1) Web interface or Mobile app interface with supporting Backend APIs), that integrates Mileage rewards account with reservations/itineraries for each airline customer. (e.g. see United or Southwest app)

2) APIs should support following functionality:

- Manage your Mileage rewards account
- Search for flights and book travel
- Purchase seats
- Change/Cancel reservations
- Enrolling as a new customer

3) Deploy API to **AWS in an Auto Scaled EC2 Cluster** with Load Balancer (or another cloud provider)

- Develop a Web or mobile UI that will make use of the APIs
- Create your own database with mock data

Classes:

- Airline
- Flight
- User (Account)
- Employee
- Customer
- Seat

Attributes:

- Airline: string headquarters, string name, Flight flightsEmployed[], User rewardAccounts[]
- Flight: string departureFrom, string arrivalAt, string flightNo, date arrivalDate, date departureDate, Seat seatStatus[], Airline employedBy
- User: string ID, string firstName, string lastName, string address, string emailAddress, int rewardPoints, string ticketNo, Flight isFlyingIn
- Employee: string badgeNum, string role, Airline isEmployedBy,
- Customer: Seat assignedSeat, ~~Flight bookedFlight~~, int numBags
- Seat: int seatNo, char row, boolean isBooked, string seatType, int pointsRewarded

Methods/Operations*:

- Airline: addRewardsAccount(User toBeAdded), addFlight (Flight toBeAdded)
- Flight: assignSeat (Seat toBeAssigned),

- User: createUser(), createUser(string tID, string fName, string lName, string addr, string emailAddr, int rewardP, string tickNum, Flight travelVia)
- Employee: assignRole()
- Customer: assignSeat(int seatNum, char rowName), autoAssignSeat ()
- Seat: assignCustomer(Customer cust, int seatNum, char rowName), autoAssignCust(Customer cust)

*__NOTE:__ We are intentionally not mentioning/describing generic getter-setter functions here