University Students Club Sessions Registration System

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College of Information Engineering – Network Engineering Dept.

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Portfolio: https://muhmedsadiqjasim.github.io/Portfolio/

Content Table

Project Overview

Title: University Students Club Sessions Registration System (USCSRS).

Description: This is a basic web-based system designed to help university students view and register for upcoming club events. It simplifies the registration process by providing a clean and beginner-friendly interface that connects to a MySQL database using PHP.

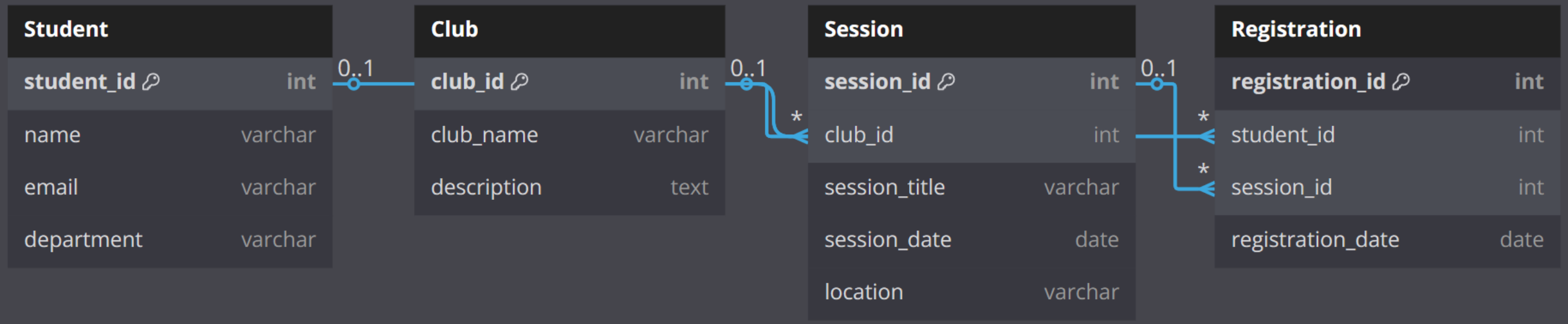
Project Overview

What is solved?

This project solves the problem of managing student participation in university clubs and events. In many universities, it can be difficult to organize events, track which students joined which sessions, and collect student information efficiently.

Entity-Relationship (ER) Diagram & Relational Schema

Entity-Relationship (ER) Diagram



Relational Schema

Student

student_id	INT	PK
name	VARCHAR(100)	NOT NULL
email	VARCHAR(100)	UNIQUE – NOT NULL
department	VARCHAR(50)	NOT NULL

Club

Column Name	Data Type	Key
club_id	INT	PK
club_name	VARCHAR(100)	NOT NULL
description	TEXT	

Relational Schema

Session

Column Name	Data Type	Key
session_id	INT	PK
club_id	INT	FK → Club(club_id)
session_title	VARCHAR(100)	NOT NULL
session_date	DATE	NOT NULL
location	VARCHAR(100)	

Relational Schema

Registration

Column Name	Data Type	Key
registration_id	INT	PK
student_id	INT	FK → Student(student_id)
session_id	INT	FK → Session(session_id)
registration_date	DATE	NOT NULL

Normalization

Normalization

What the database will looks like if we don’t use normalization?

The tables of our database will look like that:

student_id	name	email	department	club_name	session_title	session_date	…
1	Muhmedsadiq	example@gmail.com	Network Dept.	IT Students	SOC Introduction	2025-05-01	…

SOOO…

> This is called Unnormalized Form (UNF).

Normalization

We need to organize our database to read, insert and modify the data as we like.

To do that we will use (1NF, 2NF and 3NF).

1st Normal Form (1NF)

- Each column should contain atomic (indivisible) values (Atomicity).

- Each row should have a unique identifier (Primary Key).

Normalization

We will make 4 tables each table will includes the data in a specific place.

We will have (Student, Club, Session and Registration table).

