Functional Specification Document: Vacation Planner

1. System Purpose

Vacation Planner is a web-based application that generates personalized vacation plans based on user-provided parameters such as budget, trip duration, destination, and travel preferences. The system produces a daily itinerary tailored to user needs and constraints.

2. Target Audience

- - Independent travelers, couples, or families.
- - Users with no prior technical knowledge.
- - Anyone looking for an efficient and easy way to plan a vacation without extensive research.

3. User Inputs

The input form includes:

- - Total budget (numeric).
- - Number of trip days (numeric).
- - Destination (city / country / region).
- - Travel style (Relax, Hiking, Culture, Family, Nightlife, Mixed).
- - Traveler type (Solo, Couple, Family, Friends).

4. Logical Processing

- - The system applies rule-based logic to construct a daily itinerary.
- - Key considerations:
  - - Budget compliance.
  - - Balanced distribution of activities.
  - - Matching trip style.
  - - Avoiding repetitive activities.
  - - Logistic feasibility (e.g., geographic clustering, transport) – planned for future stages.

5. System Output

- - Vacation plan for N days.
- - Each day includes 1–3 activities.
- - Each activity includes:
  - - Name.
  - - Short description.
  - - Category.
  - - Estimated duration.
  - - Estimated cost.

6. Technologies Used

- - Python
- - Flask
- - JSON (for input/output structure)
- - (Future: External REST APIs, databases, UI)

7. Development Phases

Development Phases

Phase	Description	Status
Phase 1	Receive user inputs	✔ Completed
Phase 2	Logic processing and itinerary generation	✔ In Progress
Phase 3	Basic user interface	⏳ Planned
Phase 4	Integration of external APIs	⏳ Upcoming
Phase 5	Output extension for graphical UI / print	⏳ Future

8. Planned Extensions

- - Accommodation and restaurant booking.
- - Smart recommendations using machine learning.
- - Automatic destination suggestion.
- - Multilingual support.
- - User profile saving.