.
password	Char	128	User's password
role_user_id	Integer	1	Determine either user is tourist, executive staff or admin.
phone_number	Varchar	13	User's phone number.

In Table 4.3 shows the table of role of users.

**Table 4.3: Data dictionary of role user.**

<b>Attributes</b>	<b>Data Type</b>	<b>Length</b>	<b>Description</b>
id	Integer	5	Role User ID (primary key).
name	Varchar	15	Name of the user role.

The next data dictionary is place tourism. This is needed for tourism place and itinerary module. Note that, the tourism place, itinerary and tour package tables are separated to minimize the repeated and redundancy of data recorded which causes storage waste. The Table 4.4 shows the data dictionary of place tourism table.

**Table 4.4: Data dictionary of place tourism table.**

<b>Attributes</b>	<b>Data Type</b>	<b>Length</b>	<b>Description</b>
id	Varchar	5	Tourism ID (primary key).
name	Varchar	20	Name of the tourism place.

Also the data dictionary for the type of vacation in Table 4.5.

**Table 4.5: Data dictionary of type of vacation table**

Attributes	Data Type	Length	Description
id	Integer	5	Type Vacation ID (primary key).
name	Varchar	20	Name of the vacation type.

After that is the table of data dictionary of the typeable. Table 4.6 defines the data dictionary for the relation between type vacation table with itinerary and tour table.

**Table 4.6: Data dictionary of typeable table.**

Attributes	Data Type	Length	Description
id	Integer	5	Typeable ID (primary key).
type_vacation_id	Integer	20	ID of the vacation type.
typeable_id	Integer	5	ID reference
typeable_type	Varchar	10	Model reference for the typeable_id

Table 4.7 shows the tourismable data dictionary table. Same as typeable, this table used to relate between tourism table with the itinerary and tour tables.

**Table 4.7: Data dictionary of tourismable table.**

<b>Attributes</b>	<b>Data Type</b>	<b>Length</b>	<b>Description</b>
id	Integer	5	Tourismable ID (primary key).
tourism_place_id	Integer	20	ID of tourism
tourismable_id	Integer	5	ID reference
tourismable_type	Varchar	10	Model reference for the tourismable_id

Next is the data dictionary of itinerary table as shown in Table 4.8.

**Table 4.8: Data dictionary of itinerary table.**

<b>Attributes</b>	<b>Data Type</b>	<b>Length</b>	<b>Description</b>
Id	Varchar	5	Itinerary ID (primary key).
Name	Varchar	50	Name of the itinerary.
Description	Text	5000	Description about the particular itinerary.
Duration	Varchar	5	Time duration of the itinerary.
Price	Integer	7	Price of the itinerary.

The table of tour package is detailed in Table 4.9.

**Table 4.9: Data dictionary of tour package table**

Attributes	Data Type	Length	Description
Id	Varchar	5	Tour ID (primary key)
Name	Varchar	50	Name of the tour.
Description	Text	5000	Description of the tour.
Duration	Varchar	5	Time duration of the tour.
Price	Integer	7	Price of the tour.

Table data dictionary for itinerary tour is shown in Table 4.10. This is used as pivot table to relate between tour and itinerary table.

**Table 4.10: Data dictionary of itinerary tour.**

Attributes	Data Type	Length	Description
id	Integer	5	Itinerary tour ID (primary key).
package_tour_id	Integer	5	ID of the tour.
itinerary_id	Integer	5	ID of the itinerary.

For the reservation table, as it used in the reservation module and also as the central table which relates with the other table in the system. The Table 4.11 details the data dictionary of reservation table.

**Table 4.11: Data dictionary of reservation table.**

Attributes	Data Type	Length	Description
Id	Varchar	5	Reservation ID (primary key)
user_id	Varchar	5	Used to connect this table with user profile table (foreign key).
reservation_type_id	int	10	Type of reservation.

reservation_start	Varchar	10	Date of start reservation.
reservation_end	Varchar	10	Date of end reservation.
price	Int	7	Amount of payment for reservation.
reservation_status_id	Int	5	Status of the reservation, for example, pending, approved, canceled and so on.

Table 4.12 shown below is the reservation type data dictionary table.

**Table 4.12: Data dictionary of reservation type.**

Attributes	Data Type	Length	Description
id	Integer	5	Reservation type ID (primary key).
name	Varchar	20	Reservation type name.

The reservation status data dictionary shown in Table 4.13. This represents what is the value of the reserve status.

**Table 4.13: Data dictionary of reservation status.**

Attributes	Data Type	Length	Description
id	Integer	5	Reservation status ID (primary key).
name	Varchar	20	Reservation status name.

To relate between reservation with itinerary and tour tables, another table is created called reservable. Table 4.14 shows the data dictionary of reservation vacation.

**Table 4.14: Data dictionary of reservable.**

<b>Attributes</b>	<b>Data Type</b>	<b>Length</b>	<b>Description</b>
id	Integer	5	Reservable ID (primary key).
reservation_id	Varchar	20	ID of reservation table.
reservable_id	Integer	5	ID reference
reservable_type	Varchar	10	Model reference for the reservable_id

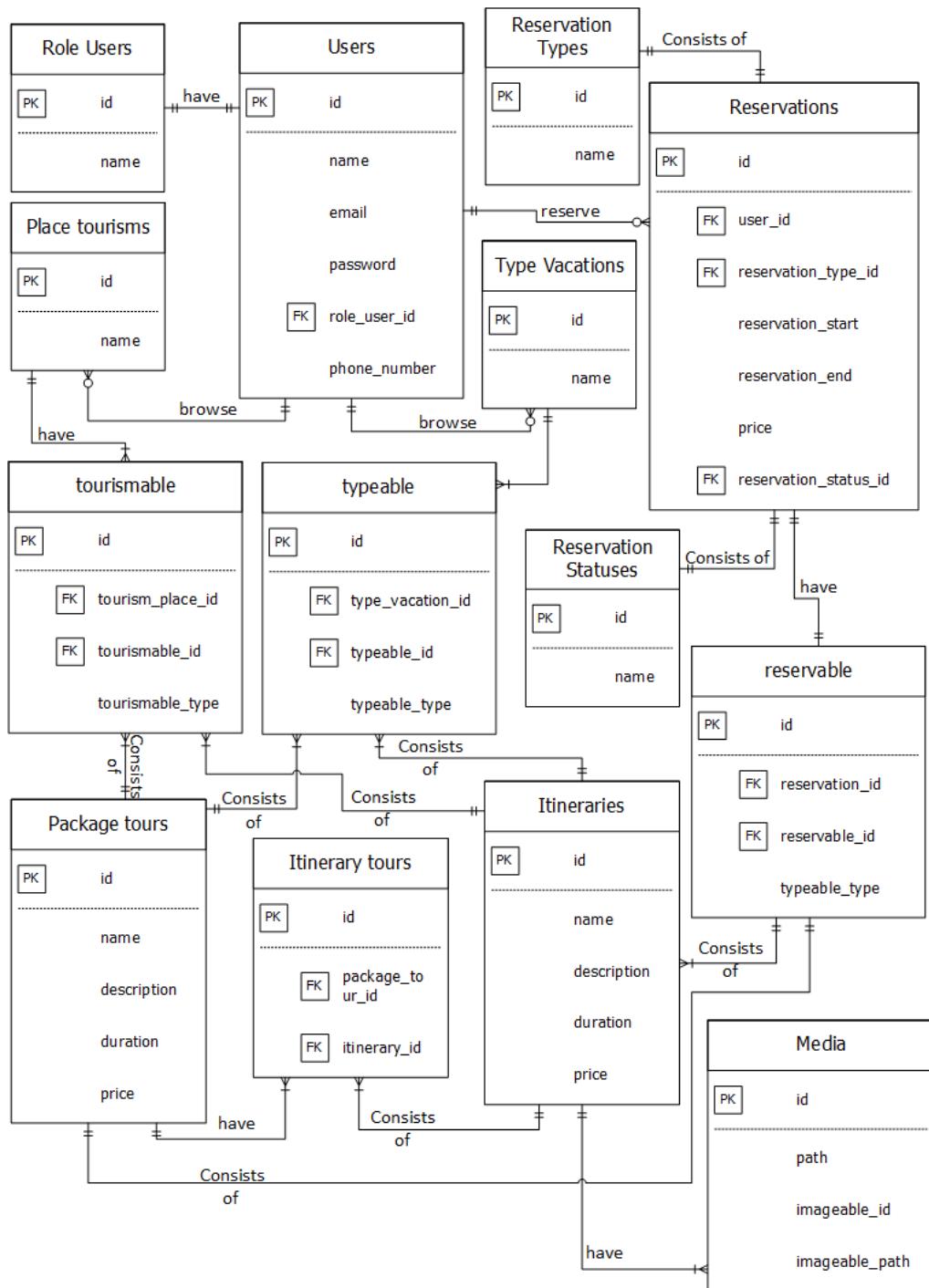
Lastly, the media table which responsible to store the media path of the modules needed. In table 4.15 shows the data dictionary for the media table.

