

# **Software Requirements Specification**

**for**

## **Travelbook**

**Version 1.0 approved**

**Prepared by Anand Ganesh, Smith Agrawal and Ikbal Singh Dhanjal**

**Origin Incorporated**

**10/8/2017**

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## Revision History

Name	Date	Reason For Changes	Version

# **1.Introduction**

## **1. Purpose**

Travelbook provides a cosmopolitan platform to gain and provide valuable real-time information for tourists regarding their travel destination and helps connect them together, to provide a safe, cordial and a comfortable tourism experience.

## **2. Document Conventions**

This System Requirements Specification document follows the standard IEEE SRS format.

## **3. Intended Audience and Reading Suggestions**

This document is intended for developers, system analysts, database Administrators and the Project manager of Travelbook and the finance, marketing and legal team, the executives and the board of directors of Origin Incorporated.

## **4. Product Scope**

Tourism is one of the fastest growing industry in the world accounting for USD 6 trillion, or 9% of global gross domestic product (GDP) as per the World Travel and Tourism Council (WTTC). The purpose of this project is to cater to the needs of this growing industry by creating a convenient and easy-to-use application for providing tourists a global channel to gain and provide valuable real-time information regarding their travel destination. It also aims at connecting the tourists together with the help of chat service which allows them to collaborate together. Some other objectives of this project include providing a dynamic map interface for simple and efficient location navigation.

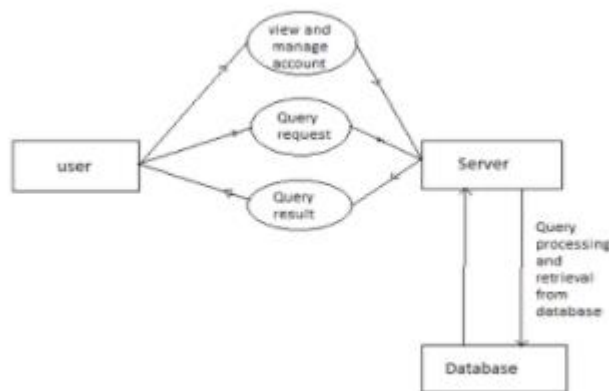
## **5. References**

RFP(Request For Proposal) as provided by the client during software planning phase is used as a reference.

# **2. Overall Description**

## **1. Product Perspective**

Travelbook is a self-contained product which aims at bringing various tourists together and to provide real-time information regarding their travel. The major components of this system and the subsystem interconnections are mentioned with the help of the below diagram:-



## Product Functions:

- Provide real-time location information as a query result to the user regarding a particular destination.
- To facilitate uploading and sharing of media (photos, videos and blogs) by a user with other users.
- Engagement of a user with the media shared by other users with a rating system as employed by several contemporary social media applications.
- Provide notifications and emails to the user in case of a high-priority urgency by issuing travel warnings based on real-time calamity tracking.
- Provide a location-specific chat-room platform for the users to interact and collaborate with other users.
- User registration form for creating a personal profile through which a user can enjoy the entire set of functions provided in the application.
- GPS enabled location tracking of tourists provided on request for those users belonging to age group of children, senior citizens and people with disabilities to ensure their safety.
- A comprehensive and detailed FAQ for new users.
- A complaint portal for users to place their grievances regarding faulty functioning of the application.

## **2. User Classes and Characteristics**

The User Classes identified for Travelbook are as follows:

- Tourists: the primary focus of Travelbook is on this user class who will retrieve and share information with other tourists. They are further divided into two categories:
  - Registered users: They enjoy the entire set of functions provided in the application.
  - Unregistered users: Who are denied of certain privileges
- Database administrators.
- Network administrators.
- Coordinators: they ensure the consistency and integrity of the real-time information provided by several sources.

## **3. Operating Environment**

Travelbook is website application which can run on any web browser running on any operating system with a proper internet connection. No additional hardware or software are required. Travelbook maintains its own servers and maintenance crew.

