MID-PROJECT EVALUATION

(1) SCOPE OF PROJECT :-

- We have to create a train reservation system which would help the authorities to manage a huge amount of crowd that wants to use the train reservation system.
- In this platform a user can login with their IDs and password and can book train tickets from one place to another.
- The user also has the option to cancel the booked ticket and get a refund.
- Once a user confirms his/her ticket he will get displayed an amount which he has to pay.
- Once a user books his ticket he becomes a passenger and a user can book multiple tickets and hence user and passengers are different. The user has to specify the date, start location, destination and the train class he wants to travel in.
- We have made several queries to handle
    - (1) new user signup
    - (2) book tickets
    - (3) cancel tickets
    - (4) trains available on a specific date which have a specific departure and arrival location
    - (5) we have also made a query which will update the seats available once a person reaches his arrival location and a new person can book a seat at this station
    - (6) check the available seats in a class in a train
    - (7) calculating the cost for a particular route
    - (8) check the ticket status
    - (9) show the booked tickets by a particular user
    - (10) show passenger list of a particular train

(2) STAKEHOLDERS :-

- The stakeholders or the people which will be affected by this application will be the people who are willing to travel by train.
- This will also affect the people working in train stations, ticket collectors, train drivers and train station officials.

(3) WEAK ENTITY :-

- We have identified one weak entity and it is the passenger. A passenger does not have a primary key and a passenger can only exist if a user books a ticket and a passenger can travel only in a train. So a passenger can only exist when a train and ticket exist.

(4) TERNARY RELATIONSHIP :-

- We have one ternary relationship in the ER diagram and that is “Book”. Book will have a relation with “Passenger”, “Ticket” and the aggregated entity of “Train” and “Class”. This is because a ticket will be booked by a passenger, a ticket will be booked for a train and a passenger will book a ticket for a train.

Relational Schema

1) **User**(UserName, pass,Age, Name(First, Middle, Last), DOB, Address(AddressLine, City, State, Pincode), Sex, PrefferedLanguage, Nationality, PhoneNumber)

2) **Train(**TrainId, TrainName**)**

3) **Ticket** (TicketID, Amount, SeatNo, TicketStatus ,TransactionID,StartStation)

4) **Class**(ClassCode)

5) **Station** (StationId, StationName)

6) **Passenger**(PassengerAge, PassengerName, PassengerSex) *(Weak Entity)*

7) **Train_class** (TrainID, ClassCode, TrainName,NoOfSeats)
FOREIGN KEY Train_class(TrainID) REFERENCES Train(TrainId)
FOREIGN KEY Train_class(ClassCode) REFERENCES Class(ClassCode)

8) **Route** (ClassCode , TrainID, StartStation,endStation terminus, DepartureTime, ArrivalTime, DateOfDeparture, fare, seatsLeft)
FOREIGN KEY Route(TrainID) REFERENCES Train(TrainId)
FOREIGN KEY Route(ClassCode) REFERENCES Class(ClassCode)
FOREIGN KEY Route(StartSation) REFERENCES Station(StationId)
FOREIGN KEY Route(endSation) REFERENCES Station(StationId)

9) **Buy** (Username, TicketID)
FOREIGN KEY Buy(UserName) REFERENCES User(UserName)
FOREIGN KEY Buy(TicketID) REFERENCES Ticket(TicketID)

10) **Cancel**(Username, TicketID)
FOREIGN KEY Cancel(UserName) REFERENCES User(UserName)
FOREIGN KEY Cancel(TicketID) REFERENCES Ticket(TicketID)

11) **Book** (TicketID,Status, Amount, SeatNo, TransactionID, PassengerAge, PassengerName, PassengerSex, TrainID, ClassCode, endStation, startStation)
FOREIGN KEY Book(TicketID) REFERENCES Ticket(TicketID)
FOREIGN KEY Book(TransactionID) REFERENCES Ticket(TransactionID)
FOREIGN KEY Book(TrainID) REFERENCES Train(TrainId)
FOREIGN KEY Book(ClassCode) REFERENCES Class(ClassCode)
FOREIGN KEY Book(StartSation) REFERENCES Station(StationId)
FOREIGN KEY Book(endSation) REFERENCES Station(StationId)

12) **Admin** (empID,accessCode,firstname,middlename,lastname)