**Table 4.15: Data dictionary of media table.**

<b>Attributes</b>	<b>Data Type</b>	<b>Length</b>	<b>Description</b>
id	Integer	5	Reservable ID (primary key).
Path	Varchar	20	ID of reservation table.
imageable_id	Integer	5	ID reference
imageable_type	Varchar	10	Model reference for the imageable_id

#### **4.3.3.2 Entity Relationship Diagram (ERD)**

To get the idea on how the module relate to one another, the Entity Relationship Diagram (ERD) is needed to show the map of each entity. Since it is about relationship of data, the Figure 4.37 shows the relationship of each entity to one another and see whether the entity can be null or not.



**Figure 4.37: Entity Relationship Diagram (ERD) of the system.**

#### **4.4 Conclusion**

Analysis phase is a phase where the requirements are gathered from the related users to get idea on how the system should behave and look like. Methods that have been used are questionnaires and interviews. The reason is that to get the balance requirements of breadth and width of the requirements of the system. After the requirements are gathered, the flows of the data and system can be outlined. The usage Data Flow Diagram (DFD) is used to get the flow of each data from user to system and back from system to user. The Entity Relationship Diagram (ERD) is used to get the relationship between the data of each entity with its attributes. This also help on the relations within the system.

Once the analysis is done, the design phase can be carried out. Starting off with the architecture design, the concept that the system will used and the benefit of using it. Next, the user interface (UI) design is shown to get the mock-up of the developed system of each process. Then, the database design is detailed through data dictionary to get the understanding on what are the attributes the data hold in and the how the relationship is done between multiple tables.

After the design phase is done, now the implementation phase can be done. The implementation must refer to the result of previous phases to ensure the developed system match with the diagrams shown in this chapter.

# **CHAPTER 5**

## **IMPLEMENTATION**

### **5.1 Introduction**

This chapter elaborates about the implementation phase for the system. This phase takes a lot of time, effort and resources due to convert the ideas and designs from previous phases into real live system. This requires knowledge and skills about system application logics and also the programming language that will be used in developing processes. After the implementation is done, the system is live and usable to the users which solve the problem statements that already mentioned in the first chapter.

### **5.2 Implementation**

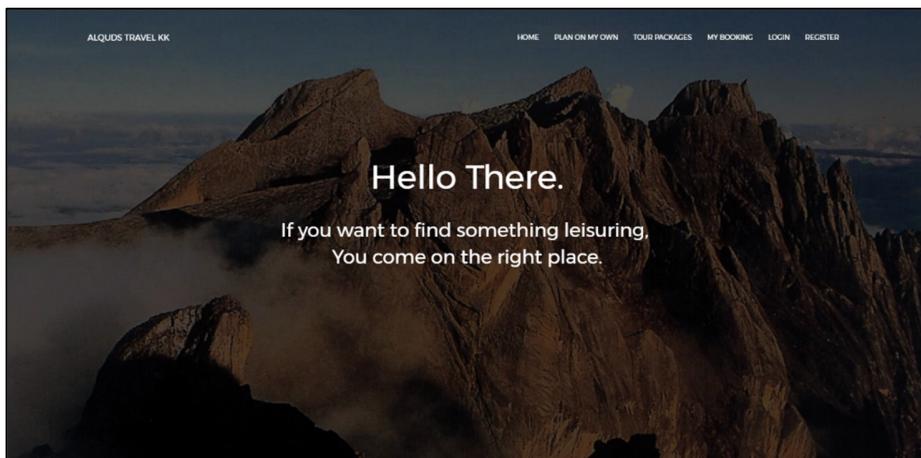
The implementation will be divided into two sections which is back-end implementation and front-end implementation. In back-end implementation, the database of the system is configured based on the Entity Relationship Diagram and data dictionary designed in chapter 4. Also, the relationship of each entity is defined to ensure the connectivity between entities working in each module. In addition, the process of each module is shown in code.

Meanwhile, the front-end shows the user interface which is the interaction between the system and the user. When the user gives an input to the system, what are

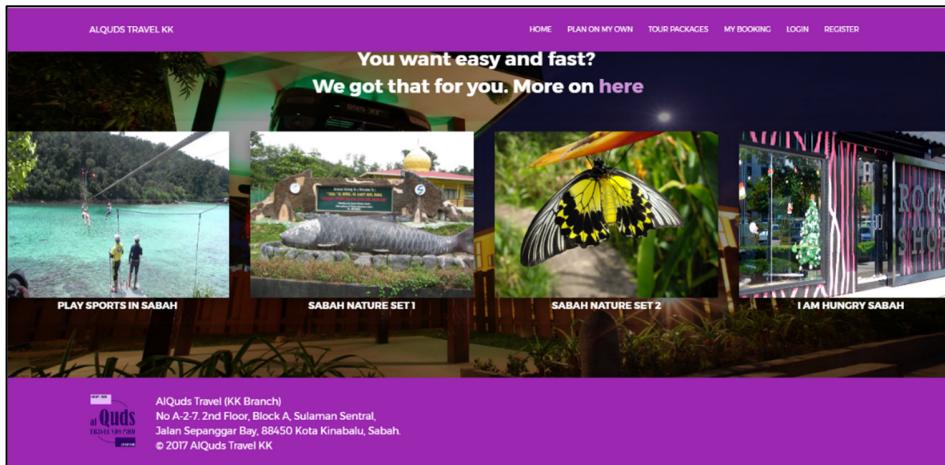
the responses shown back to the user and also the processes happened at the back-end of the system at the same time.

The front-end of the system is using HTML5 and CSS3. The additional JavaScript and JQuery is needed to ensure the functionality of the system as expected. The user interface shown is simple and straight forward to ensure the functionality of the back-end to and from the database.

The first interface that user see is the main page as shown in Figure 5.1. The page shows the greeting towards user with navigation button on top for easy access across the system. While scrolling down, the list of random activities and tour packages are advertised in Figure 5.2 along with the footer of the website for information about the company.

