**Tracking System -**

**Requirements & Design Document**

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# Introduction

This document outlines the functionality requirements for a flight tracking software that allows users to real-time and historical tracking of aircraft, serving both public users and aviation professionals with reliable, accurate, and timely flight data.

# Purpose

To provide real-time flight tracking data to users through a user-friendly interface, ensuring accurate, fast, and reliable information such as flight status, position, ETA, etc.

# Key Functionalities

## **3.1 Flight Search**

Users can search for a flight using:

* Flight number
* Airline
* Departure and arrival airports
* Date and time range

## **3.2 Real-time Flight Tracking**

Display the real-time position of the flight on a map show:

* Altitude
* Speed
* Heading
* Estimated time of arrival (ETA)
* Departure time (actual & scheduled)
* Arrival time (actual & scheduled)
* Delay status (if any)

## **3.3 Live Map View**

Interactive map with:

* Zoom in/out
* Multiple flights shown at once
* Filter by airline, destination, or status

## **3.4 Flight Status Alerts**

Allow users to set alerts for:

* Takeoff
* Landing
* Delays
* Diversions
* Cancellations

Alerts delivered via:

* Email
* SMS
* App notifications

## **3.5 Flight History**

View past flights and historical data:

* Route taken
* Duration
* Dates
* Aircraft used

## **3.6 Multi-Airline Support**

## Track flights from various airlines (national and international)

## **3.7 Mobile and Web Access**

Software should be accessible on:

* Desktop browsers
* Mobile browsers
* Mobile apps (iOS & Android)

## **3.8 User Roles**

* Guest User: Can search and view basic flight info
* Registered User: Can save flights, set alerts, and view history
* Admin (Optional): Can manage flight data, settings, user roles

# 4. Non-Functional Requirements

Should be easy to use, intuitive for non-technical users

* Real-time updates should be fast and reliable
* Should support high traffic during peak travel times
* Compliant with privacy regulations if user data is collected
* Accessible in multiple languages (optional)`

# 5. Additional Features

* Weather data integration for each flight
* Airport terminal maps
* Aircraft type and seating configuration display
* Integration with booking systems

# 6. Summary

The flight tracking software should deliver reliable, real-time tracking for various flights in a user-friendly format, with customizable alert systems and historical data access. The system should be scalable, mobile-friendly, and offer a seamless experience to both casual and frequent users.