COMP2411 – Database Systems

Deadlines: Forming Group – Oct 5, 2024 | 1st Stage – Nov 2, 2024 | 2nd Stage – Nov 30, 2024
Weighting: 10% | 20%

Project Title: Banquet Management System (BMS)

What to do and submit?

1. You are required to form a group of **FOUR to FIVE (*4 ~ 5*)** students. In addition, this group project is divided into **TWO** stages.

2. For the **First Stage**, each group should submit the following to Blackboard on or before **2-Nov-2024** (*Saturday*):

   - According to the description of the BMS, provide an **ER diagram** to clearly define all necessary entities, for example, which entities are "weak" or "strong" as well as the relationships (*especially the many-to-many relationship and the N-ary relationship*) among the entities.

     (*Note: You should have your assumptions to design your database application.*)

   - Generate a **relational schema** for the BMS based on ER diagram.

   - A **project plan** or a **project schedule** should be prepared and submitted.

3. For the **Second Stage**, each group should submit the following to Blackboard on or before **30-NOV-2024** (*Saturday*):

   - A **User Guide** explaining how to set up and use the BMS.

   - **Source code** file(s).

   - **Testing data** file(s).

   - Sample(s) of the **analysis report**(s).

   - A soft copy of the **presentation file**.

   - A **FIVE-minute** (*at most*) **video demonstration** to introduce and demonstrate your BMS (i.e., all the supported functionalities) using your testing data.

     (*Note: all group members should be present in the video.*)

   - **Contribution of Work**: A list to indicate/describe the workload of each member. The list should be **signed by all group members** to show your consensus.

   - **Peer Evaluation Form**: Each member should complete the Peer Evaluation Form and submit it to Blackboard.

*Note: All the above materials, except the Peer Evaluation Form, should be **submitted only by one member** of your group.*

Late Submission Penalty – 33% per day.

Banquet Management System

You are required to create a Database Application of BMS and use SQL statements to enable the following functional requirements.

1. Banquet Management

   a) The administrator shall be able to organize banquets for managing banquet details and information of attendees.
   b) The administrator can create a new banquet and update any existing banquet information.
   c) The following information must be inputted by the administrator when creating a new banquet:

      o Banquet Name
      o Date and time of Banquet
      o Address
      o Location
      o First Name of the Contact Staff
      o Last Name of the Contact Staff
      o Available (e.g. Y or N)
      o Quota

   d) For each banquet, the administrator will be required to input four different meals (e.g. fish, chicken, beef and vegetarian). Each meal information includes type, dish name, price, special cuisine, etc.
   e) A banquet identification number (BIN) will also be issued to represent the banquet. For example, *1* for the first banquet created and *5* for the fifth banquet created in the system.
   f) The administrator can obtain the full information of an attendee after providing his/her email address. With this information, the administrator can update any related information (i.e. only registration data fields).

2. Attendee Registration

   a) Allow attendees to create an account and securely authenticate themselves. The account information includes:

      • First Name
      • Last Name
      • Address
      • Attendee Type (e.g. staff, student, alumni, guest)
      • E-mail Address (account ID)
      • Password
      • Mobile number
      • Affiliated Organization (e.g. PolyU, SPEED, HKCC, Others)

b) Once the account set up is done, the system will check if all mandatory fields are filled in correct format:

- Wildcard character "@" must be included in the E-mail.

- Only an 8-digit number should be inputted in the Mobile Number field.

- Only English characters are accepted in the English Name field. Wildcard or numeric characters will not be accepted.

c) Enable users to update their personal information in account profile, such as email addresses, passwords, etc.

d) Once login in BMS successfully, a user can know a list of the available banquets. After choosing the suitable banquet with BIN information, the user can register a banquet with related information such as drink choice (e.g. tea, coffee, lemon tea), meal choice, remarks (e.g. seating preference), etc.

e) At the registration, the BMS will check if the banquet (selected by the attendee) has sufficient seats.

- <= quota of the banquet: Success, the attendee's registration information (e.g. input data, registration times, seat number) be immediately updated.
- > quota of the banquet: Failure, a regret message would be shown.

3. Search and Updating
   a) Registration Search: an attendee shall search for his/her registered banquets based on various criteria such as date, a part of banquet name, attendee type, etc.
   b) Registration Updating: Based on a search result, the attendee can update his/her information as functional specification 2.c.

4. Report Generation
   a) Generate analysis reports for administrators to review the system, such as analysing data on registration status, popular meals, attendance behaviour, etc., so that further promotions or space/room allocations can be provided.

Feel free to add any other functionalities that you want the BMS to have, such as seating planning, registration tracking, guest reservation, banquet quota arrangement, etc.