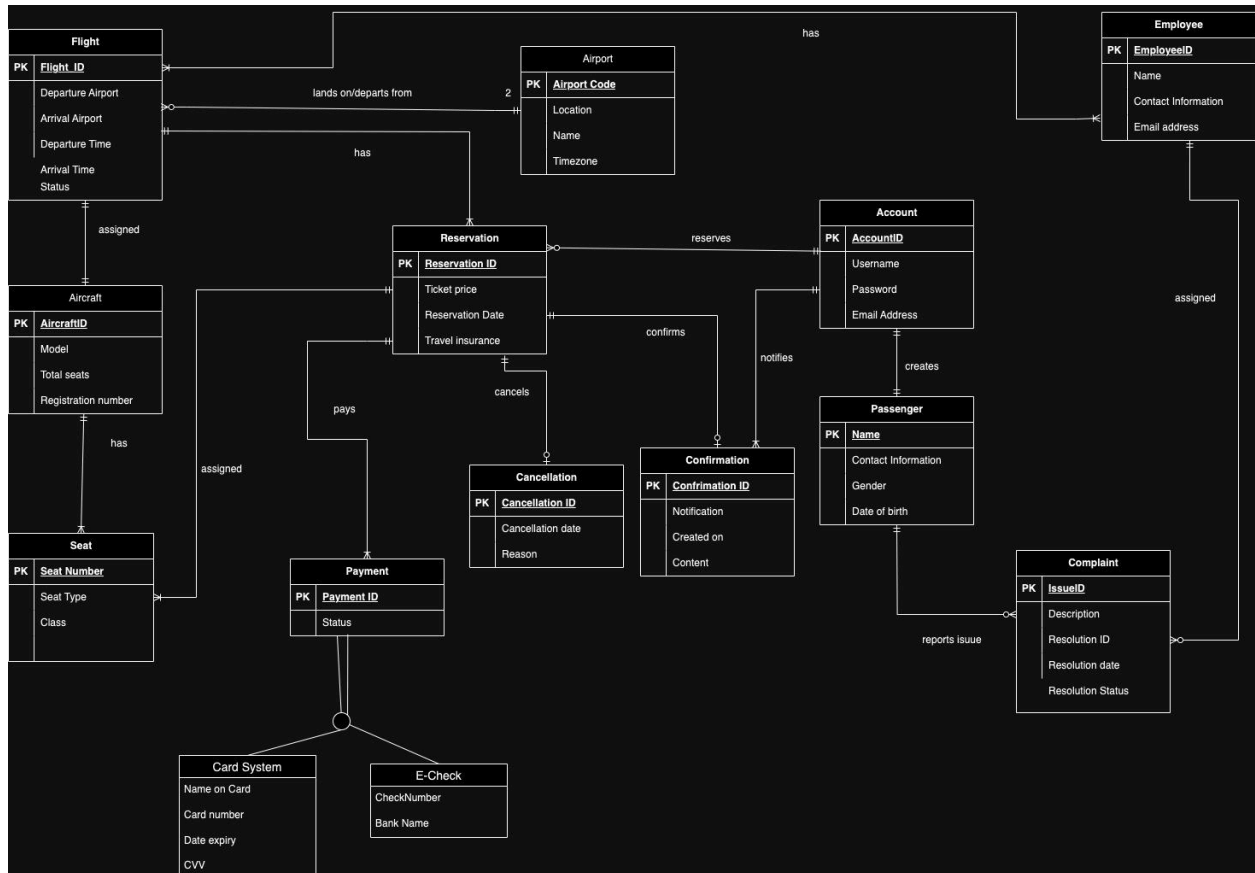


Airline Reservation Systems

Project Overview



The above image is an ERD of a flight reservation system. The system works by allowing passengers to search for and book flights. Once a flight is booked, the system reserves a seat for the passenger on the aircraft. The passenger can then make changes to their reservation or cancel their flight. The system also tracks the status of flights, including any delays or cancellations. A passenger can also issue a complaint and an employee can resolve it.

Business Requirements

The business requirements in the system is as follows:

1. A passenger searches for a flight.
2. The system retrieves flight information from the database.
3. The passenger selects a flight and books a seat.
4. The system creates a reservation for the passenger and stores it in the database.
5. The passenger pays for the flight.
6. The system processes the payment and updates the reservation.
7. The passenger receives a confirmation of their booking.
8. The system tracks the status of the flight.
9. If the flight is canceled, the system sends a notification to the passenger.
10. The passenger can cancel their reservation or make changes to it.
11. An employee can help the passenger with any complaints.

Entities

The system has the following entities:

- **Flight:** A flight is a scheduled journey between two airports.
- **Aircraft:** An aircraft is a vehicle that is used to transport passengers through the air.
- **Airport:** Airport where the flight lands or departs from.
- **Seat:** A seat is a location on an aircraft that can be occupied by a passenger.
- **Passenger:** A passenger is a person who books a seat on a flight.
- **Account:** An account is a record of a passenger's reservations and payments.
- **Reservation:** A reservation is a record of a passenger's booking on a flight.

- **Payment:** A payment is a transaction that is used to pay for a flight.
- **Cancellation:** A cancellation is a record of a passenger's cancellation of a reservation.
- **Confirmation:** A confirmation is a notification that is sent to a passenger to confirm their booking.
- **Employee:** is someone who works at the airport
- **Complaint:** A Passenger can raise a complaint.

Relationships

The following relationships exist between the entities in the system:

- A flight can have many reservations.
- A flight can have multiple employees and an employee can work for multiple flights.
- A reservation is for one flight.
- A reservation can be for one or more accounts .
- An account can have many reservations.
- A reservation can be for one or more seats.
- A reservation can be paid for with one or more modes of payment.
- A payment can be for one reservation.
- A reservation can be canceled.
- A cancellation is for one reservation.
- A reservation can be confirmed.
- A confirmation is for one reservation.
- Multiple employee are assigned to a flight.
- An employee may or may not handle complaints
- A complain will have one employee working on it to resolve it.

Project Scope:

The project's scope includes creating a comprehensive airline management system with multiple vital components. First and foremost, in order to effectively manage and organize critical data, such as flight schedules, passenger information, and reservations, a centralized database must be established. A strong authentication mechanism for both clients and staff will be put in place to guarantee the integrity and security of the system. Furthermore, the project will integrate with secure payment gateways to improve user experience and enable safe and easy online transactions. Customers and airline employees will also receive timely information on timetables, modifications, and flight availability. In addition, the initiative intends to include seat reservation features, enabling travelers to personalize their journey according to their preferences.

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