



CSE302: Database Systems (Section: 07) [Summer-25]

Project Report

Student Information Database System

<https://apex.oracle.com/pls/apex/f?p=106602>

Username: arman

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Submitted by:

| Student ID | Student Name | Contribution Percentage |
|-------------------|-----------------------------------|--------------------------------|
| 2023-1-60-058 | Tasnim Zaman | 33% |
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| 2023-2-60-018 | Hossain Mohammad Sidratul Muntaha | 34% |

Project Description

- The goal of our project is to develop a student information portal, a digital platform designed to manage and organize student data in a learning environment.
- The online portals that students and administrators use to access and manage academic and personal information in schools, colleges, and universities are close to the real-world situation that we are simulating.
- Its main objective is to properly store, manage, and easily access student data. Student names, IDs, courses, grades, attendance, contact information, and other academic records are among the data it will manage. This technology helps to maintain accurate student databases for efficient institutional operations, saves paperwork, and makes information easily accessible.

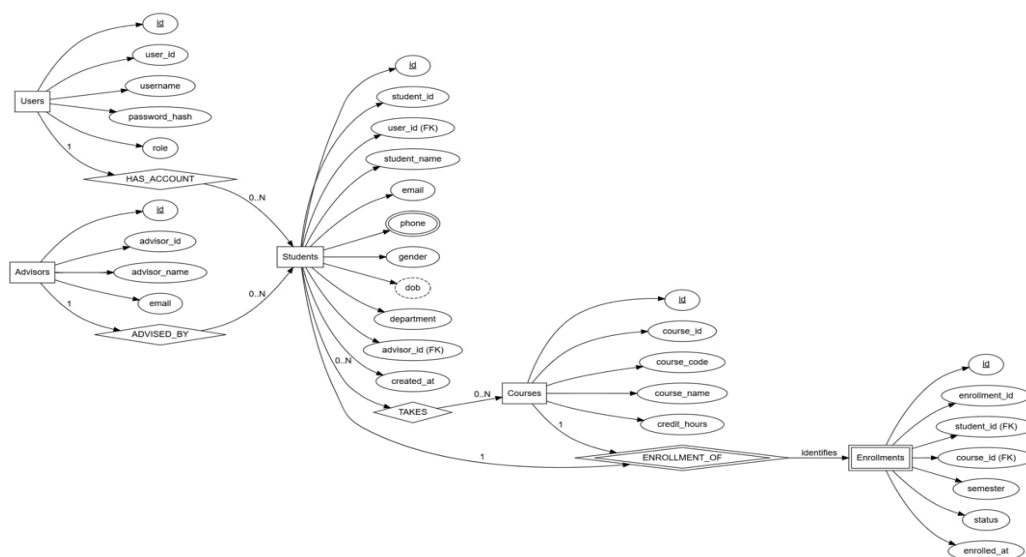
Key Features

The following key functions will be provided by the Student Information Portal:

- **Add New Records:** Allow administrators the ability to add new student profiles with academic and personal information.
- **Update Information:** When necessary, make changes or corrections to current student data.
- **Delete Records:** If a student's entry is no longer active, remove it from the system.
- **Search Functionality:** Find student records quickly by name, ID, or course.
- **View Academic Details:** Shows information on enrolled courses, grades, and attendance.
- **Report Generation:** Create a short overview of student records and performance.

Database Design

3.1 E-R Model

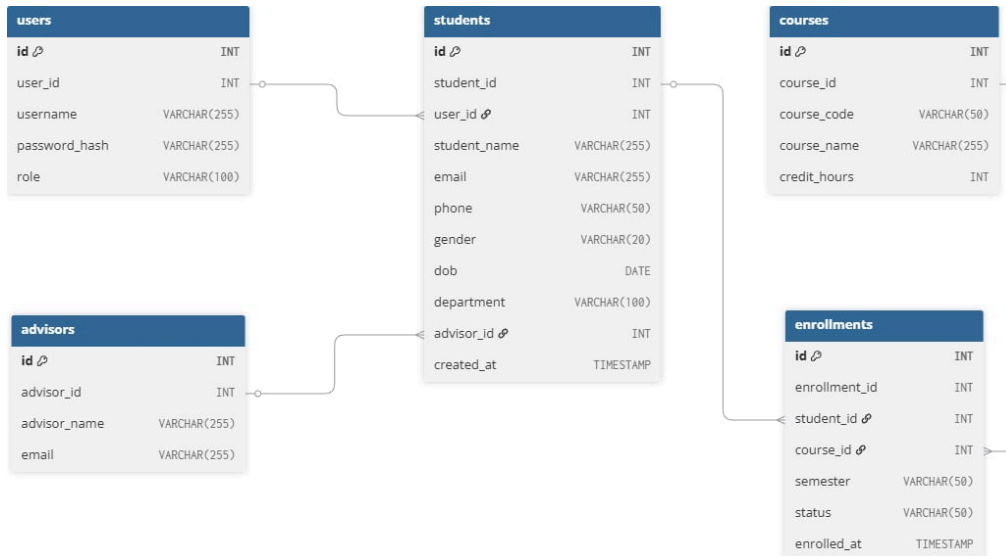


Schema Diagram

Tools & Technologies Used

Software Tool Used:

- **Database Management System (DBMS):** Oracle
- **Diagram Tools:** Draw.io and dbdiagram.io



- **Code Editor/IDE:** N/A
- **Operating System:** Windows

Programming languages:

- **Query Language:** SQL .

