

# **The American University in Cairo**

## **Computer Science & Engineering Department**

**CSCI 456-01**  
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### **Course Project Requirements**

#### **Design of Web-based Systems**

Design and develop a secure RIA (Rich Internet Application) for a chain of hotels of an international brand for the purpose of supporting all reservation transactions and provided services. The application is based on a centralized database storing all the required data to support the delivered services. The secure Web application should cover (at minimal) the following requirements

#### **A- Database Requirements**

Each room is given a unique number and has a room type (Single, Double, Suite). There is a price for each room type in each season (Low, Medium, and High) for each guest type. It is required to keep track and store reservation transactions. A reservation transaction is assigned a unique reference number and includes information about one room reserved for one named guest together with check in date, checkout date, and number of nights. Each guest is described by a name (first and last name), guest type (local, foreigner, group), nationality, phone number, and a credit card number. Each guest/user is identified through his/her credentials of a created account (Username and Password).

#### **B- Functional Requirements**

It is required to develop the necessary services for four types of user:

- I. **Anonymous user:** browse and filter data of rooms' availability by period and/or by room type.

##### **II. Authenticated user:**

1. Create an account (Sign Up), login, recover password (using cookies and Email notification), edit profile, change password, and sign out.
2. Browse and filter rooms by period and/or room type, check availability of a room with a particular room type.
3. The application displays the list of room numbers meeting the preferences of the user and from which the user can reserve one or more. In case of no rooms available in the selected period that meet the user's preferences, a message is displayed with this meaning to allow the user to change his/her preferences (period and room type). The user will be notified through an e-mail message with full information of his/her reservation.
4. The user can cancel his/her reservation at any time but not on the same day of check-in or after. The user will be notified with the cancellation of his/her reservation through an e-mail message
5. The user can review his/her reservation(s) in a specific period.
6. The application should send emails to notify user at each step and with every transaction.

##### **III. Staff:**

1. Browse and filter data of rooms by period and/or by room type to answer online users' inquiries.
2. Get a list of current guests in a specific period of time.
3. Search by guest name.
4. Generate summary reports.
5. Generate charging bill on check-out

##### **IV. Admin:**

1. Manage and maintain users' accounts and roles.
2. Query and maintain the rooms' database.

#### **C- Non Functional Requirements**

1. Use a master pages to unify your design.
2. Develop and/or use **Web Services** to implement some standard functions.
3. Include all the security measures to secure the application.
4. Enhance the application performance using Ajax.