



BACKLOGS

TravelBrain

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Software Requirements Specification

Intelligent Travel Planer

1. Introduction

1.1. Purpose

The purpose of this document is to specify the functional and non-functional requirements for the *Intelligent Travel Planner*, a web application designed to streamline and automate the trip-planning process. The system consolidates travel-related data from multiple external sources into a single interface, allowing users to efficiently plan trips by managing destinations, routes, weather information, budgets, and personalized itineraries.

This specification is intended for developers, project managers, and stakeholders involved in the design, implementation, and validation of the system.

1.2. Scope

The *Intelligent Travel Planner* aims to provide an integrated solution for travel planning by combining features traditionally spread across multiple platforms. Users will be able to:

- Manage destinations and personal trips
- Calculate travel distances and estimated times
- Register and view weather information
- Manage budgets and travel expenses
- Automatically generate and export personalized itineraries

The system will leverage external APIs for real-time data, enabling dynamic recommendations and reducing manual effort. It is designed as a web application accessible from modern browsers and responsive across devices.

1.3. Definitions, Acronyms, and Abbreviations

- **CRUD:** Create, Read, Update, Delete
- **PDF:** Portable Document Format
- **API:** Application Programming Interface
- **UI:** User Interface

1.4. Overview

This document contains a general description of the system (Section 2) and detailed functional requirements organized by features (Section 3). Each feature includes three core requirements, consistent with the development plan and backlog structure.

2. Overall Description

2.1. Product Perspective

The *Intelligent Travel Planner* is a standalone web application that integrates multiple data sources to provide a unified travel-planning experience. Unlike traditional platforms that focus on a single aspect (e.g., maps or weather), this system centralizes trip information, automates itinerary generation, and supports user decision-making with minimal input.

2.2. Product Functions

The system will provide:

- Destination and trip management (CRUD)
- Route calculation and travel time estimation
- Weather information registration and visualization
- Budget and expense tracking
- Automatic itinerary creation and export

2.3. User Characteristics

Target users are travelers seeking to simplify trip planning. Users are expected to have basic computer and web navigation skills and an interest in efficient, automated travel recommendations

2.4. Constraints

- Internet access is required for real-time data and API integration
- The system must support modern web browsers (Chrome, Edge, Firefox)
- UI must be responsive for desktop and mobile devices.

2.5. Assumptions and Dependencies

- Route and distance calculations rely on mapping APIs
- Weather information may initially be entered manually, with potential future API integration.
- Budget calculations depend on accurate user input and currency exchange rates where applicable

3. Specific Requirements

Feature 1: CRUD for Trips and Destinations

ID	Requirement	Description	Priority	Source	Verification
F1-1	Register Destination	Allow registering tourist destinations with name, description	High	Backlog	Manual test

		n, country, and image			
F1-2	Manage Trips	Users can create, edit, and delete personal trips linking one or more destinations	High	Backlog	Manual test
F1-3	Display Trips	Display a list of all trips with search and filtering by name or destination	Medium	Backlog	Manual test

Feature 2: Route and Time Management

ID	Requirement	Description	Priority	Source	Verification
F2-1	Calculate Distance	Users can enter two destinations to calculate distance and estimated travel time	High	Backlog	Manual test
F2-2	Map Visualization	Display a map or visual representation showing origin and destination points	High	Backlog	Manual test
F2-3	Save Favorite Routes	Users can save frequent or	Medium	Backlog	Manual test

		favorite routes for easy access			
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Feature 3: Weather Information

ID	Requirement	Description	Priority	Source	Verification
F3-1	Register Weather	Allow manual registration of weather data for destinations	Medium	Backlog	Manual test
F3-2	View Weather	Users can view weather information for a selected destination	Medium	Backlog	Manual test
F3-3	Weather for Itinerary	Display weather for all destinations in the travel itinerary	Medium	Backlog	Manual test

Feature 4: Budget and Travel Expenses

ID	Requirement	Description	Priority	Source	Verification
F4-1	Enter Budget	Users can enter the total available budget for a trip	High	Backlog	Manual test
F4-2	Add Expenses	Allow adding estimated	High	Backlog	Manual test

		expenses per destinatio n			
F4-3	Budget Check	Automatic ally calculate total expenses and indicate if within or over budget	High	Backlog	Manual test

Feature 5: Automatic Itinerary and Export

ID	Requirem ent	Descriptio n	Priority	Source	Verificatio n
F5-1	Generate Itinerary	Automatic ally generate travel itinerary organized by days and selected destinatio ns	High	Backlog	Manual test
F5-2	Save Itinerary	Users can save and view generated itineraries in their profile	Medium	Backlog	Manual test
F5-3	Export Itinerary	Allow downloadi ng itinerary in PDF or sharing via link	Medium	Backlog	Manual test