

**Database Systems Lab**

**Project Proposal**

**Lab Instructor:** Ms. Mahnoor

**Project Title:**

K-Entertainment Company Management System

**Proposed by Group 8**

Tehreem Masood (240201015) || Simra Tanveer (240201013) || Nabira Salman (240201057)

### **Project Overview:**

The project aims to construct a database for a Korean Entertainment Company and managing its core operations. The database is used for organizing and keeping track of information related to artists, idol groups, album releases, schedules, fan events, and staff members. The system will ensure efficiency in data handling, proper organization, and involve real-world scenarios. The database system will utilize well-structured and efficient queries for the retrieval of information.

**Objective:**

The main objectives to be achieved with this project will be:

1. Designing a database that will manage the main entities of a Korean entertainment company. Such entities may include artists, groups, albums, schedules, events, and the company staff members.
2. Developing relationships between different entities with the proper use of Primary and Foreign keys. A few basic examples would be of group and staff members, albums and groups, etc.
3. Using queries to retrieve useful information related to a group’s future activities, album releases, etc.
4. Building a database that allows basic operations such as adding, editing, or deleting existing data.

**Tools and Technologies:**

* **SSMS** to design the database tables and relationships
* **Draw.io** to construct ER Diagram
* **Visual Studio Code** for developing code for front-end development

**Approach And Methodology:**

**Step 1: Research Requirements**

Determine the core entities needed for the entertainment company operations (e.g., artists, groups, staff, schedules, albums, and events).

Define the attributes for each entity based on real-life context (e.g., names, release date).

**Step 2: Design ER Diagram**

Create an Entity-Relationship diagram to represent the entities and the relationships between them visually. Assign primary keys, foreign keys, and cardinality to ensure integrity.

**Step 3: Create Schema**

Use the ER diagram to create a relational schema using SQL. Implement the schema in Microsoft SQL Server Management Studio (SSMS).

**Step 4: Enter Sample Data**

Insert sample data into each table, simulating real-word records. Test the basic operations: insert, delete, select, update.

**Step 5: Develop Queries**

Write sample queries to retrieve information required in real-life scenarios such as:

* Upcoming events, albums, performances etc.
* Albums of a certain artist or group
* Staff assigned to an idol

**Step 6: User Interface**

Build a user interface using Visual Studio Code to allow smooth user interaction with the database (e.g., view schedules, allow management or staff to make changes). Use HTML/CSS/JavaScript for the frontend and connect it to the backend SQL.

**Step 7: Testing &Validation**

Test all operations with boundary and edge cases to ensure no leaks or errors (e.g., no schedule, overlap in dates, artists with multiple talents). Maintain data integrity by using proper constraints and foreign key references.

**Step 8: Documentation**

Document the process and design choices, schema structure and queries.

Include ER diagram, relational schema, sample data, and outputs of queries in the report.

**Expected Outcome:**