Role Assignment

1. Admin

- Has the ability to add, edit, or remove student records.

- Controls system settings and user accounts.
- Creates reports for attendance, performance, and the database as a whole.

2. Teacher

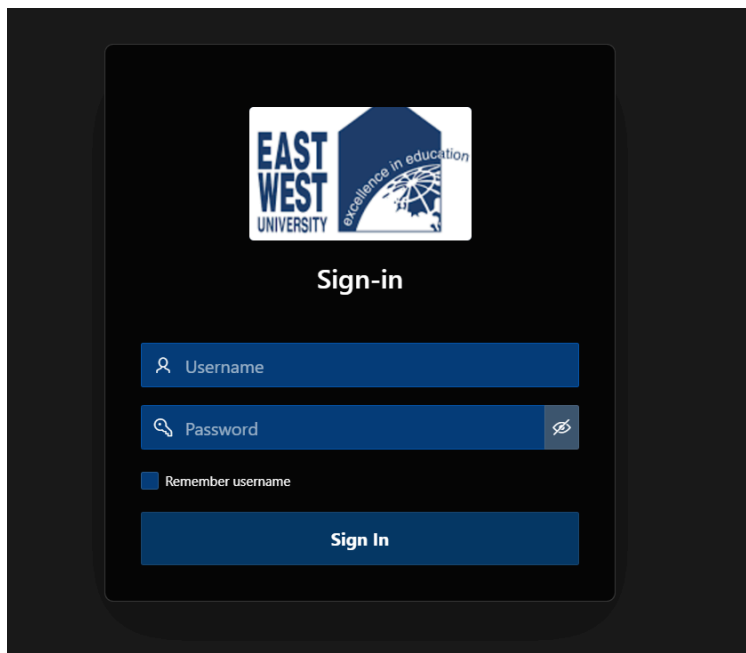
- Can see academic information and student data.
- Capable of updating course data, attendance, and grades.
- Capable of producing performance reports for the class.

3. Student

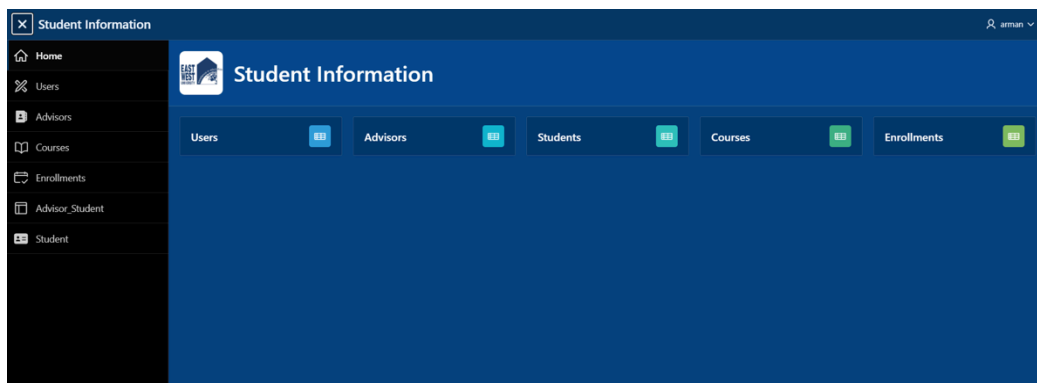
- Able to access personal profiles by logging in.
- Able to verify enrollment courses, attendance, and grades.
- Can change certain personal information, such as contact data.

GUI Screenshot

Sign in page:



Home page:



Users info:

The screenshot displays a web application interface for managing users. On the left, a sidebar lists navigation options: Home, Users, Additions, Courses, Enrollments, Advisor_Student, and Student. The main content area is titled 'Users' and features a search bar with a 'Go' button and an 'Actions' dropdown menu. Below the search bar, there is a table with columns for Username, Email, and Role. The table lists three users: arman, siri, and tasnim. A 'Create' button is located at the bottom right of the interface.

Student Info: From here, admin can create, delete and update students profile.

