HUMAN COMPUTER INTERACTION ASSIGNMENT 2
ESTABLISHING REQUIREMENTS
EXPLORE PAKISTAN.COM

SUBMITTED BY

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INTRODUCTION

Our Assignment # 2 was to design & evaluate an interactive website for booking tickets online (e.g., travelling, concerts, theater, cinema, etc.). Although some online booking sites are available, they often don't offer the best options, and can be difficult to operate. We have chosen to design an interactive website for Pakistan Tourism Development Corporation (PTDC) to help both local and international tourist explore places to visit in Pakistan and book a trip online.

In this document, we have established the User & System Requirements of our proposed website by
   (1) Understanding the User needs,
   (2) Describing & Analyzing the Task,
   (3) Specifying User & System Requirements
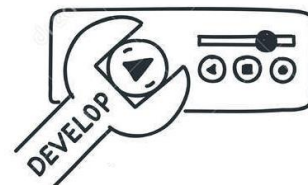
ABOUT THE WEBSITE

Pakistan Tourism Development Corporation (PTDC) currently hosts a very dull and mundane website, Destination Pakistan (www.tourism.gov.pk). The interface is entirely text-based with very few photos and extremely boring to browse. Although it provides all the necessary information about the places to visit, transportation and the services that the agency provides to the tourists (including trip plans, packages to the north or south of the country, the best rates on flights, car rentals and hotels). However, the interface is not designed in an appealing and consistent manner. It is a little difficult to browse through the options and plan a trip. Hence, there are less chances of planning and booking a trip from this website.

Our team needs to revamp the official website of the PTDC by designing an interactive interface to tempt both local and international tourists to travel and explore Pakistan. The envisioned interface provides trip ideas, things to see, do and experience in Pakistan and places to go. The main feature of the website is to allow the user search places to visit by topic on the homepage (i.e. adventure, road trips, on the water, cuisine, cultural attractions etc.). It shows the description about every place and shows its location on map and the nearby places. The user can then make a list of all the places that he wants to visit on his trip, or avail one of the trip packages (with pre-planned travel routes and lodging information)already offered on the website. Once planned, the user can book his mode of transportation and his lodging with the Pakistan Tours Limited (PTL) & PTDC Transport Services.

Hence, the new interface exploits the user's hobbies and interests in helping him map out a travel route, and makes planning a trip around Pakistan as easy as A,B and C.

The interface also allows the user to browse through a catalogue of events to catch festivals happening all around the year.

UNDERSTANDING THE USER NEEDS

While identifying the user needs, we asked ourselves two simple questions, who is the user? And what does the user want? To answer these questions, we used a combination of data gathering techniques to focus on identifying the stakeholders' needs. We observed people, our own experience, existing websites, and made use of the following techniques:

- We circulated questionnaires around the school campus to understand our young audience
- We visited a branch office of a Telecom company and conducted a focus group interview.
- We researched three similar ticket booking websites
- We made a direct observation of user requirements

USERS. WHO ARE THEY?

Our users can be divided into two main domains, local and international. Our local user can be a school teacher planning an annual trip of a class to the nearby museums and historical sites, or a group of college students planning an adventurous trip to the Himalayas, or an employee who is planning a family trip to his hometown and adjacent cities. Our international user can a mountain climber, an archeologist, a naturalist or a family anticipating to spend their summer holidays in an Asian country.

Hence, these will be novice users who may or may not use the web portal frequently, and require step-by-step (prompted), constrained and clear information about the travel routes and lodging facilities.

QUESTIONNAIRES

We designed questionnaires and circulated them around the university campus to collect qualitative data from a large, dispersed group of students belonging to different areas in Pakistan. We also circulated its digital equivalent on social media (i.e. Facebook and twitter) and asked our friends abroad to answer our set of questions.

Online booking form

Select an answer:

* Required

1) Your status: *
- ○ Student
- ○ Businessman
- ○ Government officer
- ○ Other: [_____]

2) Your age: *
- ○ Below 10
- ○ 10-15
- ○ 15-20
- ○ 20-40
- ○ 40-60
- ○ Above 60

3) Have you ever booked any trip online? *
if your answer to this question is No. leave the form now

Here's the link of our questionnaire:
https://docs.google.com/a/seecs.edu.pk/forms/d/1K0MxVkTfYEtVT41qR-7An1x3txejQVsVxOozLklRJJg/viewform

This methodology helped us understand the problems tourist normally encounter and the kind of help they anticipate from a web portal for booking tickets.

