Flight Management and Scheduling Database System

In today's fast-paced world, efficient flight management and scheduling are crucial for the aviation industry. This project aims to design and implement a comprehensive Database Management System for Flight Management and Scheduling to streamline the complex processes involved in managing flights and scheduling.

By Group 3

Project Objectives

1 Streamline Operations

The system will streamline the complex processes involved in managing flights and scheduling, enhancing operational efficiency and reducing delays.

2 Enhance Customer Satisfaction

By providing real-time updates on flight statuses and improving overall customer experience, the system will contribute to increased customer satisfaction.

3 Data Integrity and Accessibility

The DBMS will ensure data integrity, accessibility, and scalability to meet the dynamic demands of the industry.

4 Robust Backbone for Airline Operations

The system will serve as a robust backbone for airline operations, providing a centralized platform for managing all aspects of flight management and scheduling.

Entities and Attributes

Entity	Attributes
Flights	FlightID, AirlineID, FlightNo, DeptAirport, ArrAirport, DeptTime, ArrTime, AircraftID, Status
Airlines	AirlineID, AirlineName
Passengers	PassengerID, Fname, Lname, PassNo, Nationality, Sex, DOB, Phone, Email
Bookings	BookingID, PassengerID, FlightID, BookingDate, SeatNo, Class, PaymentMethod
Airports	AirportID, AirportName, Location, PhoneNo, Email
Aircrafts	AircraftID, Model, Manufacturer, Capacity, Range
Crew	CrewID, Fname, Lname, Position, EmpNo, CertDate, Phone

Relationships

Airlines Operates Flights

Airlines are responsible for operating flights, managing schedules, and providing services to passengers.

Flights Uses Aircrafts

Flights require specific aircraft types based on capacity, range, and other factors.

Flights isBookedOn Bookings

Passengers make bookings for specific flights, reserving seats and confirming travel arrangements.

Passengers Makes Bookings

Passengers are the individuals who make bookings for flights, providing personal information and travel details.

Flights Leaves&Reaches Airports

facilitating the transport of passengers and cargo between different locations.

Crew WorksOn Flights

The crews, are responsible for operating flights, ensuring passenger safety, and providing in-flight services.

Airline Employs Crew

Airlines hire and manage crew members

Airlines Owns Aircrafts

Airlines possess and maintain a fleet of aircraft, which are used to operate scheduled flights and transport passengers and cargo.

Airports Serve Passengers

Airports provide facilities and services to passengers, including check-in, security, boarding

System Architecture

Schema Diagram

The schema diagram provides a visual representation of the database structure, outlining the entities, attributes, and relationships involved.

Flights

FlightID	AirlineID	FlightNo	DeptAirport	ArrAirport	DeptTime	ArrTime	AircraftID	Status

Airlines

AirlineID	AirlineName

Passengers

PassengerID	Fname	Lname	PassNo	Nationality	Sex	DOB	Phone	Email

Bookings

BookingID	PassengerID	FlightID	BookingDate	SeatNo	Class	Payment Method

Airports

AirportID	AirportName	Location	Phone	Email

Aircrafts

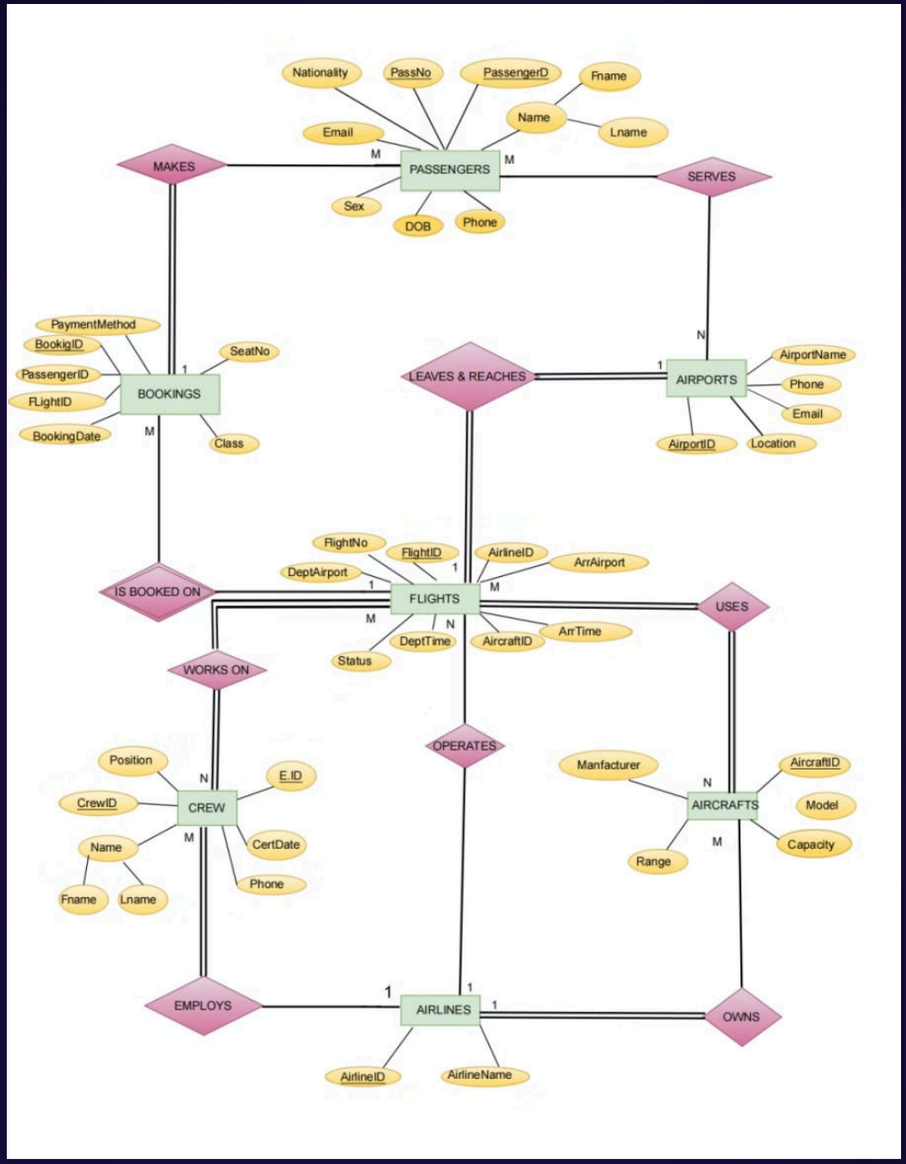
AircraftID	Model	Manufacturer	Capacity	Range

Crew

CrewID	Fname	Lname	Position	EmpNo.	CertDate	Phone

ER Diagram

The ER diagram provides a more detailed representation of the database structure, including entity types, attributes, and relationships, with symbols representing different elements.



Benefits of the System

Improved Efficiency

The system will streamline flight management and scheduling processes, reducing delays and improving operational efficiency.

Enhanced Customer Experience

Real-time flight status updates and improved communication will enhance the customer experience and increase satisfaction.

Data-Driven Decision Making

The system will provide valuable data insights, enabling airlines to make informed decisions based on real-time data.

Scalability and Flexibility

The system will be designed to be scalable and flexible, accommodating future growth and changes in the aviation industry.