## **4. Design and Implementation Constraints**

- Travelbook is under the GNU General Public License Version 2, June 1991. Everyone, that does or is going to develop or use Travelbook, should agree and fully accept the terms of this kind of license.
- The website must be able to run effectively in all the following display devices: Laptops, computers, tablets and mobile phones with internet support.
- To make the website accessible on all platforms, platform independent technology must be followed and the site must be compatible with all currently running versions of web browsers effectively.
- The user authentication must be properly validated for each user to enter their respective account.

## **5. User Documentation**

Travelbook provides a comprehensive FAQ/ HELP section visible in the main page of the website for ease of the user in using this application effectively.

## 6. Assumptions and Dependencies

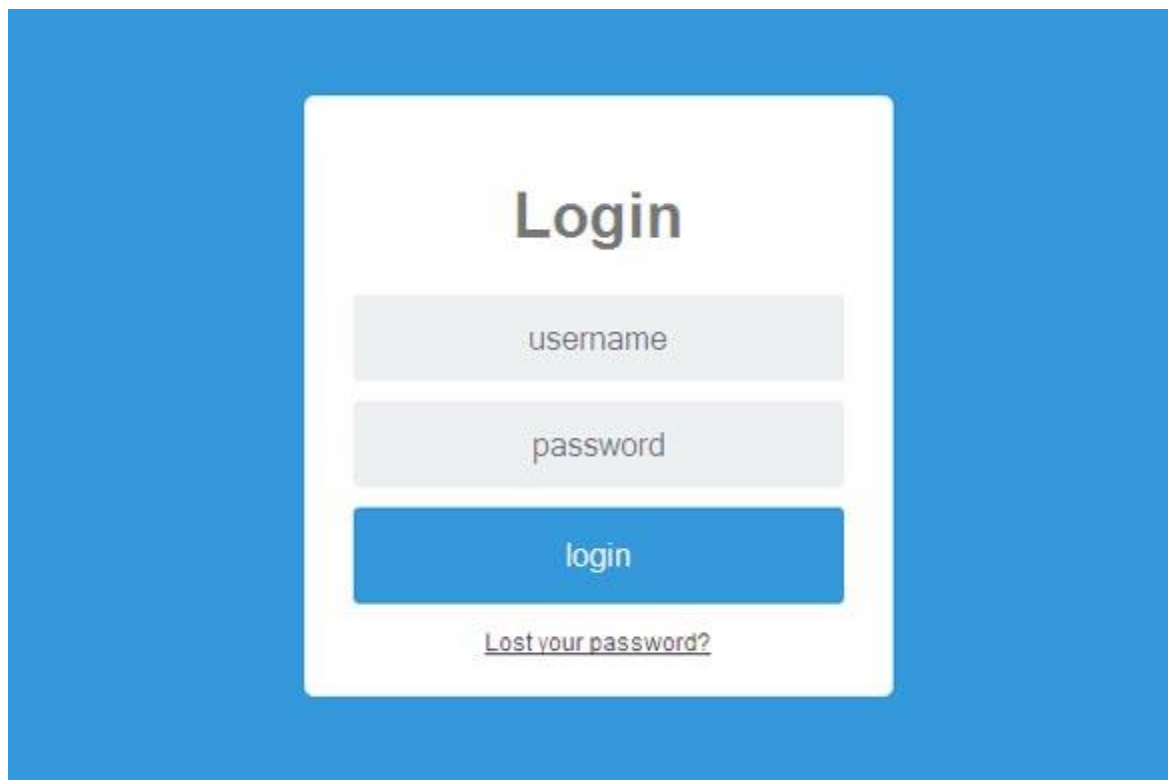
- It is assumed that this site will function effectively on 3<sup>rd</sup> party web browsers and operating systems other than windows, OSX and Linux.
- It is assumed that the user has enabled javascript to run in the website.
- It is assumed that the data provided by Dark-sky API, Google Maps API is valid.

## 3. External Interface Requirements

### 1. User Interfaces

**Sign-up field** : The fields name, username, age, gender, email, DP, description, country, state, city should be provided. There will be a submit and reset button.

**Login-field**: The user should enter the valid user-id and password for login. If the user forgets the password, there will be an option to reset the password.