FOCUS GROUPS

A group interview was conducted with the employees of a local office of a Telecom Company. This was intended to help us gain a consensus view about what the short comings of the existing solutions are and what the user expects or how he envisions a new solution.

The three employees were as follows. Each of them worked in different domains and were from different backgrounds.

- Muhammad Waseem (Manager)
- Yasir Khan (IT Technician)
- Nasir Manzoor (Recently hired Employee)

Question: Have you ever designed a website or worked closely with any website designing team?

Waseem: Nope.

Yasir: I haven't been directly involved in the design process but our company owns an online portal for customer service and I have used it.

Nasir: Yes, I have designed a website as one of my semester projects at my university. It was an application and its web portal that allowed the user to listen to his/her choice of music by calculating its mood score.

Question: Have you used any ticket booking website to travel locally (or abroad) recently?

Waseem: I have travelled both nationally and internationally, and have occasionally booked my airline tickets online.

Yasir: I have used a travel agent's website to plan my travelling & accommodation at Saudi Arabia during Hajj, two years back.

Nasir: Last summer, I visited my cousins in UK and booked my airline ticket online.

Question: If you can recall properly, will you tell us about your experience with these interactive websites. To help you structure your answer, try answering these questions. Was it easy to understand the options and navigate through them? Did that website provide authentic and direct information? Were you satisfied with the website you used for booking?

Yasir: I checked out a few websites of different travelling agents before booking my ticket and reserving accommodation. A few of them were really clustered with unwanted information and advertisements, and the interface was not aesthetically pleasing nor easy to navigate. I didn't spend much time on these websites and closed the tabs. A few notable ones, like Gerry's Travel (he availed a hajj package that the agency offered online), karwan-al-madina & …umm…what's its name…hujjaj travel, I guess. These travel

agency had better layouts and provided relevant information. I compared all the hotel prices and quality, booked my airline tickets and paid the bill using my credit card. The online payment process was a bit inconvenient, though. It was long and tiresome.

Nasir: I used the official portal of my airline to book my ticket, which was pretty easy to use. I chose my source and destination, and date, and the website displayed a list of flights scheduled around that date from which I booked my specific flight.

Waseem: Yeah, using the web portal of an airline is pretty convenient. Usually, the company reserves both my ticket and hotel accommodation so I haven't used any website to look up hotels as such.

Question: So we are designing a web portal for users to explore Pakistan and schedule their trips. What are your expectations from such a website?

Waseem: You must work on a theme or layout that depicts the rich culture of Pakistan. It should provide brief information about our history, our culture & heritage and facilitate the tourist in tracking down the museums and historical sites that he can visit, or the food outlets where he can enjoy our desi food, take Lahore's food street for instance.

Yasir: Totally agree with Mister Waseem! Plus, you should provide different travel packages with travel routes and lodging information. I personally find a travel package a lot more convenient and safe when I'm travelling abroad. It gives a better view of where you'll be staying, when & how you'll be travelling and how much you'll have to spend.

Nasir: You can also make use of his hobbies and interests in helping him map out travel routes.

RESEARCHING SIMILAR PRODUCTS

Our team researched similar websites that can be used to plan and book the trip in order to prompt the user requirements for our interactive website.

Website: American Tourist Travel Agency

americantouristtravelagency.com/

American Tourist Travel | 856.227.9200 | americantouristtravel@comcast.net
"Our Business is Going Places!"

This is the official website of American Tourist Travel Agency. The interface is plain, entirely text-based with no photos and extremely boring to browse. Although it provides all the necessary information about the places to visit in USA, transportation and the services that the agency provides to their customers (including the best rates on flights, car rentals and hotels). However, the interface is not designed in an appealing manner. Hence, there are less chances of planning and booking a trip from this website.

