* 1. Introduction

**Purpose**

The purpose of the Airline Management System is to provide an advanced and user-friendly software solution that improves the management of airline operations and passenger services. This system is designed to enable and automate key functions, making it convenient for passengers to interact with the airline and for administrators to efficiently manage airline operations. The primary purposes of the system include:

**Efficient Booking:** The software authorizes passengers to book flights easily without the need for physical visits to airline counters, plus improving the booking process.

**Information Accessibility:** Passengers can readily access flight details, including schedules, destinations, and ticket pricing, which empowers them to make better decisions when planning their travels.

**Reservation Management:** Passengers can reserve seats and associated services through the system with less effort, providing a simplified and organized booking experience. The system also supports reservation modifications and cancellations for greater flexibility.

**Administrative Control:** Airline administrators can manage passenger bookings and maintain reservation statuses.

**Accessibility and Availability:** The system is accessible to users 24/7 from any location with an internet connection, enabling passengers to interact with airline services.

**Scope**:

The Airline Management System encompasses a broad scope, covering the following aspects:

A screenshot of a computer screen

Description automatically generated

**User Management:** The system provides user accounts for both passengers and administrators. Passengers can create accounts, log in, and manage their reservations, while administrators have access to additional functionalities for control of the system.

**Flight Information:** The system maintains a complete database of flight information, including schedules, destinations, available seats, and ticket prices for both domestic and international flights.

**Booking and Reservations:** Passengers can search for flights, make reservations, and purchase tickets online. They can also cancel or modify reservations as needed.

**Payment Processing:** The system securely handles payment processing for ticket purchases, integrating with various payment gateways to ensure the safety of financial transactions.

**Administrative Controls:** Administrators can manage flight schedules, update reservation statuses, and monitor the performance of airline services.

**Security:** The system implements robust security measures to safeguard passenger information, payment details, and system integrity.

1.2 Product Overview (Angelos Psillis)

Capabilities:

Accessible anytime, anywhere: This system, at its core, provides ease to users from any point in the world at any time of day. Passengers can use a user-friendly interface to access flight details, create reservations, and manage their bookings, reducing their reliance on physical booking methods.

Effortless Flight Booking: The Airline Management System is a complete platform developed to provide travellers with seamless flight booking experiences. It allows customers to search, view, and book domestic and international flights without the need for offline booking counters.

Passenger-Centric Features: Passengers can access full flight information such as flight type, schedules, in-between locations, class categories, meal options, and cost. They can create, change, or cancel bookings based on their preferences, giving them greater control over their trip plans.

Admin Management: Administrators have powerful capabilities for managing passenger reservations and updating reservation statuses. This control ensures that reservations are handled efficiently and that proper records are kept.

Scenarios for Using the Product:

Booking and Reservation: A traveller plans to purchase a flight online. They log in, choose a flight based on availability and then complete the reservation. The booking is confirmed by the system, and the passenger receives a digital ticket.

Reservation Modification or Cancellation: Situations change, and a passenger's reservation must be modified or cancelled. They log in to their profile, examine their booking, and make any necessary adjustments, while receiving real-time updates on the reservation's status.

Efficient Flight Search: A traveller wants to arrange a vacation and is looking for flights that meet specified parameters such as date, time, source, and destination. The system allows them to rapidly identify available flights that fulfil these criteria, making the booking process easier.

Administrator Oversight: The technology supports administrators in efficiently managing passenger bookings. They can handle passenger information, update reservation statuses, and assure correct records, all of which contribute to an organised booking system.