A login form UI mockup centered on a solid blue background. The form is a white rounded rectangle. At the top, the word "Login" is displayed in a large, bold, dark grey font. Below it are two light grey rectangular input fields. The first field contains the placeholder text "username" and the second field contains the placeholder text "password". Below these fields is a solid blue rectangular button with the word "login" in white text. At the bottom of the form, the text "Lost your password?" is displayed in a smaller, dark grey font and is underlined.

**My-Account:** User can edit information like, DP ,Name, Username, Age, Gender, description, country, state, city and add new information like user-status, active-chat-sessions, number of posts, photos, videos, blogs created by the user, also mention follower count and names of that user's followers and also people the user follows and their count, show personal messages sent by other users.

## 2. Hardware Interfaces

Since the web portal does not have any designated hardware, it does not have any direct hardware interfaces. The physical GPS is managed by the GPS application in the mobile phone and the hardware connection to the database server is managed by the underlying operating system on the mobile phone and the web server. An operating system and a browser which supports CGI, HTML & Javascript will handle all the underlying hardware interactions such as retrieving the location of the device using GPS and cell broadcasts for emergency alerts. The device types supported are Android devices, IOS devices, a desktop PC and Macbooks or laptops and any machine with an access to the internet through a browser.

## 3. Software Interfaces

Following are the software used:  
Operating System :Windows, Ubuntu(Linux)  
Database : MySQL  
Backend Language : Python/PHP  
API : Google Maps API  
Front End Language : JavaScript  
Markup Language : HTML  
Styling language : CSS, SASS

## 4. Communications Interfaces

The project will communicate through email by setting a SMTP server. The protocols used will only be HTTP/HTTPS hence allowing the web browser to communicate with the service with ease. The authentication system uses the PBKDF2 algorithm with a SHA256 hash, a password stretching mechanism recommended by NIST. This ensures the safety of sensitive user information. A decent internet speed of around 50 Kbps should be enough to access our portal with a decent user experience.

## **4. System Features**

### **1. User Registration System**

#### 4.1.1 Description and Priority

The various tasks in order of priority are authentication, enter and submit biographic information, upload profile display picture, email verification, create account.

#### 4.1.2 Stimulus/Response Sequences

- It will consist of two basic fields, Username and Password. On successful login the user will be directed to the details page where the user can upload his/her photo and write his/her bio as well.
- It will consist of the following fields: name, username, age, gender, email, profile display picture, user-description, country, state and city. Then the user will be asked whether he/she agrees with the use of their personal data if the user agrees an account will be created for that user successfully and the user will be redirected to the home page.

#### 4.1.3 Functional Requirements

- If an account with a given email-id or username or both already exists, a new user can't register an account with the same email-id.
- If an account with a given username already exists then a new user cannot register an account with the same username and a suggestion will be provided to the user for a new username.
- All the fields must be compulsorily entered by the user for successful creation of an account.
- Only uppercase and lowercase English alphabets and underscore symbol and space must be accepted in the following fields: name, username, user-description, country, state and city.
- Maximum character limit for all the fields will be 255 characters only.
- Age field must consist of an integer value only where the value can range strictly from 0 to 130 only.