For example, Student table will look like that:

student_id (PK)	name	session_title	department	registration_date
1	Ahmed Duraid	SOC Introduction	Network Engineering Dept.	2025-04-28

Normalization

2nd Normal Form (2NF) – “Before that apply the 1NF”

– Remove Partial Dependencies

1

student_id (PK)	name
1	Ahmed Duraid

2

session_id (PK)	club_name	session_date
1	IT Students	2025-05-01

Normalization

3rd Normal Form (3NF) – “Before that apply 1NF & 2NF”

– Remove transitive dependencies.

session_id (PK)	session_title	club_id (FK)	session_date
1	SOC Introduction	1	2025-05-01

Queries & Operations

Queries & Operations

INSERT – Add a New Student

```
INSERT INTO Student (name, email, department)
VALUES (‘Ahmed Duraid’, ‘ahmedduraid@email.com', 'Computer Engineering');
```

```
mysql> SELECT * FROM Student;
+------------+----------------+---------------------------+---------------------+
| student_id | name           | email                     | department          |
+------------+----------------+---------------------------+---------------------+
|          1 | Ahmed Duraid   | ahmed.duraid@gmail.com    | Network Engineering |
|          4 | Ali Jassim     | ali.jassim@email.com      | Network Engineering |
|          5 | Mohammed Ammar | mohammed.ammar@email.com  | Network Engineering |
+------------+----------------+---------------------------+---------------------+
3 rows in set (0.00 sec)
```

Queries & Operations

```
mysql> INSERT INTO club (club_name, description)
    -> VALUES ('COIE Students', 'This club is created for the students of College of Information Engineering to give the
 students the opportunity to participate in some IT activities');
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM club;
+---------+--------------+-------------------------------------------------------------------------------------------
-----------------------------------------------------+
| club_id | club_name    | description
                                                     |
+---------+--------------+-------------------------------------------------------------------------------------------
-----------------------------------------------------+
|       1 | COIE Students | This club is created for the students of College of Information Engineering to give the stud
ents the opportunity to participate in some IT activities |
+---------+--------------+-------------------------------------------------------------------------------------------
-----------------------------------------------------+
1 row in set (0.00 sec)
```

```
mysql> INSERT INTO session (club_id, session_title, session_date)
    -> VALUES (1, 'Introdction to NOC', '2025-05-01');
Query OK, 1 row affected (0.01 sec)
```

Queries & Operations

Update – Add a New Location to the Session

```
mysql> UPDATE session
    -> SET location = '206 New Building'
    -> WHERE club_id = 1;
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> SELECT * FROM session;
+------------+---------+--------------------+--------------+------------------+
| session_id | club_id | session_title      | session_date | location         |
+------------+---------+--------------------+--------------+------------------+
|          1 |       1 | Introdction to NOC | 2025-05-01   | 206 New Building |
+------------+---------+--------------------+--------------+------------------+
1 row in set (0.00 sec)
```

Queries & Operations

DELETE – Remove a Student’s Registration

```
DELETE FROM Registration
WHERE registration_id = 5;
```

SELECT & JOIN – List Students and Their Sessions

```
mysql> SELECT s.name AS student_name, se.session_title, se.session_date, c.club_name
    -> FROM Registration r
    -> JOIN Student s ON r.student_id = s.student_id
    -> JOIN Session se ON r.session_id = se.session_id
    -> JOIN Club c ON se.club_id = c.club_id;
+--------------+--------------------+--------------+---------------+
| student_name | session_title      | session_date | club_name     |
+--------------+--------------------+--------------+---------------+
| Ahmed Duraid | Introdction to NOC | 2025-05-01   | COIE Students |
+--------------+--------------------+--------------+---------------+
1 row in set (0.00 sec)
```