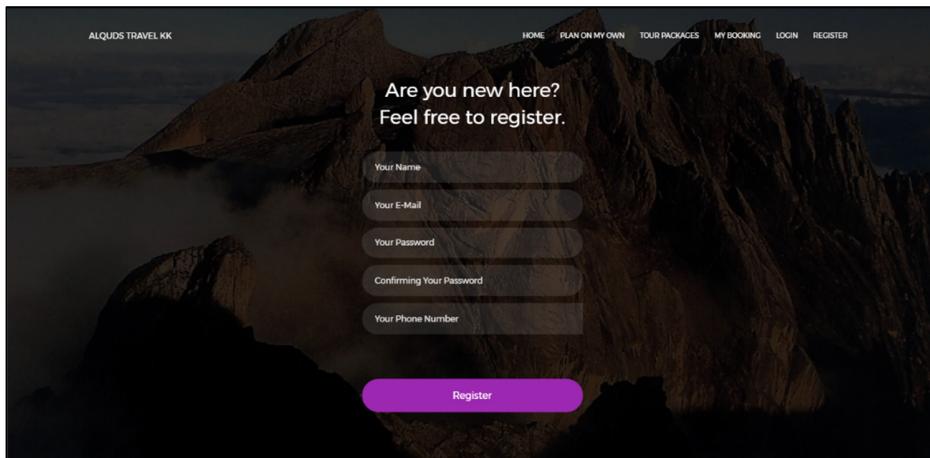


**Figure 5.1: Main page of the system.**



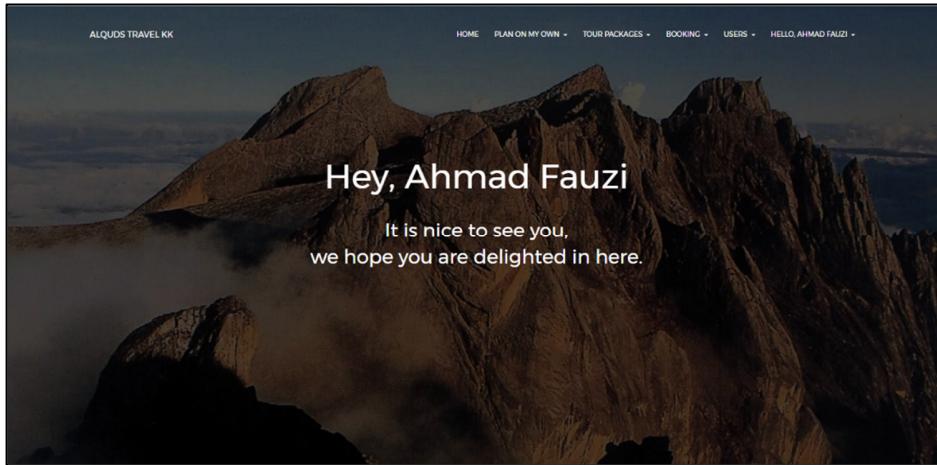
**Figure 5.2: Random tour packages shown along with footer.**

If the user is new and have not registered yet, they can register to the website through clicking the "Register" button. The user interface for the user creation as shown in Figure 5.3. The list of role user can be seen in the drop down select input. User needs to enter all the required input before click on register button. The register button will redirect to the landing page of the system.



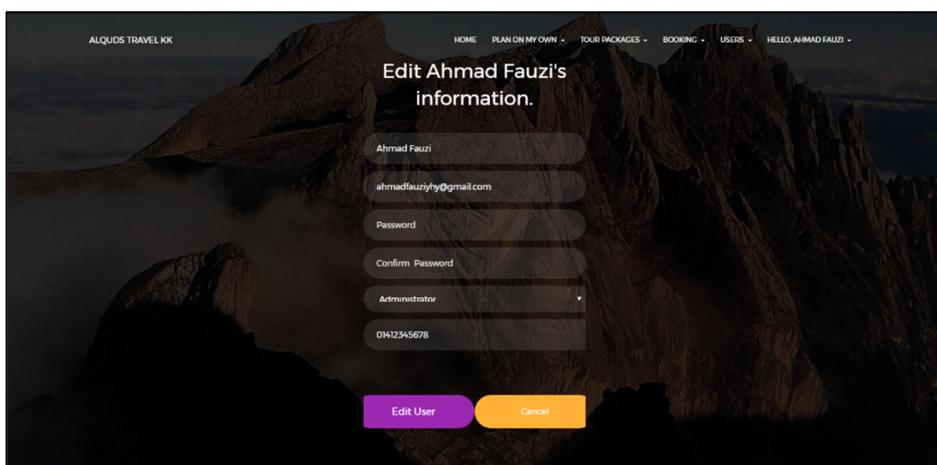
**Figure 5.3: User create process.**

After the registration, user redirected to the main page again as shown in Figure 5.4. The greetings changed to suit with the user.



**Figure 5.4: Main page of the system after register or login.**

When user wants to edit their user information, they can click on link of their name in navigation bar and click "View My Profile". Edit process of user is shown in Figure 5.5. The password input is not required for the users who do not want to change to password. After user key in the changed information, user click the "Edit User" button to update the user data information into database.



**Figure 5.5: User edit process.**

For admin, the user management can be seen by clicking "User" in navigation bar and choose "View All Users". The user management can be shown in Figure 5.6. "View" button to see the information of the user's information and "Delete" button for delete the user.

The screenshot shows a modal window titled "USER MANAGEMENT" with the sub-header "LIST OF REGISTERED USERS". The table lists five users:

ID	Name	Email	Role User	Phone Number	Created	Updated	Action
1	Ahmed Fauzi	ahmadfauziyhy@gmail.com	Administrator	01412345678	1 week ago	1 week ago	<button>View</button> <button>Delete</button>
2	Lisaa	lisa@gmail.com	Executive Staff		1 week ago	1 week ago	<button>View</button> <button>Delete</button>
3	Adrian	adrian@gmail.com	Tourist		1 week ago	1 week ago	<button>View</button> <button>Delete</button>
5	Tourist	tourist@email.com	Tourist	0146464421	1 week ago	1 week ago	<button>View</button> <button>Delete</button>

At the bottom left of the modal is a "Create" button.

**Figure 5.6: User management.**

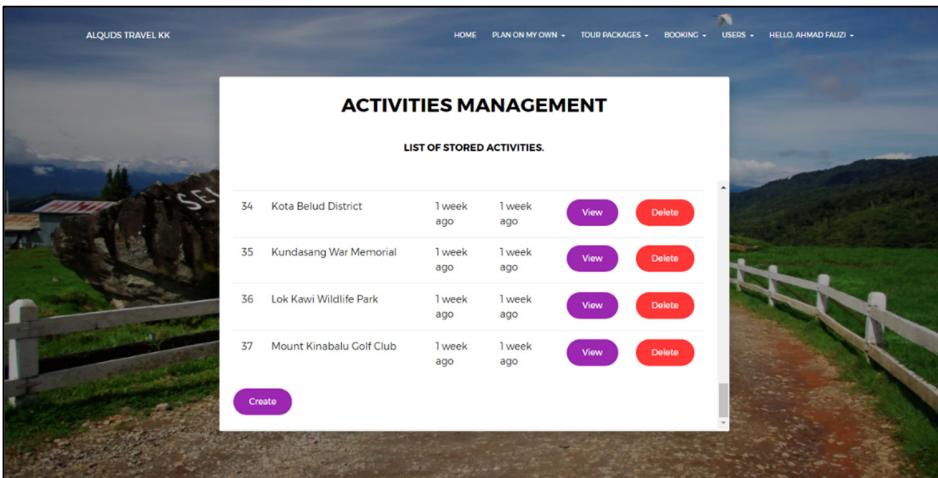
The confirmation dialog will be shown before confirming the delete process. After deleting process successful, Figure 5.7 shows the dialog of notification that user is no longer in the system.

The screenshot shows a modal window titled "User deleted" with the message "User Tourist successfully deleted". A "Close" button is at the top right. The underlying table remains the same as in Figure 5.6, except the "Tourist" user is no longer listed.

ID	Name	Email	Role User	Phone Number	Created	Updated	Action
1	Ahmed Fauzi	ahmadfauziyhy@gmail.com	Administrator	01412345678	1 week ago	1 week ago	<button>View</button> <button>Delete</button>
2	Lisaa	lisa@gmail.com	Executive Staff		1 week ago	1 week ago	<button>View</button> <button>Delete</button>
3	Adrian	adrian@gmail.com	Tourist		1 week ago	1 week ago	<button>View</button> <button>Delete</button>

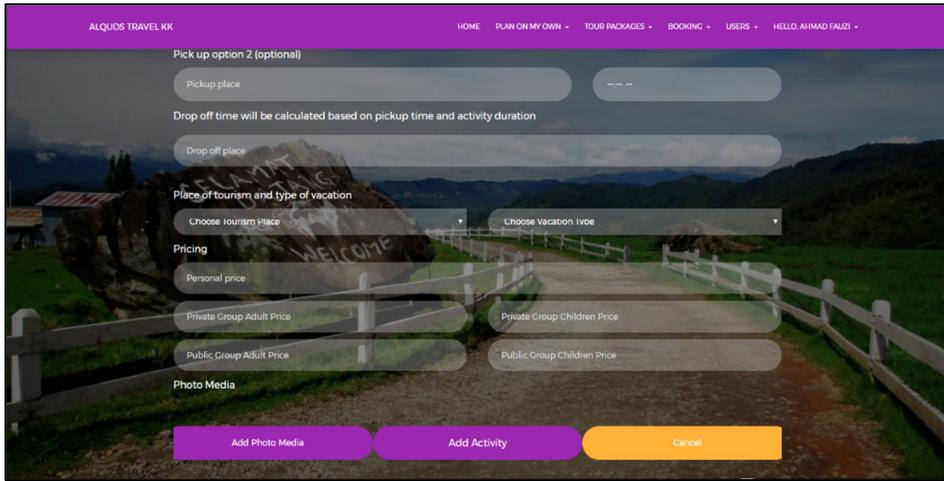
**Figure 5.7: User deletion notification.**

When admin and executive staff want to manage the tourism in the system, they click on “Plan On My Own” (activities) or “Tour Packages”. After that, click on the “Manage Tourism” button. It will show the tourism management page in Figure 5.8. In this case, the activities management.