## 2. Explore Functionality

### 4.1.1 Description and Priority

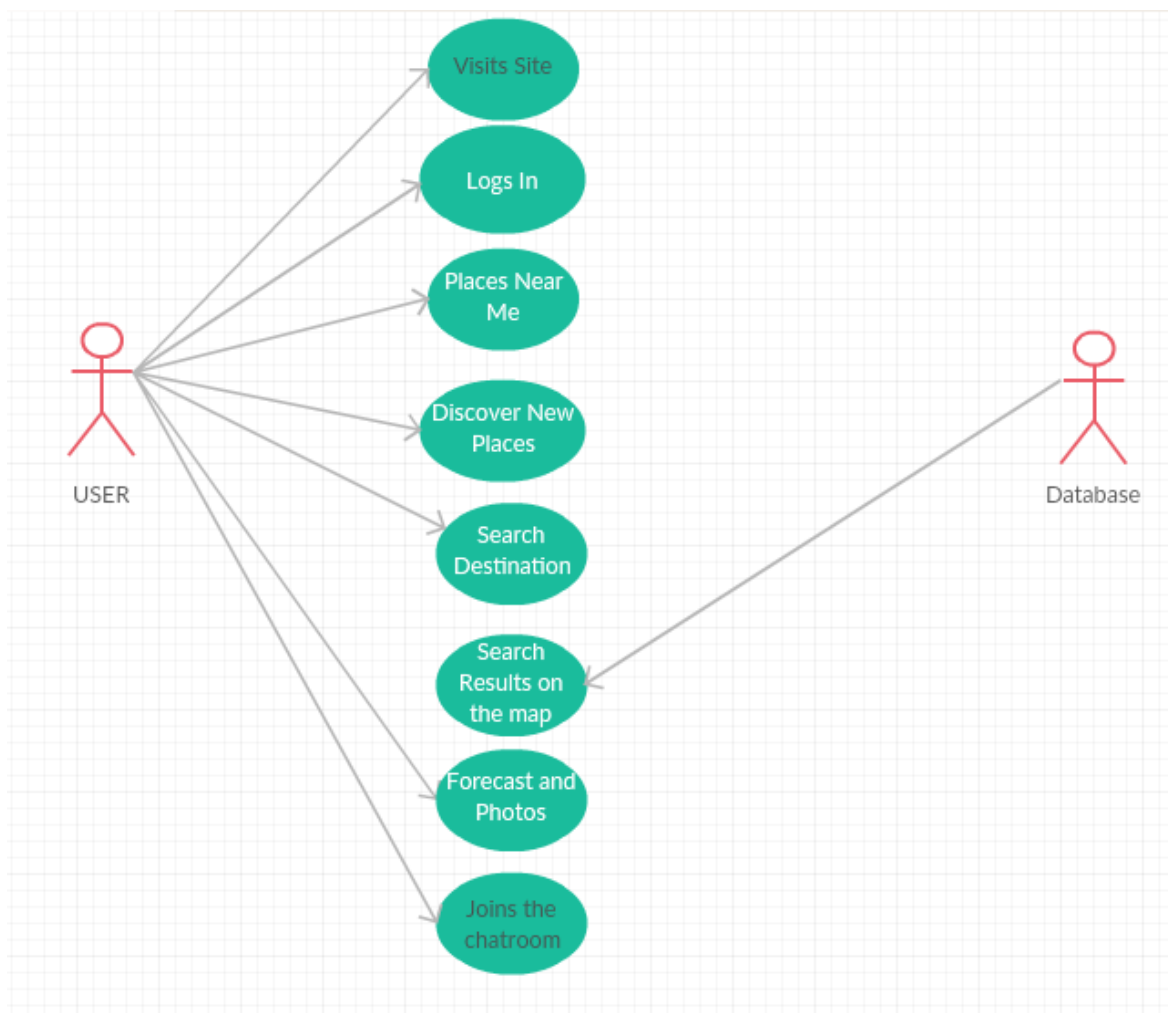
The various tasks in order of priority are search destination, select appropriate destination, mark as visiting, read the forecast for the destination, After visiting the place, upload the photos of the destination.

### 4.1.2 Stimulus/Response Sequences

- The user is presented with three tabs: Places Near Me, Discover new places , I'm feeling lucky.
- Places near me: clicking it, will ask for user location info if not already provided and open a new page showing user location on a map, show the location name, with all tourist attractions near the user's location which will also be highlighted on the map.
- Discover new places: user will search for a place, mention auto suggestions as user is still typing the location, if user clicks, it is to learn about that place.
- I'm feeling lucky: random place of attraction anywhere.
- It consists of a map with a search-box at the corner to search the location and when the user searches the destination the maps zooms to that location.
- Once the user clicks that location, the location information and the forecast for the specified day is shown with the latest pictures.

### 4.1.3 Functional Requirements

- The user can either search for the destination in the search-box or pan across map and click on the desired destination.
- If the user searches for some location which is not registered in the map database, the user should be shown the nearby relevant area or suggestions if he/she might have misspelled the search.
- If the user searches for a location with a name referring to more than one locations, the user should be provided with the list of same.