Website: booking.com

A website that allows users to book hotels for any time duration in any part of the world.
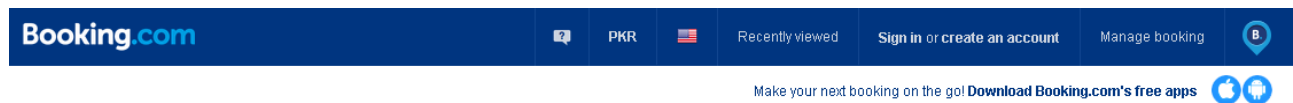
The interface consists of a number of panels. There's a search panel in the upper left side which provides exactly what the user wants by filtering the results according to the price, hotel type, number of rooms, stars and other details such as distance from the beach. Efficient filtering & Search capability is one of the strongest points of this website. Below the search panel is a list of mostly visited cities with the number of hotels, apartments, hostels & guesthouses in each. The right-side panel provides value deals of most frequently visited cities. These help the user compare the prices of different hotels in the city.
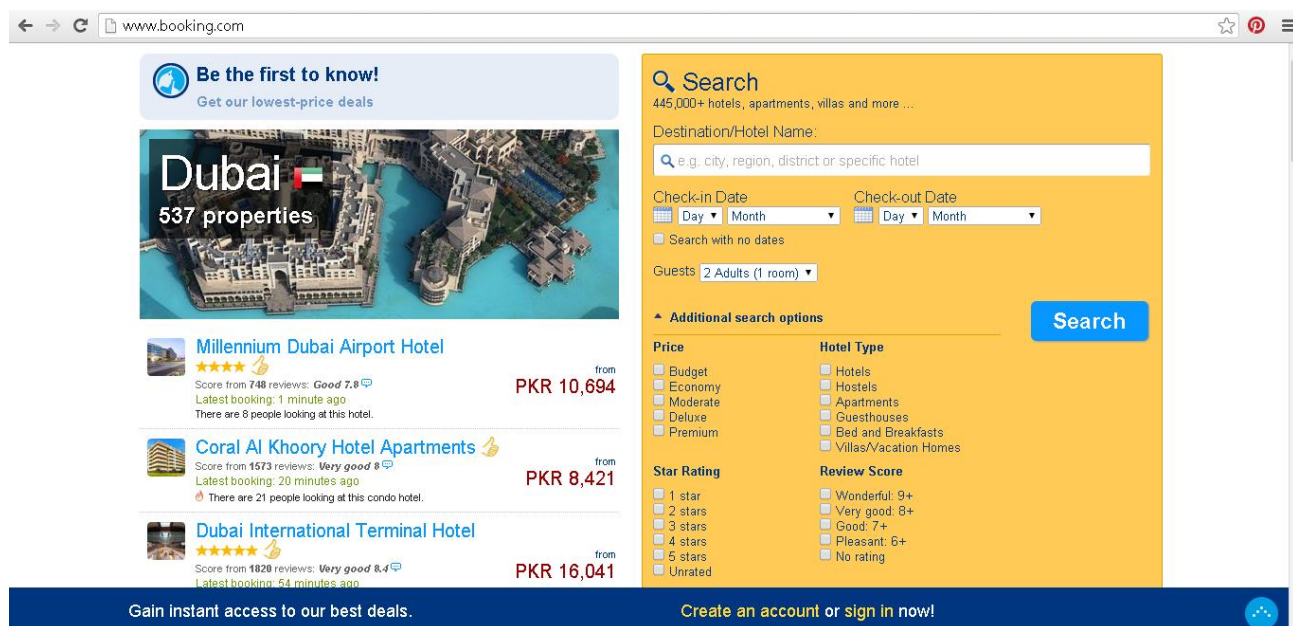
However, the interface is a bit clustered with too much information being displayed at once. It does not have an appealing visual interface.

Website: Official Website of Tourism Malaysia

http://www.tourism.gov.my/en/in
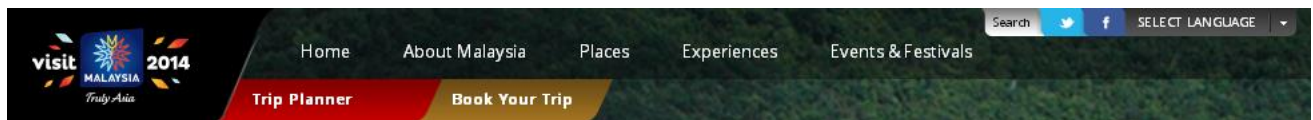
The official website of Tourism Malaysia is aesthetically pleasing! It is very beautifully designed to tempt the users to explore the rainforests, the rugged mountains, the sandy beaches with rich, humid mangroves and the towering skyscrapers of Malaysia.
The interface is simple and easy to operate. All the navigational options are visible to the user and help him