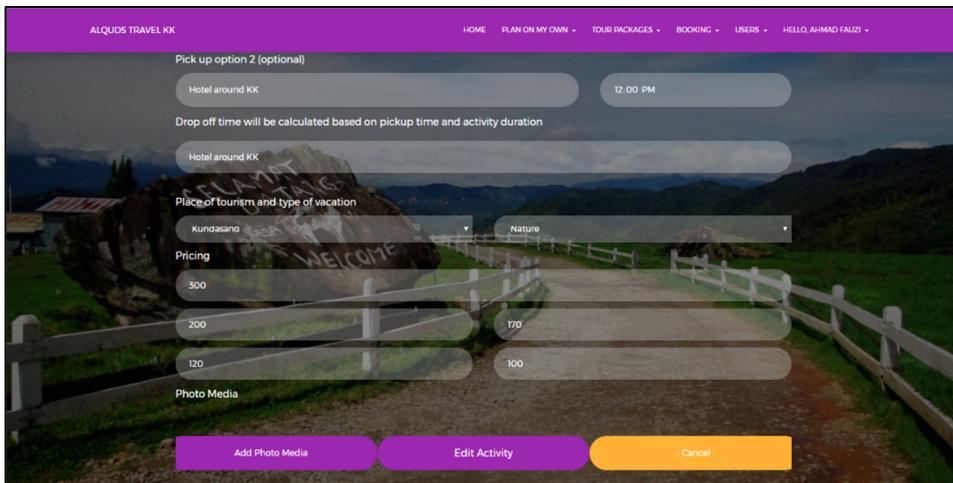
**Figure 5.8: Tourism management page.**

When admin and executive staff want to add new tourism, they can click on the “Create” button. Then, the form of creating activity of tourism as shown in Figure 5.9. If admin or executive staff want to add photo more than one, the “Add Photo Media” button will add more media input. The “Create Activity” button will save all the data given into database and shown in the system.



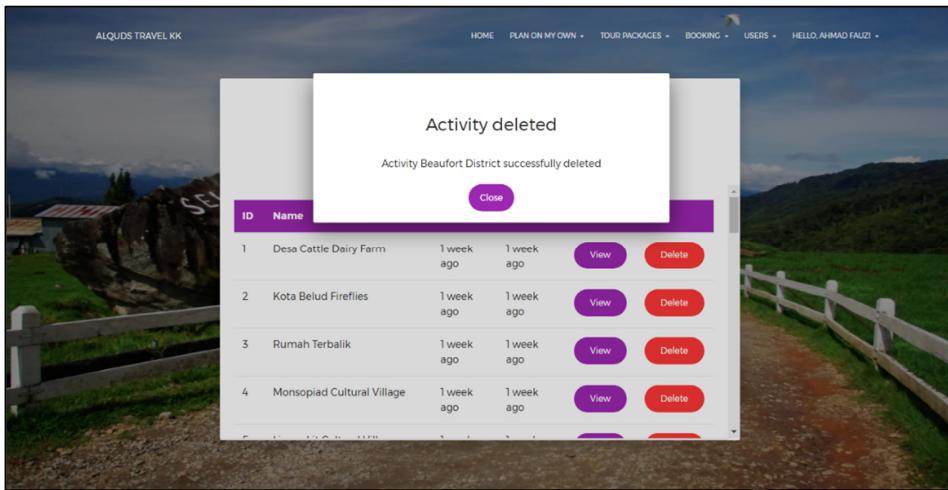
**Figure 5.9: Activity create process.**

To edit tourism, admin and executive staff click on "View" button from tourism management page. The page shown in Figure 5.10. After the changes is done, "Edit Activity" will store the changes into database and the cancel button responsible to go back to list all activities.



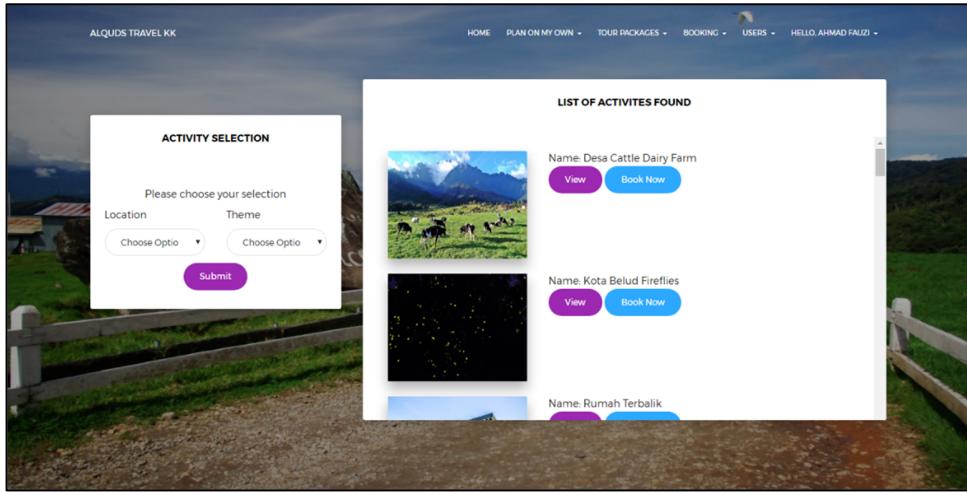
**Figure 5.10: Tourism Edit process.**

Similar to user deletion, the tourism deletion can be performed in tourism management page by clicking “Delete” button. Figure 5.11 shows the deletion process of a tourism. The system will notify the admin and executive staff that the tourism is successfully deleted.



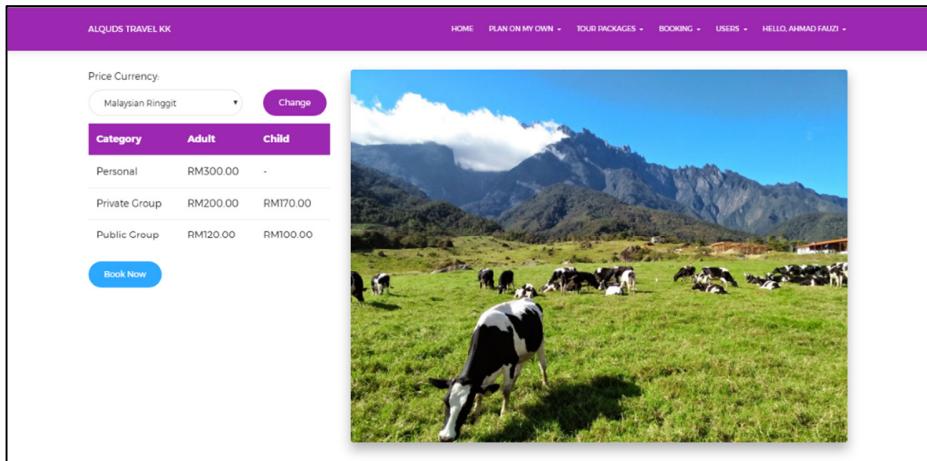
**Figure 5.11: Deletion of tourism.**

When tourist want to browse for tourism, they can click on “Play On My Own” or “Tour Package” in navigation bar. For admin and executive staff, they need to choose “View Tourism” after click on the tourism choices in navigation bar. Figure 5.12 shows the filter selection of tourism. Filter used to set what tourism need to show to the user.



