Entity Listing

Below entities are listed and modelled as part of the flight booking management system database. The below table describes the entities designed and their corresponding descriptions.

S. No	Entities	Description
1.	Person	This entity defines a person who wants to book a flight and have basic attributes like name and address, and it has two subtypes of namely user and passenger
2.	User	This entity describes the person who is logging into the server to book the ticket and it has attributes like user id and password
3.	Passenger	This entity describes the details of the passenger who will be travelling.
4.	Employee	This entity defines an employee working at an airport and can belong to either administration, maintenance, pilots, crew members, etc.
5.	Airport Employee	This entity describes the person/employee who assist the person booking at the airport
6.	Remote Employee	This entity describes the person/employee who help the customer in resolving any customer queries regarding booking or flight enquiry
7.	Airline Employee	The employee who works for a particular airline agency only.
8.	Aircraft	This entity defines a physical aircraft independent of any flights or routes.
9.	Airports	This entity defines the geographical locations where the aircraft are operated. It can act as both source and destination for a flight.
10.	Flight Schedule	This entity defines a journey by an aircraft between a source and destination.
11.	Route	This entity defines a particular path followed by one aircraft associated with any airline.
12.	Booking	This entity describes the confirmation number/PNR number of the flight journey.
13.	Baggage	This entity describes the number of bags and the maximum weight of each bag that is allowed per customer throughout the journey.
14.	Airline	It is the agency who provides flight services to the passengers. Ex: Delta Airlines, Qatar, Air India etc.
15.	Immunization	This entity depicts the vaccinations/immunization details of the passengers travelling with the airline.
16.	Payment	This entity holds the information of payment details completed by passenger like credit or debit card.

17.	Work Location	This entity holds the data for physical location of the customer support office.
18.	Trip	This entity contains the attributes of a particular journey of an aircraft between source and destination.
19.	Ticket	This is an associative entity which holds the

Entity-Attribute Listing

Below table holds the attributes designed and involved for each entity modeled.

- *Attribute Name in bold is the Unique Identifier (Primary Key – PK)*

Entity Name	Attribute Name	Attribute Description
Person	**Person ID**	Unique identification for a person.
	First Name	First Name of the person
	Last Name	last Name of the person
	Date Of Birth	DOB for the person
	Address (City, State, Country)	residence address for person
	Email	Email address for the person
	Phone Number	Contact number for the person
	Person Type	A person can book a ticket or can book for others -> User, Passenger, Both
Employee	**Employee ID**	Employee identification number working for an airline
	First Name	First Name of the airline employee
	Last Name	last Name of the airline employee
	Date Of Birth	DOB for the airline employee
	Email	Email address for the employee
	Phone Number	Contact number for the employee
	Manager ID (FK)	Manager of the employee
	Employee Type	Type of an employee (Airport, Remote, Airline)
Aircraft	**AIN Number**	Aircraft Identification Number
	Company of Manufacture	Manufacturer of aircraft
	Model Type	Type of aircraft
	Model Number	A model/build type number A320, A720.
	Seats	Number of seats established in aircraft
Trip	**Route Number (FK)**	Route number defines a unique path between source and destination
	Airline ID (FK)	Airline identification number
	Baggage Allowance	Maximum permissible baggage count
	Passenger Count	Total no of passengers boarded the flight
	Crew Member Count	Total no of crew members boarded the flight
Airport	**Airport ID**	3 letter international defined airport code. (BOM - Bombay, BOS - Boston, JFK - New York)
	Airport Name	Name of the airport (Boston Logan, JF Kennedy International etc.)

	Airport Location	Address of the airport
Flight Schedule	**Flight Schedule ID**	Flight Identification number for a particular flight/journey (QE-123, 6E-223)
	Departure Timestamp	Exact Departure time for a flight journey
	Arrival Timestamp	Exact Arrival time for a flight journey
	Flight Status Code	Status of flight (Boarding, On Time, Security Check)
	Seats Available	Number of seats available for booking
	Route Number (FK)	Route number defines a unique path between source and destination
	AIN Number (FK)	Aircraft Identification Number
Route	**Route Number**	Route number defines a unique path between source and destination
	Origin Airport ID (FK)	From where flight departed(BOS, BOM like airport codes)
	Destination Airport ID (FK)	To where flight arrived(BOS, BOM like airport codes)
Booking	**Booking ID**	Unique identifier for a particular booking/Ticket ID
	Booking Timestamp	Date time a particular ticket booking
	Transaction Timestamp	Date time a particular transaction under a booking
	Transaction Status	Status of a particular transaction (Pending, Completed, Failed etc.)
	Person ID (FK)	Person booking the ticket identifier
	Number of Passengers	Number of travelling passengers
User	**User ID**	Unique identification for a user who login to book.
	Person ID (FK)	Person identification to the person table
	Username	Login name credentials for the user
	Password	Login password credentials for the user
Passenger	**Passenger ID**	Unique identification of the passenger
	Person ID (FK)	Person identification to the person table
	Booking ID (FK)	Booking number for the passenger
	Passenger Type	Type of the passenger - Adult, Children or Infant
Airline	**Airline ID**	Airline identification number
	Airline Name	Name of the airline agency (Delta, Qatar etc.)
	Airline Type	Type of the airline
Baggage	**Baggage ID**	Unique identification for a baggage
	Baggage Weight	Weight of Baggage
	Passenger ID (FK)	Bag belonging to the passenger
	Booking ID (FK)	Foreign key to the booking which the bag will get transported
Immunization	**Immunization ID**	Unique identifier for a particular immunization record
	Passenger ID (FK)	Passenger corresponding to the immunization id
	Immunization Name	Type of vaccine taken by passenger
	Completed DateTimestamp	DateTimestamp of final immunization administered
	Immunization Country	Country where the vaccine was administered
Payment	**Payment ID**	Payment identifier number for a transaction
	Booking ID (FK)	Booking Identification number
	Card Type	Card type - Visa, Mastercard etc.
	Card Number	Number of the digital card

	Expiry Date	Expiration date of the card
Airport Employee	**Airport Employee ID**	Employee number for the person booking the ticket
	Airport ID (FK)	Airport id at which booking is made
Remote Employee	**Remote Employee ID**	Employee number for the person assisting the customer over media
	Location ID (FK)	Unique identification number for a location
Airline Employee	**Airline Employee ID**	Employee number for the person working for a particular airline agency
	Salary	Salary of the employee
	Airline ID (FK)	Airline Identification number
Work Location	**Location ID**	Unique identification number for a location
	Location Name	Location name for the work
	Address	Physical address for customer support location
	Number of Employees	Head count of employees
Ticket	**Ticket ID**	Unique identification number for a ticket
	Booking ID (FK)	Foreign key from booking relation
	Flight Schedule ID (FK)	Foreign key from flight schedule table
	Layover Time	Gap time between succeeding flight under one ticket