- Read a brief information about Malaysia,
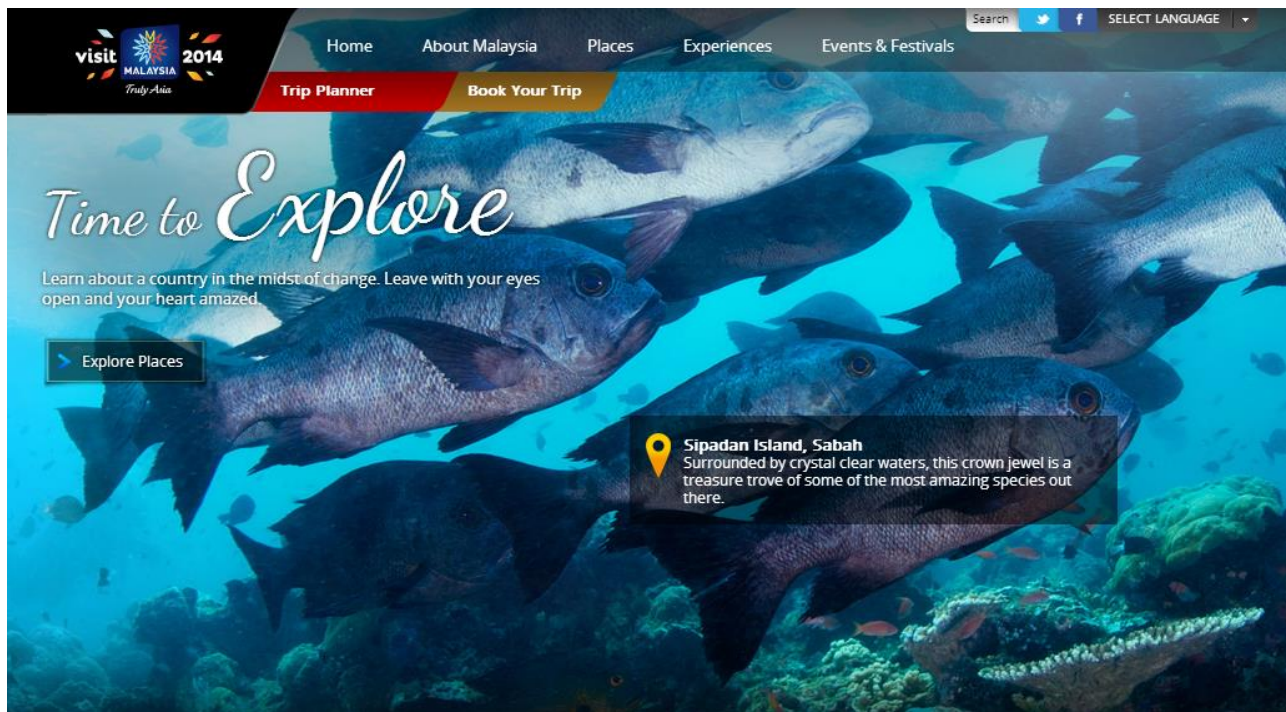- Search places to go and filter them by states of Malaysia, islands and beaches, city excitement, nature & adventure and cultural attractions,
- Read tourist experiences to know what to see, do and experience in Malaysia
- Browse through a catalogue of events to catch festivals happening all around the year

Next, it displays two tabs to plan your trip and book your trip.

- The trip planner option allows you to make a diary/planner of the places you want to visit in your trip day by day. Moreover, it shows the description about that place and shows its location on map and the nearby places. After making your planner for the number of days you are going to stay, you can save your planner or download it. The drawback of this travel agent website is that it does not help the tourists to decide from where they should start their trip and to which places should he travel to. The customer should decide it himself the sequence in which he would go to places of his interest.

- The Book you trip option helps the customer to book his trip in three different ways. Only flight booking, only hotel booking and hotel and flight booking.

Moreover, the website doesn't only help you plan a trip and book your ticket & lodging but also gives you information about the immigration & custom, transportation, communication and tourist information centre.

The website has added attractions, as follow:
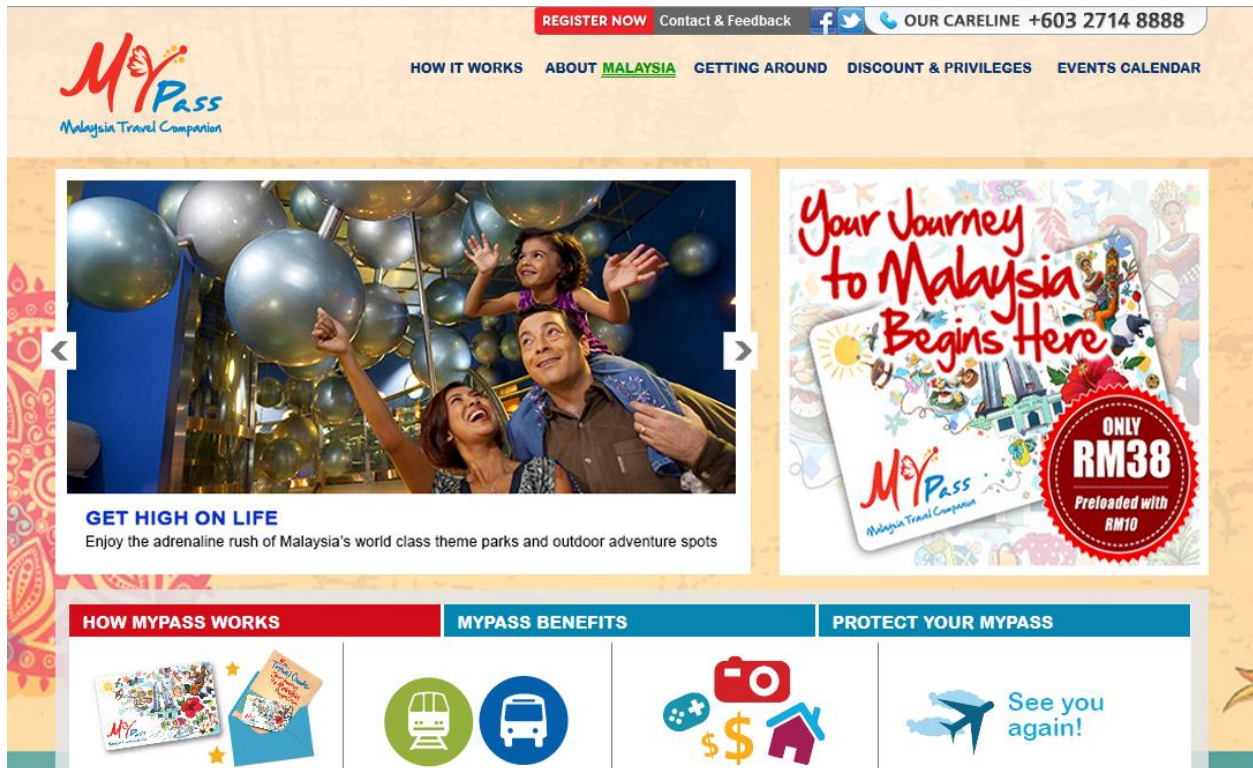
- An added attraction for the tourists is the MyPass facility. Tourists who avail MyPass can travel on Malaysia's local transport, can get discounts on shopping and can use it on the next trip to Malaysia.

- Yearly Campaigning: Every year, the Malaysian government initiates a tourism celebration to attract masses towards the events, festivals and activities all-year round. The webpage www.vmy2014.com hyperlinked by the logo on top-left corner of the screen, catalogues the various tourism attractions for the year 2014.

TASK DESCRIPTION & ANALYSIS

In this part, our team used Task descriptions (scenarios & use cases) to envision the new interface and Hierarchical Task Analysis (HTA) to investigate the existing interface. Based on our user needs, we chose two different user profiles and produced one persona and one main scenario for each, capturing how the user is expected to interact with our proposed interface. Next, we performed HTA on the main task associated with the ticket booking system, i.e., booking a ticket and produced a use case based on the HTA.

SCENARIOS

SCENARIO # 1

One user profile is a young, widowed female aged 30 years who has a son studying in grade seven. She has gone through a lot of pain in her life. After 6 years of struggle, she has now become stable, works in an honorable organization and spends a happy life with her son. She has decided to take her son to Northern areas in his summer vacations. However, her time table is too hectic and she doesn't get the time to go to any travel agency to discuss her trip.

"One day after having dinner with her son and sending him to bed, she switches on her laptop and decides to search for travel agencies online that can help her explore Pakistan and plan a trip. She searches through different web portals to find the best possible holiday plan, which is both safe and affordable for her family.

She spends hours searching for the stay, transportation and trekking in her budget until she finds the perfect holiday planner and booking agency. The interface is very eye-catching and easy to navigate. The agency assures her of providing the users tickets in least possible time and takes the whole responsibility of their trip. She books a holiday resort and rents a jeep. Moreover, she makes a trip plan online according to the number of days she decided to stay there. She notes the agent's number to confirm that she is registered properly to that agency and calls them in the morning to confirm."

SCENARIO # 2

Babar Khan is a Pakistan-born, British brought up who is 26 years old and is the only son of his parents. Currently, he's working at a reputable UK based company, has recently got married and stays with his family in an apartment. He wants to visit his birthplace in Pakistan with his newly married wife this year and wants some assistance in planning and booking a trip because he has never been to Pakistan since his birth.

"One day, Babar gets free at his office and decides to look up at tour trip packages to Pakistan online. He searches through many websites to find the best possible package which can facilitate his family plan their trip safely and cheaply. He spends 2-3 hours searching for it. He finally find the official tourism portal of the Pakistan government that provides him with sufficient knowledge about tour guides, hotel facilities, food facilities and 2 months stay in Pakistan. He corresponds with the agency online and is assured that the tourism department takes whole responsibility of his wife and him, and asks him to submit their documents and details as soon as possible to their office in UK as the number of seats are limited. He submits the documents the very next day and gives the good news to his wife. They are extremely happy and excited about their trip to Pakistan."

HTA

HTA is breaking a task down into subtasks, then sub-sub-tasks and so on. These are grouped as plans which specify how the tasks might be performed in practice.

0-book a ticket
1-Register
2-Login
3-View the schedule
4-Select time and place
5-Select seat number from available seats
6-Confirm booking

Plan 0:   If registered user do 2-3-4-5-6-7.
            If new user do 1-2-3-4-5-6-7.

Book a ticket 0

Register 1	Login 2	Browse Through Cuisine/History /Culture 3	View Schedule of buses on that route 4	Select time, place 5	Select seat number 6	Confirm booking 7
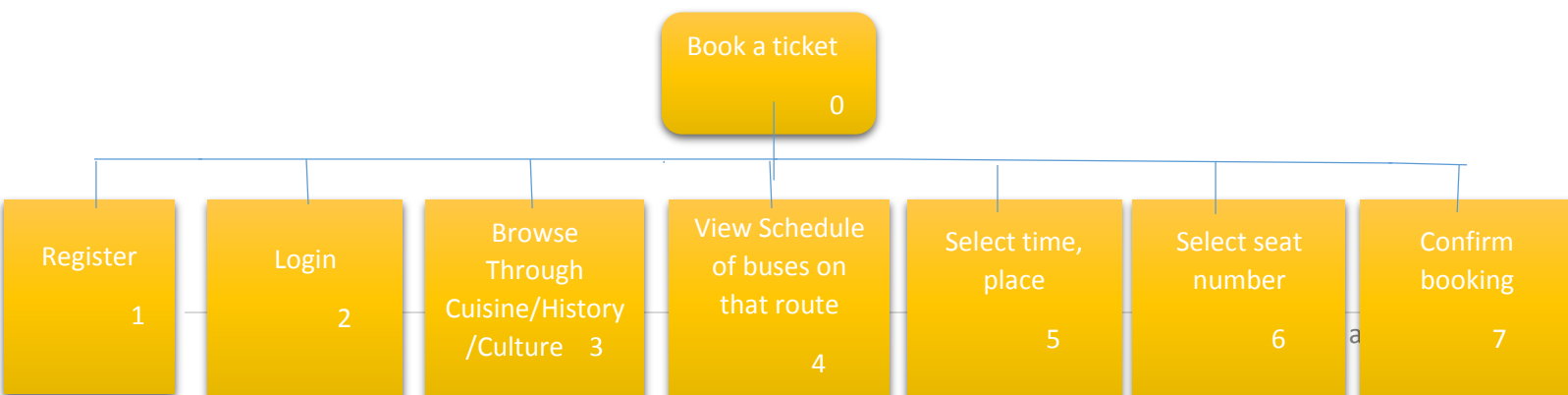
USE CASE OF BOOKING A TICKET