**Figure 5.12: Tourism advertisement.**

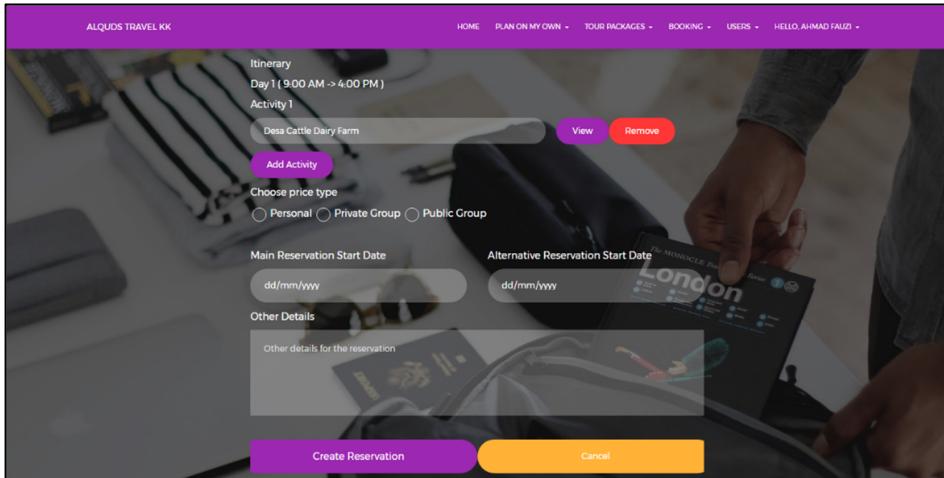
Figure 5.13 shows the tourism details page. The page shows description related to the tourism. The “Book Now” button will redirect to the reservation page. Also, this is where on-page search engine optimization applied.



**Figure 5.13: Tourism details page.**

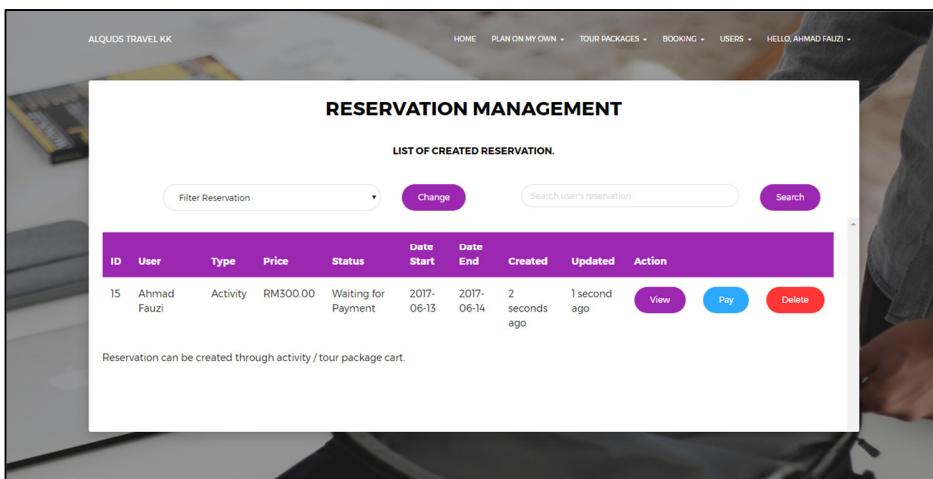
Once “Book Now” is clicked. User will redirect to create reservation page. In Figure 5.14, the creation process reservation for tourism. The system automatically allocates the

schedule based on queue. Users able to add more activity by click on add tourism button. The “Create Reservation” button will store the reservation data of user into the system.



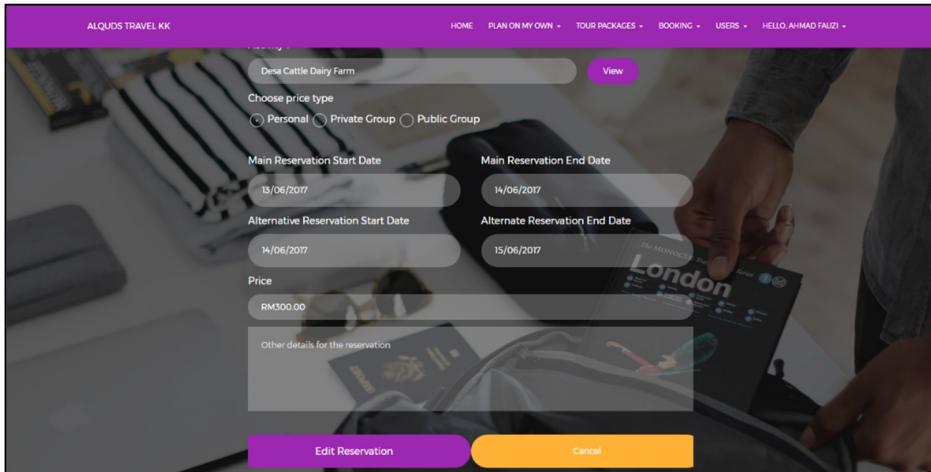
**Figure 5.14: Tourism reservation create process.**

After reservation is created, reservation management page is shown along with the new reservation in Figure 5.15. “View” button to view the reservation and edit some reservation information. “Pay” button to make reservation payment. “Delete” is to delete reservation.



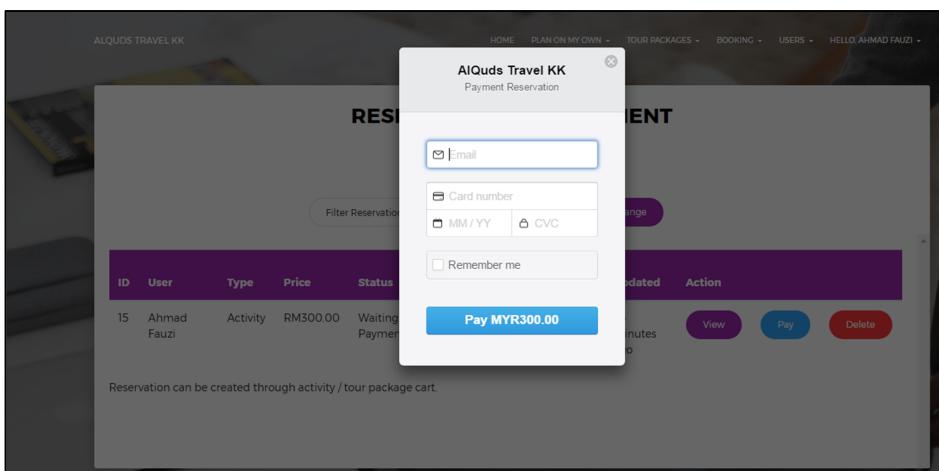
**Figure 5.15: Reservation management page.**

When user edit reservation, "View" button is clicked. Figure 5.16 shows the form of reservation. The estimated end date based on duration of activities booked. Also, the sum of price is calculated. After the changes is done, user click on "Edit Reservation" button to update the information to the database.



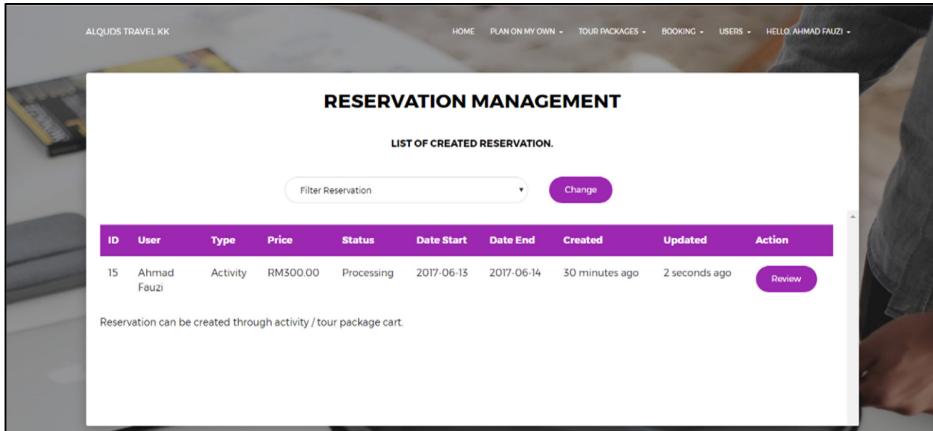
**Figure 5.16: Edit reservation process.**

The payment can be done when user click on "Pay" button in reservation management page. The interface of reservation payment is shown in Figure 5.17. The system prompts to the user that the payment need to be done before processing the reservation.



**Figure 5.17: Reservation payment.**

After the payment successfully done, the admin or executive staff able to review the reservation. Figure 5.18 shows the changes of reservation status from waiting for payment to processing. The “Review” button is used to review the paid reservation.



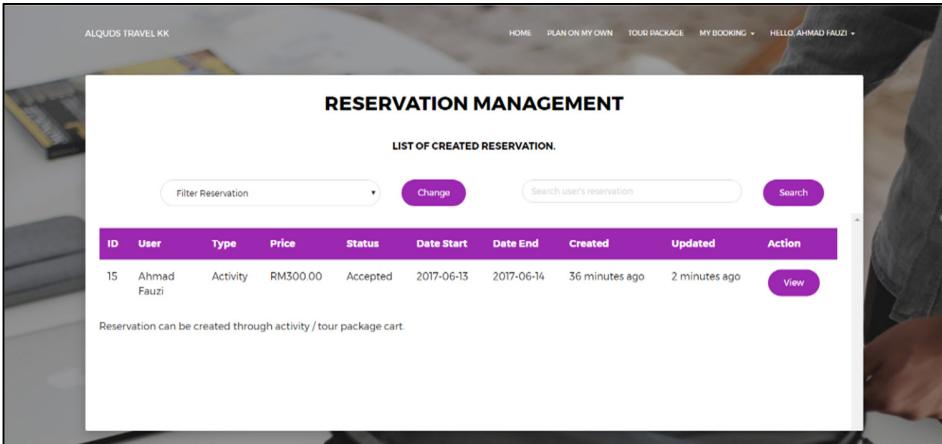
**Figure 5.18: Reservation in process that need to review.**

The Figure 5.19 shows the form of review reservation after “Review” button is clicked. Admin or executive staff able to change to the status of the reservation with some notes to the tourists in the remark input. The “Review Reservation” will the change reservation status along with the remark into reservation data table.

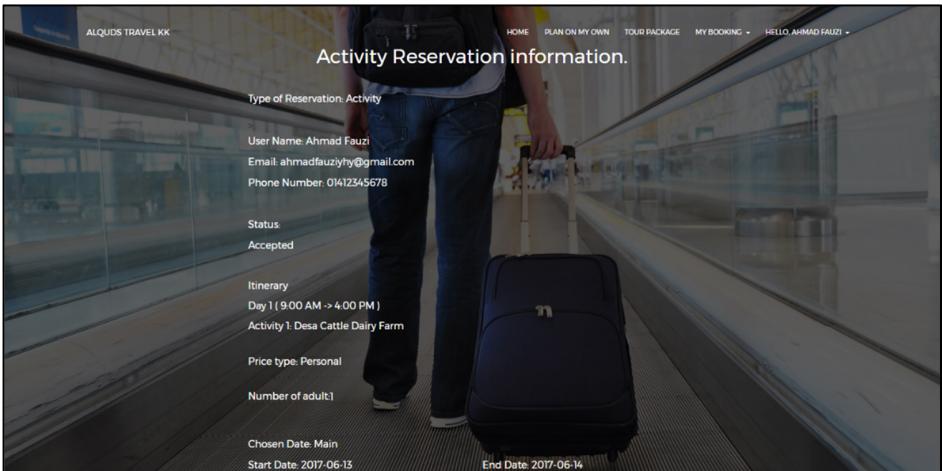
Choose price type Personal  
Main Reservation Start Date  
13/06/2017  
Main Reservation End Date  
14/06/2017  
Alternative Reservation Start Date  
14/06/2017  
Alternate Reservation End Date  
15/06/2017  
Price  
RM300.00  
Status  
Processing  
Remarks:  
Other details like flight ticket, no plat of car, etc.

**Figure 5.19: Reservation review form.**

For tourist, they able to view the reservation as in Figure 5.20. The “View” button will show reservation details with the status and remark which given by the admin or executive staff in Figure 5.21.



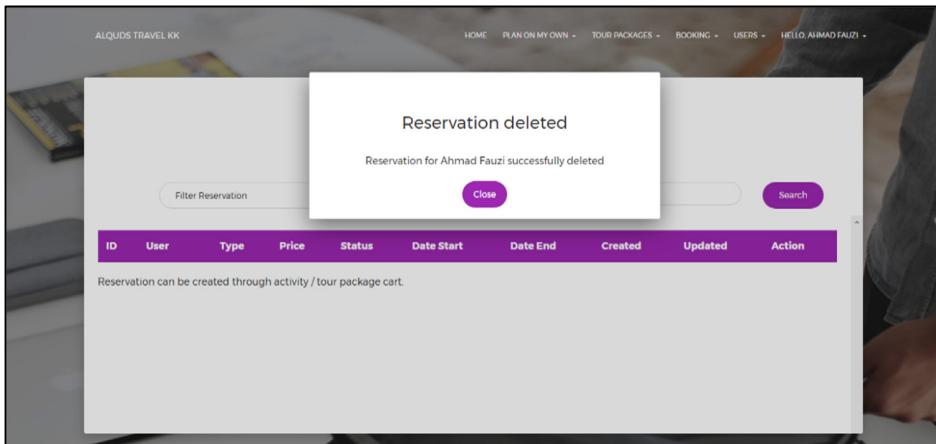
**Figure 5.20: Reservation view after payment.**



**Figure 5.21: Reservation view with status and remark**

The deletion process can be done in reservation management page by clicking “Delete” button. Reservation that can be deleted restricted to have not been paid for tracking and

logging reason. In Figure 5.22 shows notification when reservation is successfully deleted.



**Figure 5.22: Reservation deletion.**

### 5.3 Conclusion

The implementation phase is where all the ideas are changed into real system. This is where the analysis and designs come into real. From the main page until every process are developed by following the designs that created in previous chapter. After the implementation is done, the system must undergo next phase, which is testing. It is to ensure the system will have less bugs, logical errors and so on before reaching the final matured system. All the source code of the implementation can be found in this link <https://github.com/poji94/alqudskk>.

# **CHAPTER 6**

## **TESTING**

### **6.1 Introduction**

The chapter elaborate the testing process of each module found in this project. The main reason of doing this is to find the defects before delivering to the end users as well as to ensure the system follows the design flows as stated in chapter 4. In addition, it builds confidence to encourage users to rely the system and enhance the quality level of the system. In this chapter, there are 4 levels of tests which are unit testing, integration testing, system testing and acceptance testing.

### **6.2 Unit Testing**

Unit testing is used to test and detect flaws and defects in component for each module. When the defects are detected, debugging process is required to ensure it would not happen after the system successfully delivered to the end users. Table 6.1 shows the unit testing for User Profile Management Module.

**Table 6.1: Result of unit testing for User Profile Management Module**

<b>Function</b>	<b>Test</b>	<b>Expected Result</b>	<b>Test Result</b>	<b>End Result</b>	
				<b>Success</b>	<b>Failure</b>
User Registration	User enters the data in the user registration field.	Data will be entered in the user profile table.	Data entered in the user profile table.	✓	
	User enters the username which already exist in the system.	System unable to register the user	System prompt the username is already exist and in use thus unable to register	✓	
User Login	Enter the valid username and password into login field.	User able to log in into the system.	User logged into the system.	✓	
	Try entering invalid username and password into login field.	User unable to log in into the system.	System notify the user that invalid username and password and cannot log into the system.	✓	
	User logs out from the system through log out button.	User logged out.	User logged out from the system	✓	

	Restrict some non-privilege users from entering certain pages.	System must prompt to restrict the user	System shows error that user cannot access the page.	✓	
User Update	User able to update their data from user update field.	The data changes entered into database.	User profile table changed right after user change user profile data.	✓	
User Delete	Admin able to delete users through delete button.	User profile data no longer exist in the user profile table.	User profile data successfully deleted.	✓	

Table 6.2 shows the result of unit testing for Tourism Module.

