



## **Database Systems-1 Project**

### **Project Instructions:**

1. This is a team project of at least 5 members and 6 members at most.
2. The members should be from the same group/lab or with the same lab TA (Note: if you from "ALL" group, then all team members should be from "ALL").
3. Each team should select one idea from the proposed systems shown below to work on it.
4. Fill the project template with the following information.
  - Team members names and IDs.
  - Your section number.
  - Your lab TA name.
  - Title of the project that you have selected from the proposed below.
5. You are required to implement the proposed functionalities in the assigned project or propose your own.
6. All team members must participate and contribute to the project.
7. The final project deliverables will be uploaded on the classroom and discussed with your TA.

### **1. Project Deliverables**

#### **Phase 1: The system entity relationship diagram**

- Students are required to construct the system's ERD (conceptual model)
- ERD should include at least 5 entities including at least 1 many-to-many relationship. Including Weak Entity (**1 bonus**)
- Primary keys, foreign keys, and relationships should be clearly defined in the ERD.
- Review the system's entity relationship diagram with your TA (make updates if needed)



### **Phase 2: Software Application + Conceptual ERD + Corresponding Physical ERD + Implemented database on MS SQL Server**

- Convert the conceptual ERD into a physical ERD.
- Submit both conceptual and physical ERD.
- Deliver the SQL Server database generated from the physical ERD with populated data.
- Implement an application program using C# (or other permitted languages) that includes at least:
  - 2 insert statements on 2 different tables.
  - 2 delete statements on 2 different tables (with conditions).
  - 2 update statements on 2 different tables (with condition).
  - Select data from any table(s) of the database.
  - Select data that involves more than one table of the database (using joins).
  - Generate 1 meaningful report (**bonus**).
  - Implement GUI (**bonus**).



## 9- Event Ticketing System

- **Proposed Functionalities:**

- Signing up a new user (e.g., admin, event organizer, customer)
- Creating new events (by admin/event organizer)
- Updating a user's details.
- Add event sponsor.
- Show all sponsors for specific event.
- Setting ticket types and pricing (by admin/event organizer)
- Searching for events by criteria (date, location, type)
- Purchasing or return a ticket (by customer)