Software Requirements Specification

for

Road Tour Planner

Version 1.0 approved

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Revision History

Name	Date	Description	Version
Akshitha D & K Sai Shruthi	10th Feburary, 2022	Initial Release	1.0

1. Introduction

1.1 Purpose

This document describes the software functionalities and requirements for a road trip planner web service, which will give the user detailed information about the trip they are planning. We will also discuss system constraints, interfaces, and interactions with external applications.

1.2 Intended Audience and Reading Suggestions

The software requirement specification (SRS) document is written for a general audience, this document is meant for individuals directly concerned in the usage and implementation of Road Tour Planner. This includes software developers, project consultants, and team managers. This document need not be read sequentially; users can leap to any section they find relevant.

1.3 Product Scope

Road Tour Planner is a web-based application that lets you plan exciting road trips. Once the user enters a starting and destination point, the web application suggests several road trip alternatives along with restaurants, hotels, and activity options tailored to the user's preferences. The users will be able to view road suggestions for their trips, create a new tour based on starting and destination points, and log in to save their trip information.

1.4 Definitions, Acronyms & Abbreviations

API - Application Programming Interface
ETA - Estimated Time of Arrival
HTTPS - Hyper Text Transfer Protocol Secure
RTP - Road Tour Planner
SSL - Secure Socket Layer
UML - Unified Modelling language

2. Overall Description

2.1 Product Perspective

Road Tour Planner (RTP) is a web application designed to help you plan road trips. You can enter a starting point and a destination, and it will suggest potential routes with pit stops along the way. In order to make a road trip successful, this web service aims to minimize the number of applications or services the user would have to switch between. Our users can pre-plan their trips before they hit the road. Additionally, the application will prepare an itinerary for the user on a daily basis for the duration of their vacation, not just routing options. The application will use a variety of APIs such as Navigation APIs, Location APIs, Reviews APIs, and Current Events APIs. It will also leverage AI technology to create more personalized itinerary plans based on user input.

2.2 Product Functions

2.2.1 Plan a Trip Module:

- Create a trip
- Save the trip
- Deleting the trip
- Editing a trip

2.2.2 Map Module:

- Displaying paths on a map
- Displaying details on the trip

2.2.3 User Modeling Module:

- Establish user profile (enter meal, accommodations, activities preferences, number of users)

2.2.4 Database Module

- Store user's preferences based on profile
- Store optimized paths

2.2.5 Authorization Module:

- Permit users to log in

2.2.6 Multiple Path Module:

- Provides the user with three different paths and enables them to pick the best one

2.3 User Classes and Characteristics

2.3.1 End Users

The user must have a login to be able to save the selected trip. After the authentication has been successful, the user can select from three trip alternatives to plan, modify, save, delete, or oversee the trip. Multiple suggestions are provided to provide the user with more options. The user has to enter preferences on the profile page in order to get the optimized paths based on their preferences.

2.3.2 Administrator

- Administrator must be having good knowledge of database management system and the computer because administrator have to manage user rights.
- If the network connection does not work properly than our system should not work as intended and also the product is installed properly at web server.
- Recovery of data after a system crash will be possible only if backups are taken at regular intervals so backup should be there.

2.4 Operating Environment

The operating environment in which the software will work is windows xp, windows 7, windows 10, Linux, UNIX, macOS.

2.5 Design and Implementation Constraints

APIs

- Implementing localization requires Navigation APIs.

- Depending on the weather and traffic forecast, the final output may differ.

Execution Language limitations:

- The programming language shall be SQL for the cloud database.

Resource limits:

- The user's device must have a working data plan or wi-fi connection to receive travel information.
- Security, reliability, dependability, and efficiency of the database.

2.6 User Documentation

Users can access online help by sending a query to the specified details provided in the user manual provided along with the software.

2.7 Assumptions and Dependencies

2.7.1 Assumptions:

- To enter the necessary information, the user will need a computer.
- Google Map will display the data, allowing the user to view the details of the trip.

2.7.2 Dependencies:

- Efficiency and Security of the Databases
- The accuracy of the APIs (directions, locations, etc.)
- Forecast of the weather and traffic, Devices used
- Geolocation API for browsers based on the computer's wifi

3. External Interface Requirements

3.1 User Interfaces

This software provides the user with a good graphical interface. This software is user-friendly and straightforward. This software is self-explanatory and interactive. During the registration process, the user can select a starting point well as a destination point. Additionally, the user can enter the

date and time of the trip. By clicking on the 'Search' button, the user will be directed to another page with a map.

3.2 Hardware Interfaces

The hardware to ensure that the software executes all the user requirements efficiently are as follows :

- Mouse
- Keyboard
- Monitor
- Hard-disk 256 GB or more
- Ram with memory 4 GB or more
- The application shall function on any Internet-enabled computer with a Google Chrome, Firefox, Safari or Internet Explorer 11 browser.

3.3 Software Interfaces

The software used for Road Tour Planner are :

- Operating System : Windows XP, Windows 7 and above
- Front End : Microsoft Visual Basic Net 2010
- Backend : Microaost SQL Server 2008

3.4 Communications Interfaces

All data and requests sent to the database through HTTPS will be encrypted secured by SSL. API function calls are required to communicate with the various database and software services. New routes and shorter alternatives will always be suggested for existing trips. Additionally, users will be able to modify their meal preferences and see real-time updates on their selected trips. Upon creating a login, the user will also receive a confirmation email. As part of the website, users will

also be able to reset their forgotten passwords. APIs will be accessed by a web page using HTTPS with SSL.

4. System Features

4.1 User Login

4.1.1 Description and Priority

Any information given to the system by the user such as their login information, preferences while

planning a specific trip or a trip itself will be saved onto a Database

- Adding/updating login information
- Saving planned trips
- Saving user preferences in regards to meals, activity preferences etc

Outgoing data from the database consists of SELECT commands, such as user trying to retrieve one of their saved trips

4.1.2 Stimulus/Response Sequences

Stimulus	Response
Log In	A new page displaying text feilds to enter ID and password in shown
Registering a profile	A new page is displayed showing text field to enter destinations.
Edit trips	This page allows you to Edit the staring and ending points of the trip.
Save trips	This page is allows to save users Planned trip.
View saved trips	A new page is displayed with text fields that shows the previously travelled.

4.1.3 Functional Requirements

User access to the website-

- Using a device with access to the internet, the user shall be able to access the Road Trip Advisor website and be able to plan a trip, login, or register.

Register a profile-

- From the landing page, click "Register" and follow the prompts to complete the registration process. Using the database, users will be able to plan, save, edit, and delete trips at any time.

Planning a trip-

- It allows users to fill in information such as their source and destination, meal preferences, time preferences, number of people they are traveling with, age group, and type of activities they would prefer on the trip. They can also edit (change/delete/add) suggested trip options.

5. Additional Requirements

5.1 Performance Requirements

- The application is required to be fast and provide real time updates.
- It is important that the application is accurate with the geolocation used throughout the trip and that it provides authentic information on hotels and restaurants, including reviews and hours of operation.
- Once the route is planned, the user can import it into their preferred navigation application, such as Google Maps or Maps.

5.2 Safety and Security Requirements

It is possible to use the application without a login, so users will not need to prove their identity.

5.3 Software Quality Attributes

Reliability

- In order to ensure reliability, this system is being designed using software that is established to be stable and easy to use.

Availability

- This system is designed to run 24/7 and be readily available to the user.

Portability

- Must work with all recent versions of major browsers (Chrome, IE, Firefox, and Safari)

6. Other Requirements

The software works more efficiently in the latest version of the software so it better to update the system.