### 3. Chat Room

#### 4.1.1 Description and Priority

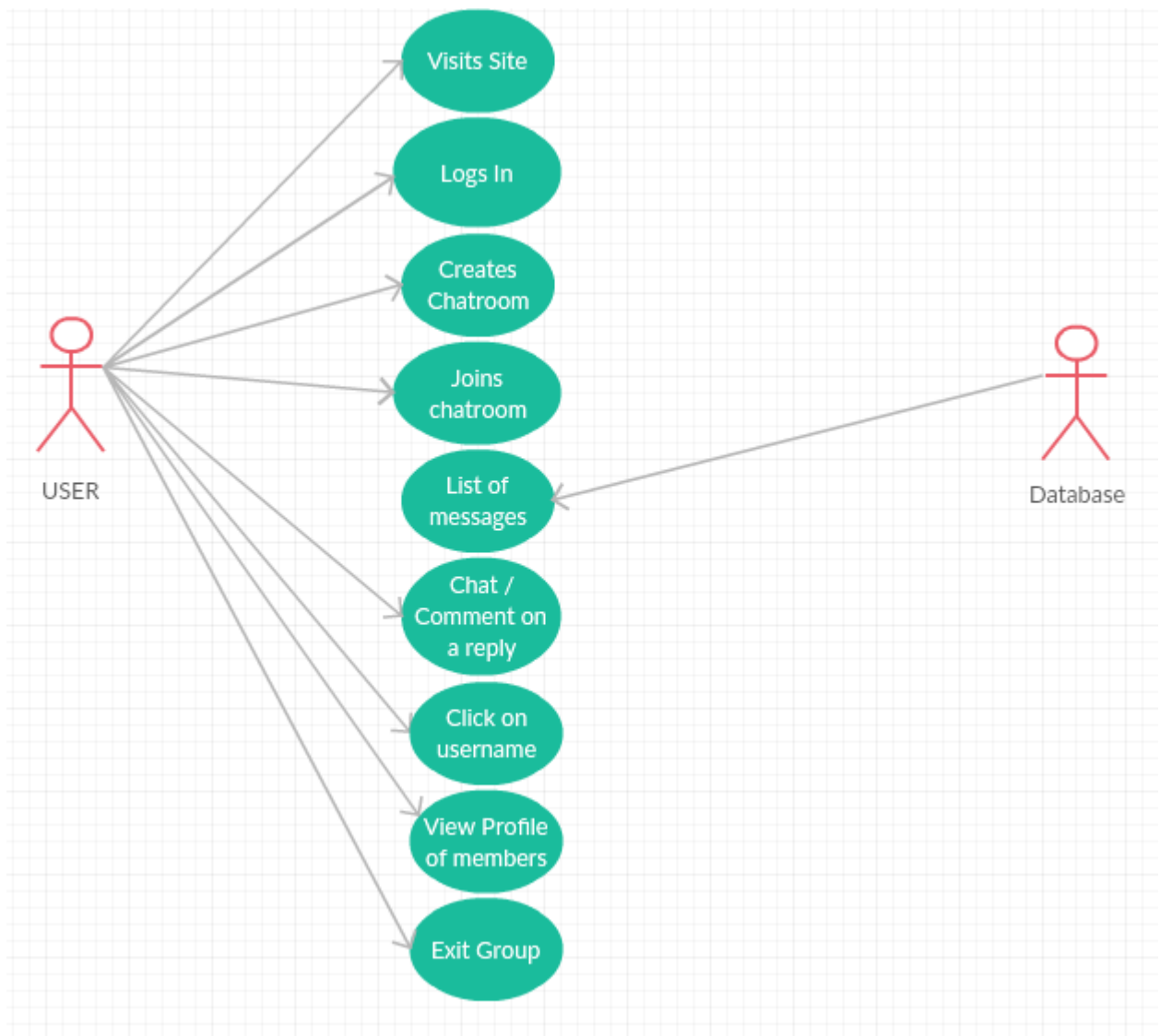
The various tasks in order of priority creating and joining the chatroom, chatting, viewing profile, replying to the messages and direct message and leaving the chatroom.