Queries & Operations

SELECT, COUNT & UNION – Show the Number of registers in the Sessions

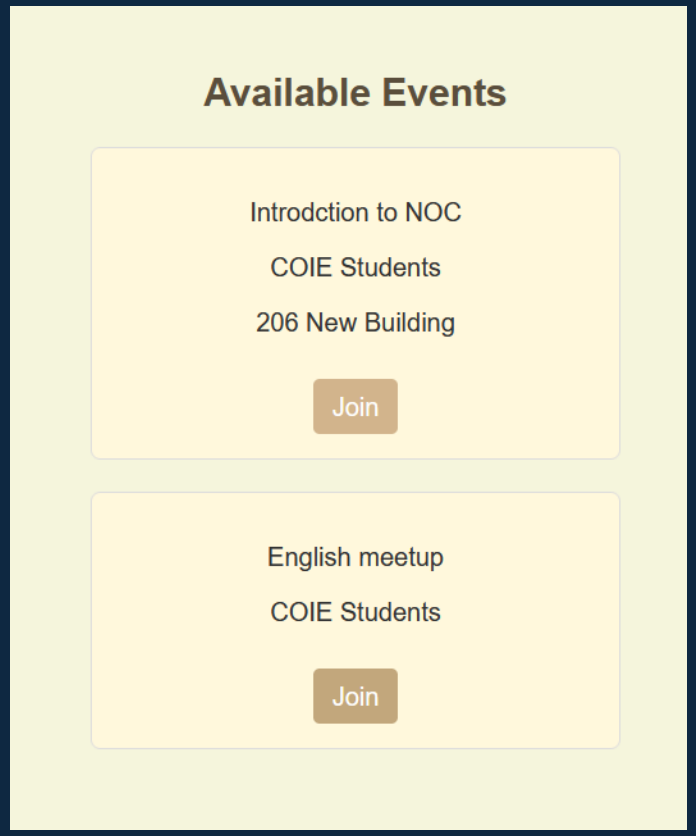
```
mysql> SELECT COUNT(*) FROM Registration WHERE session_id = 1
    -> UNION
    -> SELECT COUNT(*) FROM Registration WHERE session_id = 2;
+----------+
| COUNT(*) |
+----------+
|        1 |
|        0 |
+----------+
2 rows in set (0.00 sec)
```

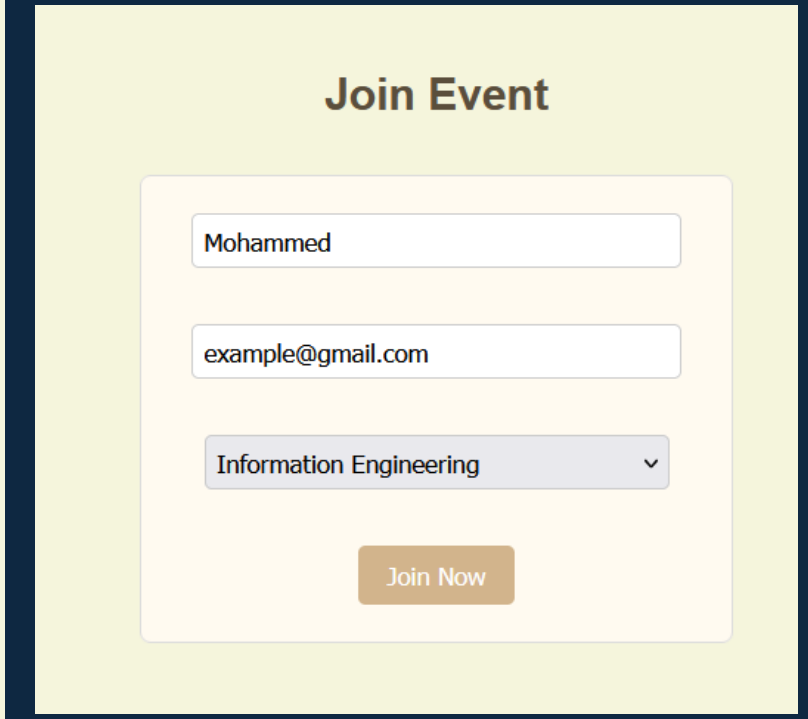
There are a lot more of queries that will help use in this database, but this is enough to demonstrate the benefits of use SQL for our data.

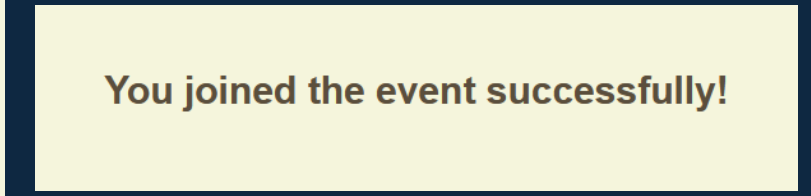
Application Interface

Application Interface

What users can do?







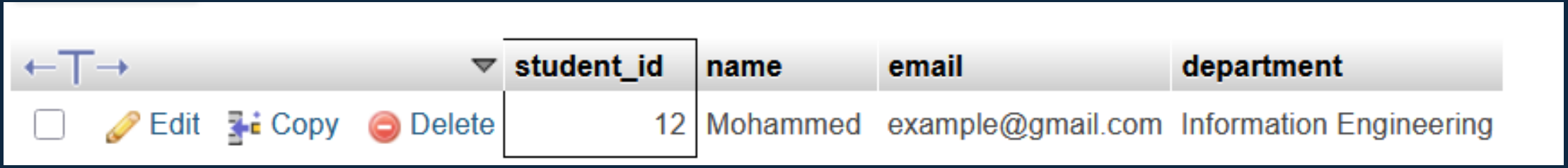
Application Interface

What we will have?

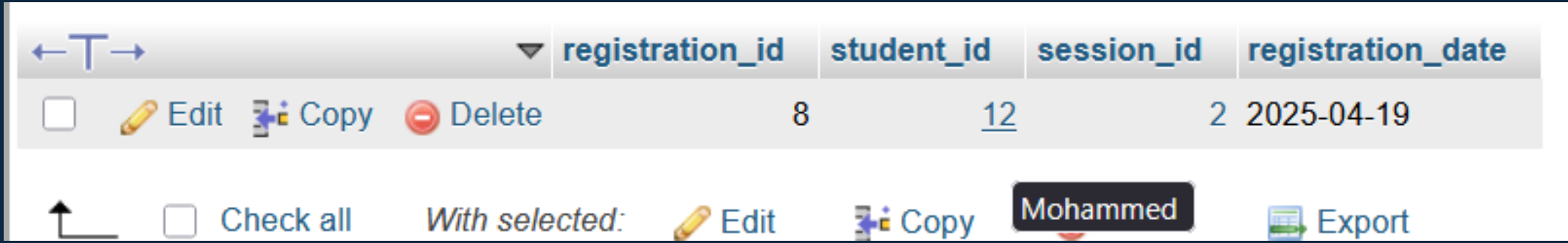
	Table	Action	Rows	Type	Collation	Size	Overhead
☐	club	Browse Structure Search Insert Empty Drop	1	InnoDB	utf8mb4_0900_ai_ci	16.0 KiB	-
☐	registration	Browse Structure Search Insert Empty Drop	1	InnoDB	utf8mb4_0900_ai_ci	48.0 KiB	-
☐	session	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_0900_ai_ci	32.0 KiB	-
☐	student	Browse Structure Search Insert Empty Drop	8	InnoDB	utf8mb4_0900_ai_ci	32.0 KiB	-
	4 tables	Sum	13	InnoDB	utf8mb4_0900_ai_ci	128.0 KiB	0 B

Application Interface

What we will have?



	student_id	name	email	department
Edit Copy Delete	12	Mohammed	example@gmail.com	Information Engineering



	registration_id	student_id	session_id	registration_date
Edit Copy Delete	8	12	2	2025-04-19

Check all *With selected:* Edit Copy Mohammed Export

Challenges & Lessons Learned

Challenges & Lessons Learned

> Firstly I hate PHP very very very much especially when I used it at this project.

> Secondly when I created this project I learned all the basics that I want to have a great foundation in

Databases, and that is it.

Thanks :)

Q/A

THANKS 4 LISTENING