**Table 6.2: Result of unit testing for Tourism Module**

<b>Function</b>	<b>Test</b>	<b>Expected Result</b>	<b>Test Result</b>	<b>End Result</b>	
				<b>Success</b>	<b>Failure</b>
Add tourism	Admin and executive staff add tourism through tourism input field.	The data entered into tourism table.	The data successfully entered into tourism table.	✓	

	Admin and executive staff add tourism which already exist in the system.	System unable to add the tourism.	System prompt the tourism is already exist and cannot be added.	✓	
View tourism	Users filter the tourism using type vacation and place tourism field.	Certain tourism associated with particular type vacation and place tourism shown	System lists out tourism which are associated with query of type vacation and place tourism.	✓	
	Users view the details of particular tourism.	Particular tourism is shown along with its details.	System shows the particular tourism along with details that found in the tourism table.	✓	
Edit tourism	Admin and executive staff edit the tourism through edit tourism input field with predefined old tourism data.	System will show the old data and save the changes after click update button.	System list out the details of tourism in edit tourism input field and save any changes after user clicked update button	✓	

Delete tourism	Admin and executive staff delete particular tourism.	System will no longer have particular tourism data in the table.	System delete the tourism from the tourism table.	✓	
----------------	--	--	---	---	--

Table 6.3 shows the result of unit testing Reservation Management Module.

**Table 6.3: Result of unit testing for Reservation Management Module**

Function	Test	Expected Result	Test Result	End Result	
				Success	Failure
Add reservation	User keys in the new reservation data	New reservation data saved into reservation table	Reservation table contain the new reservation data	✓	
View reservation	User retrieve the information of reservation along with the reservation details	Information of reservation is gathered and viewed into user interface	Reservation details are shown in the user interface	✓	
Edit reservation	User edit the reservation details including the changes of tourism related	System will show the old data and save the changes	System list out the details of reservation in edit reservation	✓	

		after click update button	input field and save any changes after user clicked update button		
	Admin or executive staff review the reservation and change the status of reservation	Reservation status changed after the review of the admin or executive staff	Reservation status changed right after admin or executive staff review the reservation	✓	
Delete reservation	User delete the not needed reservation	System will check the reservation status, only accepted and canceled reservation can be deleted by admin and executive staff	System show the available reservation for the related user and delete the desired reservation right after check the user privilege to perform the task.	✓	

### **6.3 Integration Testing**

This level of testing is used to test the functions available for the system. The difference between this testing with unit testing is that integration testing is used to evaluate the modules which consists functions able to work together without resulting any conflict. This is essential to ensure the data passes from one part of the system to another is consistent and flawless. Table 6.4 shows the result of the integration testing in user profile management module.

**Table 6.4: Result of integration testing**

<b>Test</b>	<b>Expected Result</b>	<b>Test Result</b>	<b>End Result</b>	
			<b>Success</b>	<b>Failure</b>
User information needed before creating a reservation.	System prompts to ask user information by ask to login or register.	System shows login page before proceeding to the reservation process.	✓	
Getting data from user profile module and tourism module in create reservation.	System able to gain information about user who create the reservation(who logged in) and tourism associated to it.	System shows the user who create the reservation with the list of tourisms reserved.	✓	

Get the user information of admin or executive staff who review the reservation	System able to get information of admin or executive staff in user table into reservation table	System shows the name and details that review the reservation.	✓	
Button of "Book Now" passes data of tourism information into reservation form.	Information of certain tourism passed into reservation form and shown to user.	System shows the reservation form with reserved tourism.	✓	
The "View" button in reservation form shows tourism information.	From reservation page, system fetch the information of particular tourism and display to user	System shows information of tourism.	✓	
"Pay" button redirects to external system.	System passes parameters before starting payment into external system.	External system shows payment dialog with price of the payment that passed from the system.	✓	
After external system validate the payment, system able to	External system pass data that tell it is paid and the system change	The reservation status changed from "waiting for payment" to "processing".	✓	

change the reservation status to "processing"	the status of reservation.			
---	----------------------------	--	--	--

#### 6.4 System Testing

Next level of testing to be conducted is system testing. This is needed to ensure the modules and functions able to fulfill the requirements. Not to forget, this testing is needed to examine how the system perform in terms of security. Table 6.5 shows the system tests that have been carried out.

**Table 6.5: Result of system testing**

Test	Expected Result	Test Result	End Result	
			Success	Failure
Database	New data: System able to save the new added data after clicking add button and saved into respective table.  Updated data: After clicking update button, data that have been changed will be saved by replacing the old	New data: Data can be found after add button in the expected table  Updated data: Data shown to be changed after update is clicked in the expected table  Delete data: After delete button is clicked, the data no longer to be	✓	

	<p>data to updated data in the respective table.</p> <p>Deleted data: Data will no longer to found in the respective table after</p>	<p>found which is available in the same table</p>		
Interface	<p>Button: Each button has function that responses to the expected actions or page</p> <p>Form input: Only submit when all text input is accepted</p>	<p>Button: Once the button is clicked, action or redirect page will be done by the system based on the function of the button.</p> <p>Form input: The form input will submitted after the verification of text input is accepted and error is shown when there is some values rejected</p>	✓	
Security	<p>Password: Password stored in the database must be encrypted</p>	<p>Password: Password added and changed must be encrypted first</p>	✓	

	<p>Page access: Tourists cannot access admin and executive staff privilege.</p>	<p>before stored in database.  Page access: Tourists only able to read tourism and manage own reservation. They cannot manage tourism and other user account.</p>		
--	---	---	--	--

## 6.5 User Acceptance Testing

This testing is used to ensure that the system will be accepted and usable by the user. Users will test the functionality of the system. The Table 6.6 shows the responses of the user acceptance test.

**Table 6.6: Responses of user acceptance**

<b>Test Scenario</b>	<b>Expected Result</b>	<b>End Result</b>	
		<b>Success</b>	<b>Failure</b>
Tourists will register for the first time use the system.	User registration data will be stored into user data table which can be used for login and reservation.	✓	
Tourists need to login into system.	Incorrect username and/or password block the user from accessing the system. Correct username and password able user to enter into system.	✓	

Tourists able to filter tourism based on preferences they want (type of vacation and place of tourism).	The system will show out the system based on preferences they want.	✓	
Tourists want to see the details of particular tourism.	The "view" button of each tourism will be redirect user to the details like description price and so on.	✓	
Tourists want to reserve the tourism.	The "Book Now" button will redirect user to reservation page. User will need fill the form before submit the reservation form.	✓	
Tourists want to pay the reservation tourism.	The button "pay" will bring a dialog to key-in their card and transaction happened.	✓	
Tourists want to view reservation they made.	The "view" button in reservation button will show the details of the reservation along with status the reservation.	✓	
Admin and/or executive staff want to see reservation made.	The reservation page will show all reservations made by users.	✓	
Admin and/or executive staff review the reservation either to accept or reject with some notes/remarks.	Once the tourist made their payment, the system will show "review" button for admin/executive staff to review the reservation.	✓	
Admin and and/or want to manage tourism data (create, update and delete)	In tourism section (activities and tour package), there are several button which correspond to the action (create, update and	✓	

	delete). Once it clicked, the create and update process require user to fill in form before entering tourism data in tourism table. For delete process, admin/executive staff click on “delete” button.		
--	---	--	--

The Table 6.7 shows the evaluation of the system by the user. This is used to check how much the user can get used to the system within the characteristics listed in the table.

**Table 6.7: Evaluation from user**

Characteristics	Poor	Average	Good
User-friendliness			✓
Ease-of-use			✓
Security			✓
Consistency			✓
Learnability		✓	

## 6.6 Conclusion

Testing is useful to ensure the system is functioning as expected. This is also used to test the functions based on the use cases on how users use the system. Testing from the lowest level to the system testing to make sure the defects is not visible during end users use the system, at the same time brings confidence that the system able to match user expectations.

# **CHAPTER 7**

## **CONCLUSION**

### **7.1 Introduction**

In this chapter, the entire project is summarized. The work that have been done explained in here. This also includes the discussion about the future works which can be done for this project.

### **7.2 Achievements**

The project's name is Travel Agent Website of Kota Kinabalu Branch of AlQuds Travel. The objectives of the project that have been described have been achieved. Table 7.1 shows the objectives that have been achieved through certain actions.

**Table 7.1: Achievement of objective**

<b>Objectives achieved</b>	<b>Actions</b>
To elicit and gather the user requirements on developing web based system which aid in displaying the information about the tourism places in Sabah in more effective way.	Achieved through: <ul style="list-style-type: none"><li>• Requirement gathering in section 4.2.1 in chapter 4<ul style="list-style-type: none"><li>◦ Questionnaire</li><li>◦ Interview</li></ul></li></ul>

<p>To design and develop databases, user interfaces and functions for web based system in managing the information about the places advertised, services for tourism and reservation in Sabah.</p>	<p>Achieved through:</p> <ul style="list-style-type: none"> <li>• Design in section 4.3.1 in chapter 4 <ul style="list-style-type: none"> <li>◦ Architecture design</li> <li>◦ User Interface design</li> <li>◦ Database design</li> </ul> </li> <li>• Implementation in chapter 5 <ul style="list-style-type: none"> <li>◦ Back-end</li> <li>◦ Front-end</li> </ul> </li> </ul>
<p>To evaluate the usability of the proposed system in advertising the tourism places around Sabah to the targeted users.</p>	<p>Achieved through:</p> <ul style="list-style-type: none"> <li>• Testing in chapter 6 <ul style="list-style-type: none"> <li>◦ Unit Testing</li> <li>◦ Integration Testing</li> <li>◦ System Testing</li> <li>◦ User Acceptance Testing</li> </ul> </li> </ul>

### 7.3 Summary of the Project

During the project is carried out, all phases are crucial. In the beginning of the project, planning is the first step where the problem statements and objectives are defined. Next, the analysis is carried out to get information from users. Then, the analysis is used to form design for the system and develop. After the development, the testing phase is conducted. All test level is done to ensure the defects is minimal and accepted by the user.

### 7.4 Limitation of the Project

Not all system is perfect, the system is lacks of the way of feature that suggests tourism based on days allocated by the user during reservation. On payment of reservation, only credit card option is available which is hard for user who are using Paypal as transaction.

## **7.5 Future Works**

There are some aspects that need to be consider for improvement of the system. It can be seen in terms of functionality and user interface. Maintenance is also another thing that need to be focus on for continuous lifetime of the system that can match with the requirements in the future.

## **REFERENCES**

- Alan Dennis, B. H. (2006). System Analysis and Design Third Edition. John Wiley & Sons, Inc.
- C. Wang, A. K. (2015). Revenue-Optimized Webpage Recommendation. 2015 IEEE International Conference on Data Mining Workshop (ICDMW) (pp. 1558-1559). Atlantic City: IEEE.
- Cambridge Dictionary. (2016). Accommodation Meaning. Retrieved from Cambridge Dictionary website:  
<http://dictionary.cambridge.org/dictionary/english/accommodation>
- David Lowe, M. G. (2005). Web Engineering: 5th International Conference. Sydney: Springer Berlin Heidelberg New York.
- H. Li, M. H. (2015). Extracting Main Content of Webpage to Enhance Adaptively Rendering for Small Screen Size Terminals. 2015 International Conference of Educational Innovation through Technology (EITT), Wuhan (pp. 94-98). Wuhan: IEEE.
- Hooman Tahayoti, M. M. (n.d.). E-Tourism: The Role of ICT in Tourism Industry, Innovation and Challenges. Tehran, Iran.
- ISTQB Exam Certification. (n.d.). What us Prototype model - advantages, disadvantages and when to use it? Retrieved from ISTQB Exam Certification Website: <http://istqbexamcertification.com/what-is-prototype-model-advantages-disadvantages-and-when-to-use-it/>

Intelligence on Tap. (2009, November 24). Advantages & Disadvantage of Prototyping Process Model. Retrieved from ioTAP website:  
<http://www.iotap.com/blog/entryid/124/advantages-disadvantage-of-prototyping-process-model#Comments>

Ivanovic, M. (2008). Cultural Tourism. Juta and Company Ltd.  
Jago, L. (n.d.). Guest Lecture on E-Tourism. Nottinghamshire, England, United Kingdom. Retrieved from  
<http://www.cs.nott.ac.uk/~pszqiu/Teaching/G53DDB/E-Tourism%20Lecture%2020120310.pptx>

Kent, P. (2006). Search Engine Optimization for Dummies. John Wiley & Sons.  
Li, M. (2003). Grid and Cooperative Computing. China: Springer Science & Business Media.

Little, D. (2007, November 21). How does transportation function as a mid-range social cause? Retrieved from Understanding Society:  
<http://understandingsociety.blogspot.my/2007/11/how-does-transportation-function-as-mid.html>

Microsoft Corporation. (2011). Search Engine Optimization. Retrieved from Microsoft Developer Network: [https://msdn.microsoft.com/en-us/library/ff724016\(v=expression.40\).aspx](https://msdn.microsoft.com/en-us/library/ff724016(v=expression.40).aspx)

Miltiadis D. Lytras, J. M. (2008). The Open Knowledge Society: A Computer Science and Information System Manifesto. Springer-Verlag Berlin Heidelberg.

NIOS. (2013, February 2). Tourist Accommodation. Retrieved from National Institute of Open Schooling (NIOS):  
[http://oer.nios.ac.in/wiki/index.php/Tourist\\_Accommodation](http://oer.nios.ac.in/wiki/index.php/Tourist_Accommodation)

- Roy, S. (2014, February 14). Essay on Advantages and Disadvantages of Tourism.  
Retrieved from Important India: <http://www.importantindia.com/10450/essay-on-advantages-and-disadvantages-of-tourism/>
- Sparrow, P. (2011, November). Prototype Model: Advantages and Disadvantages.  
Retrieved from iAnswer4U: <http://www.ianswer4u.com/2011/11/prototype-model-advantages-and.html#axzz4MxThff59>
- Veal, A. J. (2010). Leisure, Sport and Tourism, Politics, Policy and Planning. CAB International.

## **APPENDICES A**

### **INTERVIEW REPORT 1**

Interviewer : Ahmad Fauzi bin Yahya

Interviewee : Miss Raihana Ngatiran

Date : 6<sup>th</sup> September 2016

Time : 2.00 pm – 3.15 pm

Venue : AlQuds Travel Sdn. Bhd., Kota Kinabalu

Details of Meetings :

<b>No.</b>	<b>Details of Discussion</b>
1	Discuss the ideas of the tourism agent website which solving the problems that have been faced by the company.
2	Discuss the overall concept, target users and business value of the system based on the existing systems.
3	Discuss the modules needed into the system.

## **INTERVIEW REPORT 2**

Interviewer : Ahmad Fauzi bin Yahya

Interviewee : Mr. Hazrul Hassan & Mr. Yusrizal Yusof

Date : 1<sup>st</sup> November 2016

Time : 8.00 pm – 10.00 pm

Venue : One Borneo Hypermall

Details of Meetings :

No.	Details of Discussion
1	Discuss the details of the user requirements and basic functionalities of each modules in the system.
2	Discuss the system designs and development from (1).

## **QUESTIONNAIRES**

First part:

Sex:  Male  Female

Age:  18-25  26-32  32-40  >40

How often do you travel?  Always  Sometimes  Never

Second part:

How do you find the information about tourism places?

Online  Brochure  Books  People

Why you want to go there?

Because of the place  The activities  Both

What type suggestion place you prefer to?

Nearby places  Same kind of activities  Both

Which type of reservation you prefer to?

Online

Call

Face-to-face with people

Other: \_\_\_\_\_