Register

Login

Browse through cuisine

Browse Through places

View Map of places

Book a ticket

Select Bus and Seat

User

Confirm Registration

Assign a Travel Guide

Confirm Booking

Admin
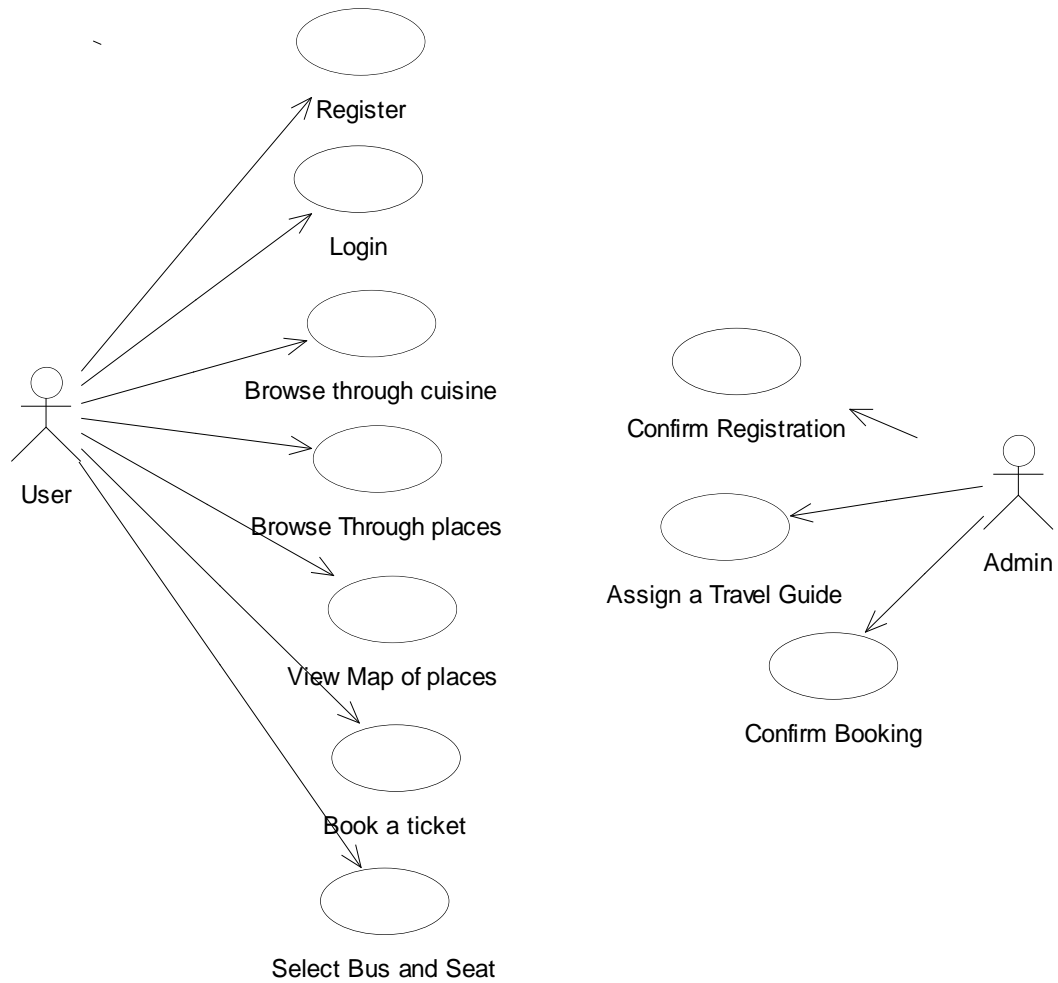
REQUIRMENT SPECIFICATIONS

Using the data gathered previously and our subsequent analysis, we have identified the following kinds of requirements for the new interface. A Volere shell follows a textual description of few of our user and system requirements for the proposed design.

Functional:

1) <u>The interface</u> provides an easy to understand and easy to navigate catalogue of trip ideas, things to see, do and experience in Pakistan and places to go. It must facilitate the user to read a brief information about Pakistan, search places and read tourist experiences.

2) Explore by topic:

VOLERE SHELL

Requirement **# 2**   Requirement type: **Functional**   Event/use Case: **Scenario #1**

Description: **The main feature of the website is Explore by topic that is to allow the user search places to visit by topic on the homepage**.

Rationale: **The user must be provided with a number of topics to narrow down his search according to his hobbies and interests and map out travel routes.**

Source: **Interview**

Fit criterion: **The homepage welcomes the tourist and prompts him/her to select a topic from a list of topics such as adventure, road trips, on the water, cuisine, cultural attractions etc. Upon selection, the interface must show the description about every place and shows its location on map and the nearby places.**

Customer Satisfaction: **5**   Customer Dissatisfaction: **2**
Dependencies: **None yet**   Conflicts: **None yet**
Supporting material: **Use Case Diagrams**

3) Explore by location

VOLERE SHELL

Requirement **# 3**   Requirement type: **Functional**   Event/use Case: **Scenario #1**

Description: **The user can explore by location.**

Rationale: **This feature allows the user to view a simple, interactive map of Pakistan where he selects a state to explore.**

Source: **Interview**

Fit criterion: **The homepage welcomes the tourist and prompts him/her to select a location from a simple, interactive map of Pakistan. Upon selection, the website displays information about tourist places that are located in the selected state.**
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Customer Satisfaction: **5**   Customer Dissatisfaction: **2**
Dependencies: **None yet**   Conflicts: **None yet**
Supporting material: **Use Case Diagram**

4) Trip Planner:

VOLERE SHELL

Requirement **# 4**   Requirement type: **Functional**   Event/use Case: **Scenario #1**

Description: **The interface provides a trip planner.**

Rationale: **After exploring different places by topic and location, the user shall make a list of all the places that he wants to visit on his trip in an online notebook, named Trip Planner.**

Source: **Interview**

Fit criterion: **After exploring different places by topic and location, the user shall make a list of all the places that he wants to visit on his trip in an online notebook. This trip planner should allow the user to plan his travel route on his own or avail one of the trip packages (with pre-planned travel routes and lodging information)already offered. The trip packages help the tourists to decide from where they should start their trip and to which places should he travel to. Note that it's entirely up to the user if they want to avail a package or plan the route themselves.**

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Customer Satisfaction: **5**   Customer Dissatisfaction: **4**
Dependencies: **None yet**   Conflicts: **None yet**
Supporting material: **Use Case Diagram**

5) Trip packages:

VOLERE SHELL

Requirement **# 5**   Requirement type: **Functional**   Event/use Case: **Scenario #1**

Description: **The interface shows a catalogue of different trip packages.**

Rationale: **Trip packages provide a better view of where you'll be staying, when & how you'll be travelling and how much you'll have to spend.**

Source: **Interview**

Fit criterion: **They must provide a better view of where you'll be staying, when & how you'll be travelling and how much you'll have to spend. If a package is availed, sufficient information about the seats available and tour dates must be provided.**

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Customer Satisfaction: **5**   Customer Dissatisfaction: **4**

Dependencies: **None yet**   Conflicts: **None yet**
Supporting material: **Use Case Diagram**

6)   Event Calendar:

VOLERE SHELL

Requirement **# 6**   Requirement type: **Functional**   Event/use Case: **Scenario #1**

Description**: The interface shows a catalogue of national events/festivals.**

Rationale: **The user can browse through a catalogue of events to catch festivals happening all around the year.**

Source: **Direct Observation**

Fit criterion: **The user can browse through a catalogue of events to catch festivals happening all around the year. Like pointed out in the focus group interview, the team must design a theme or layout that depicts the rich culture of Pakistan. It should provide brief information about our history, our culture & heritage and facilitate the tourist in tracking down the museums and historical sites that he can visit, or the food outlets where he can enjoy the desi cuisine (i.e. Lahore's food street).**
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Customer Satisfaction: **5**   Customer Dissatisfaction: **1**
Dependencies: **None yet**   Conflicts: **None yet**
Supporting material: **Focus Group Interview**

7)   Booking a trip:

VOLERE SHELL

Requirement **# 7**   Requirement type: **Functional**   Event/use Case: **Scenario #1**

Description**: The interface prompts user to book his trip.**

Rationale: **Once planned, the user can book his mode of transportation and his lodging with the Pakistan Tours Limited (PTL) & PTDC Transport Services by browsing through a number of options for transport and accommodations based on price and quality.**

Source: **Direct Observation**

Fit criterion: **Once the user has planned his trip, the user must book his mode of transportation and his lodging with the Pakistan Tours Limited (PTL) & PTDC Transport Services by browsing through a number of options for transport and accommodations based on price and quality.**

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Customer Satisfaction: **5**   Customer Dissatisfaction: **5**

Dependencies: **None yet**   Conflicts: **None yet**

8) Help for tourist abroad: The interface must provide information about the immigration & custom, transportation, communication and tourist information centre.

9) Login/Register Panel:

VOLERE SHELL

Requirement **# 9**   Requirement type: **Functional**   Event/use Case: **Scenario #1**

Description**: The interface has a Login/register Panel.**

Rationale: **The portal prompts the user to enter accurate personal information such as name, age, location and contact information. This ensures that the tourism department can update its database properly and log in information about all the tourists availing their service**

Source: **Direct Observation**

Fit criterion: **The portal should prompt the user to enter accurate personal information such as name, age, location and contact information. It must ensure an easy and simple payment procedure.**
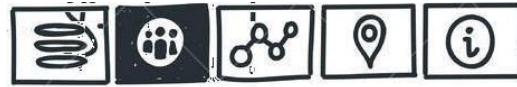

Customer Satisfaction: **5**   Customer Dissatisfaction: **1**

Dependencies: **None yet**   Conflicts: **None yet**

Non-functional:

1) Usability: The Web should be user friendly and easy to understand and use. It should be designed considering all type of users.
2) Learnability: Understandable and easy to learn interface.
3) Efficiency: All the tasks such as filtering, searching, displaying information shall not take more than 5 seconds.
4) Maintenance: Changes shall be easily adjusted.
5) Security: User's personal informations must be safeguarded.
6) Availability & Reliability: The website must be available to user all the time and must always provide accurate and up to date information.

Data:

The database should maintain accurate and up to date information about all the routes, timing, and seats available and prices of tickets. It must maintain a log of all the registered tourists. The database must be secured and guarded from unauthorized access.