Requirement Specification Document

Project: Airport Trip Predictor

1. **System Overview**

   The MVP recommends what time a traveler should leave for the airport based on:
   • desired arrival time at the airport
   • base travel time
   • optional base cab time (if user is taking a cab)
   • weather-impact multiplier
   The system displays both the final recommended time and a simple breakdown.

2. **Stakeholder Requirements**

   a. The system should help travelers decide when they need to leave for the airport.

   b. The system should reduce uncertainty around travel planning.

   c. The system should consider key factors that affect travel time.

   d. The system should provide a clear and reliable recommended departure time.

   e. The system should present results in a simple, easy to understand format.

   f. The system should give users confidence in the guidance it provides.

3. **Functional Requirements**

   <u>Input</u>

   F1. The system must provide a clean and minimal UI
   F2. The system shall allow the user to input the desired airport arrival time.
   F3. The system shall allow the user to input a base travel time.
   F4. The system shall allow the user to input an optional cab travel time.
   F5. The system shall allow the user to select a weather condition from a fixed list.
   Example multipliers:
   clear = +0
   light rain = +10 percent
   heavy rain = +25 percent
   snow = +40 percent

   <u>Computation</u>

F6. System shall compute:
recommended_leave_time
= desired_arrival_time
− ((base_travel_time + base_cab_time_if_used) × weather_multiplier)

Output

F7. The system shall display the recommended leave time.
F8. The system must show a clear, transparent breakdown of the computation:
• base travel time
• base cab time (if provided)
• weather multiplier
• adjusted total travel time
• final recommended leave time

Constraints
F8. The system shall prevent calculation if required fields are missing.

4. **Non-Functional Requirements**
   N1. UI must remain simple and intuitive.
   N2. Calculation must occur instantly.
   N3. Weather multiplier values must be editable from a simple data source.