#### 4.1.2 Stimulus/Response Sequences

- The user will set a name for the chatroom and limit for the no of people and create the chatroom.
- After joining the chatroom, the user is presented with the list of messages till date.
- On long clicking the message the user can reply to the particular message
- On clicking the username the user is redirected to his/her profile
- An exit group button is shown at the top right corner to leave the group.

### 3. Functional Requirements

- Each chatroom will be auto-deleted if there is no activity for 5 days period, chatroom facility requires login.
- The user can only send text message in chat, once a user enters chatroom, he can see chat history since the chatroom was created, set limit for number of people able to join any chatroom.
- Users can reply to a specific comment by another user, time and date of each message along with the user name of that message will be displayed.
- Clicking username must redirect to his/her profile. Set limit on number of characters user can enter in chat like max limit 255 characters in twitter.
- User can see all participants in that chatroom .User can exit chatroom whenever he wants.
- It is possible that 2 users can create a chatroom for same location at same time, so once a chatroom is created the system must first check if already created else it must update quickly in server so the other user can't create duplicate chatroom.



## 5. Other Non-functional Requirements

### 1. Performance Requirements

Travelbook must satisfy the following performance requirements:

- The website must be accessible from any browser running on any operating system.
- The website should not take excess time or significant bandwidth to load.
- The website should not crash, malfunction or send incorrect data to the servers.
- The consistency and integrity of the real-time information provided by several sources must be ensured.
- The design of the website must be responsive.

## **2. Safety Requirements**

- Passwords should be hashed (two-way hash) to assure that an attacker is unable to read authentication information.
- Logins should trigger a lock-out after five consecutive unsuccessful attempts. A set timeout will be provided for a fresh try and the user whose account is generating failed logins will be notified by email.
- The privacy of all the users must be ensured.
- The location data of the users must not be exposed to other users.

## **3. Security Requirements**

Travelbook should fulfil the following security requirements:

- To prevent a user id and/or password from being hacked.
- Ensure that buffer overflow does not occur. The buffer overflow attack involves sending large amounts of data that exceed the quantities expected by the application within a given field. Such attacks cause the application to abandon its normal behavior and begin executing commands on behalf of the attacker.
- Passwords should be hashed(two-way hash) to assure that an attacker is unable to read authentication information
- Best practice recommends encrypting the entire logan transaction with SSL. From based authentication must use a POST request to assure that the authentication credentials are not cached to browser history.
- The website must cover all SQL injection loopholes.

## **4. Software Quality Attributes**

Travelbook should follow certain software quality assurance parameters:

- The website should be implemented with a clean, easy to understand interface.
- The website should not contain any broken links.
- The website should not redirect to fraudulent websites or offers.
- The website should be compatible with all operating systems and web browsers.
- The website should provide feedback and user support.

## **5. Business Rules**

- User Profile can be modified only by user himself.
- The Project team must not be permitted to view the location details of users.
- The development team must maintain the website in accordance with the terms and conditions agreed with the client.

## **6. Other Requirements**

Legal Requirements

- We must abide by Data Protection Act 1998
- We must give visitors clear and comprehensive information about the cookies that are is use.
- We must clearly declare our Privacy Policy.

## Appendix A: Glossary

- A Software requirements specification (SRS), a requirements specification for a software system, is a complete description of the behavior of a system to be developed and may include a set of use cases that describe interactions the users will have with the software. Source:  
[http://en.wikipedia.org/wiki/Software\\_requirements\\_specification](http://en.wikipedia.org/wiki/Software_requirements_specification)
- The GNU General Public License (GNU GPL or GPL): It is the most widely used free software license, which guarantees end users (individuals, organizations, companies) the freedoms to use, study, share (copy), and modify the software. Source:  
[http://en.wikipedia.org/wiki/GNU\\_General\\_Public\\_License](http://en.wikipedia.org/wiki/GNU_General_Public_License)
- Tourist: The end user for whom this application is specifically designed who can retrieve and contribute travel information.
- Staff : The people ensuring the successful development and maintenance of the website.
- Board of directors : The people responsible for financing Travelbook, Origin Inc. and authorize all of its decisions.
- Project Manager : The individual responsible for managing the entire administration and ensuring the smooth functioning of Travelbook.

## Appendix B: Analysis Models

### Class Diagrams:

