Technical Details

Use Cases

There are two groups of use cases considered here – one from the user's perspective and the other from the administrator's perspective.

User's Perspective

Show Places	
Step	**Activity**
1	User visits the home page.
2	System asks the user to choose the state he wants to visit.
3	User selects a state.
4	System asks for a city. This is optional.
5	User may or may not provide his preferred city.
6	System shows a list of all tourist attractions in the state (and city if provided by the user)
7	On choosing a particular item from the list, the user is directed to the details of the place

Display Details of Place	
Step	**Activity**
1	System shows a set of pictures of the place, informative text on interesting things to do in the area, link to a list of hotels nearby (in the city), average rating and suggested stay duration of the place
2	User chooses to submit a rating of the place from a scale of 1 to 5
3	System records the new rating and updates the average rating for the place
4	User chooses enter a suggested stay duration in number of days
5	System records the duration value and updates the average durations suggested by all visitors
6	User chooses to view the list of nearby hotels
7	System directs the user to a list of hotels in that city

Show Hotels

Step	Activity
1	System shows a list of hotels in a particular city and their contact info
2	User chooses to view hotels for a different city in the same state
3	System preares a new list for the city

Administrator's Perspective

Add Place

Step	Activity
1	Admin opens the Add Place page
2	System asks the admin to enter place name, city, state.
3	Admin provides details for the place, city and state.
4	System asks the admin to provide links to images of the place
5	Admin provides online links to the images for the place. The images must be hosted elsewhere with a public link available
6	System asks the admin to enter a description of the place
7	Admin specifies interesting things to do in the area

Add Hotel

Step	Activity
1	Admin opens the Add Hotel page
2	System asks the admin to enter hotel name, city, state.
3	Admin provides details for the place, city and state.
4	System asks the admin to provide contact info for the hotel
5	Admin provides contact details such as address, email and phone.
6	System asks the admin to enter a description of the hotel
7	Admin supplies a short description of the hotel
8	Systems asks for a thumbnail image for the hotel
9	Admin provides a link to an image.

Architecture Overview

- **Web Application front-end:** The website will be developed using HTML, CSS and JavaScript.

- **Web Application back-end:** For the backend, we will have a JSP pages rendered through the Apache Tomcat web server. The data used to render the JSP pages will be stored in a MYSQL database server. For this project, both the web server and the database server reside in the same physical machine, although they can easily be moved to a remote instance.

- **Web Service API:** We shall expose a simple RESTful API to provide just information of the places for a particular state and city in our database. The information will be provided in the form of an XML document.

Database Design

We will have the following tables to store information for the website.

Table: Place		
Field Name	**Field Type**	**Description**
id	id	unique id for place
title	varchar(200)	Title/Name of the place
state	varchar(20)	Name of the state
city	varchar(20)	Name of the city
rating	double	Average ratings given by visitors
rec_stay	double	Average durationof stay recommended by visitors
n_ratings	int	Number of visitors who rated
n_recs	int	Number of visitors who recommended

Table: PlaceImages		
Field Name	**Field Type**	**Description**
id	id	unique id for row
place_id	int	Place id (foreign key)
image_link	varchar(200)	Link to an image for the place at place_id

Table: Hotel		
Field Name	**Field Type**	**Description**
`id`	id	unique id for hotel
`title`	varchar(200)	Title/Name of the hotel
`state`	varchar(20)	Name of the state
`city`	varchar(20)	Name of the city
`street_addr`	varchar(200)	Street address
`email`	varchar(50)	Contact email
`phone`	varchar(20)	Contact phone
`web`	varchar(200)	Website
`image_link`	varchar(200)	Link to a thumbnail image for the hotel

Web Service API

We will expose the following services (urls):

Get Places for a state and city

- **Url:** `<web-site>/service.jsp?state=<state>&city=<city>`
- **Sample Output:**

```
<places>
      <place>
             <title> ABC State Park </title>
             <rating> 3.5 </rating>
             <rec_stay> 2 days </rec_stay>
             <images>
                    <image link="http://link.to.a.image" />
                    <image link="http://link.to.a.image" />
             </images>
      </place>
      <place>
             <title> XYZ Lake </title>
             <rating> 4.5 </rating>
             <rec_stay> 1 days </rec_stay>
             <images>
                    <image link="http://link.to.a.image" />
             </images>
      </place>
</places>
```