Web Programming Project, Fall 2017

1-General Instructions:

➔ The project should follow MVC architecture.

➔ You are allowed to use any programming language (Java, PHP, ASP, Ruby, Python ..) or framework (Spring MVC, CakePHP, Ruby on Rails ..) for this project.

➔ You are not allowed to use any template for this project.

➔ Make sure that your website is not prone to any of the hacking techniques that will be discussed in the course.

➔ All the form fields should be validated on client and server side.

➔ A good website design will carry extra marks. however, gold plating beyond a certain limit won't be considered for marking.

➔ Keep the design as simple yet as professional as you can.

2-About the deliverables

➔ No requirements from a previous deliverable will be marked in the next ones.

➔ Evaluation date is the actually due date.

No	Evaluation Date	Tasks
1		Deliverable 1
2		Deliverable 2
3		Deliverable 3

3- Airline Booking System Requirement:

You are required to build a flight booking system for an Airline. This is for just one airline who want to sell seats to their customers via internet. Following are the roles which should be implemented:
1-Airline Admin
2-Airline Manager
3-Customer

Following are the steps of work flow required:

1. Airline Admin will set the prices of the seats. There should be three types of seats:
    a. First Class
    b. Business
    c. Economy
2. The Airline Admin should be able to create and update the features of each type of seat.
3. The Airline Admin should be able to set the total number of seats for each flight.
4. Airline Manager should see a list of seats which the Admin has added or edited when he/she logs in.
5. Airline Manager then needs to approve the new price or updates.

6. When the price and update is approved by the manager only then it should be available for the customer to buy.
7. The Customer should be able to buy seats based on availability.
8. When a customer buys a ticket the system should be able to calculate how many seats are left. If all seats are bought the application should not let the customers buy more seats.
9. The Customer should be able to select the following, to select a seat:
    a. origin and destination cities
    b. dates of travel
    c. number of people traveling
10. When the customer selects the seat and confirms the booking flight Itinerary should be shown to the customer.
11. When the customer approves the itinerary the customer should be taken to a payment page where the total price should be shown. When the customer presses the pay button consider the transaction done and mark the seat sold.
12. Once the seat is sold, send out an email to the customer with the flight itinerary.

Deliverable #1

Website layout and design

- Basic website layout and design (including forms) using HTML, JS and CSS.
- This includes design of all the pages required for the application.
- Each role should have its own views\profile pages and actions they can perform.
- In this deliverable only the view is required. The backend coding is required in deliverable 2.

Deliverable #2

Back end programming

- All the Functionality should be working for the system as defined the in section 3.
- All back end coding, model, and dependencies should be working.
- Client side and server side validation should be implemented.

Deliverable #3

Web Service

- Design a web service which can be used to:
    - Get the price of a seat if origin and destination is given.
    - Get the number of seats available in a flight, given flight number and date.
    - The data should be returned in either JSON or XML.
- Implement at least one user interface component using AJAX.
- Security features should be implemented. (This includes Roles, XSS, and SQL injection)