The screenshot displays a web application interface for managing students. The main content area is titled 'Student' and features a search bar with a 'Go' button and an 'Actions' dropdown menu. Below the search bar, there is a table with columns for Student ID, User, Student Name, Email, Phone, Gender, Dob, Department, Advisor, and Created At. The table lists five students: 62, 45, 121, 141, and 81. A 'Create' button is located at the bottom right of the interface.

| Student ID | User | Student Name | Email | Phone | Gender | Dob | Department | Advisor | Created At |
|------------|--------|-----------------------------------|-----------------------------|--------------|--------|-----------|------------|--------------------|------------------|
| 62 | arman | Hossain Mohammad Sidratul Muntaha | 2023-2-60-018@std.ewubd.edu | 01234567894 | Male | 6/3/2010 | CSE | Dr. Rahma | 6 days ago |
| 45 | tasnim | John Doe | john@std.ewubd.edu | 01700000001 | Male | 8/23/2025 | CSE | Dr. Rahma | 11 days ago |
| 121 | arman | Fahim Rahman | 2023-2-60-246@std.ewubd.edu | 01264433678 | Male | 8/7/2025 | EEE | Dr.Iqbal Hossain | 2 days ago |
| 141 | arman | Sourav Ahmed | 2023-2-60-053@std.ewubd.edu | 023467675654 | Male | 6/5/2025 | CSE | Khalid Mahbub Khan | 2 weeks from now |
| 81 | arman | Tasnim | 2023-2-60-149@std.ewubd.edu | 012345679012 | Male | 8/29/2025 | CSE | Dr. Rahma | 5 days ago |

StudentForm

New

User Id

Student Name

Email

Phone

Gender

Dob

Advisor info: From here, admin can create, delete and update advisors profile.

Advisors

Q

Go

Actions

Create

| | Advisor Name | Email |
|--|--------------------|------------------------|
| | Dr. Rahma | rahman@univ.edu |
| | Dr.Adnan Kabir | Adnan23@std.ewubd.edu |
| | Dr.Iqbal Hossain | iqbal234@std.ewubd.edu |
| | Fardin Mahmud | Fardin@std.ewubd.edu |
| | Khalid Mahbub Khan | khali007@std.ewubd.edu |

1 - 5

Advisor

Advisor Name

Email

Course list: From this page, students can view their courses and the admin can create new courses and update course list.

Student Information

arman

Courses

| | Course Code | Course Name | Credit Hours |
|--|-------------|------------------------------------|--------------|
| | CSE103 | Structured Programming | 4 |
| | CSE106 | Discrete Mathematics | 3 |
| | CSE110 | Object Oriented Programming | 4 |
| | CSE200 | Computer Aided Engineering Drawing | 1 |
| | CSE207 | Data Structure | 4 |
| | CSE209 | Electric Circuit | 4 |
| | CSE246 | Algorithm | 4 |
| | CSE251 | Electronic Circuit | 4 |
| | CSE302 | Database Systems | 4 |

Course

New

Course Code

Course Name

Credit Hours

Enrollment Page:

| Enrollments | | | | |
|-------------|-------------|--------|-------------|--|
| Q | | Go | Actions | Create |
| | Semester | Status | Enrolled At | Unique (Student Id, Course Id, Semester) |
| | Summer 2023 | Added | 8/29/2025 | 62,1,Summer2023 |
| 1 - 1 | | | | |

Enrollment

Enrollment ID

Student ID

Course ID

Semester

Status

Enrolled At

Unique (Student Id, Course Id, Semester)

Advisor & Student Page: here is the records of the students and advisors relations. The records of students are enrolling under the advisors.

| Advisor_Student | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| <div> <div>Search...</div> <div> <div>Dr. Rahma rahman@univ.edu</div> <div>Dr. Adnan Kabir Adnan23@std.ewubd.edu</div> <div>Dr. Iqbal Hossain Iqbal234@std.ewubd.edu</div> <div>Fardin Mahmud fardin@std.ewubd.edu</div> <div>Khalid Mahbub Khan khalid007@std.ewubd.edu</div> </div> </div> | | | | | | | | | |
| <div> <div>New 1</div> <div> <div>Advisor Name</div> <div>Dr. Rahma</div> </div> <div> <div>Email</div> <div>rahman@univ.edu</div> </div> </div> | | | | | | | | | |
| <div> <div>Students</div> <div> <div>Student Id</div> <div>User Id</div> <div>Student Name</div> <div>Email</div> <div>Phone</div> <div>Gender</div> <div>Dob</div> <div>Department</div> <div>Created At</div> </div> </div> | | | | | | | | | |
| <div> <div>62</div> <div>1</div> <div>Hossain Mohammad Sidratul Muntaha</div> <div>2023-2-60-018@std.ewubd.edu</div> <div>01234567894</div> <div>Male</div> <div>6/3/2010</div> <div>CSE</div> <div>8/28/2025</div> </div> | | | | | | | | | |
| <div> <div>45</div> <div>2</div> <div>John Doe</div> <div>john@std.ewubd.edu</div> <div>01700000001</div> <div>Male</div> <div>8/23/2025</div> <div>CSE</div> <div>8/23/2025</div> </div> | | | | | | | | | |
| <div> <div>81</div> <div>1</div> <div>Tasnim</div> <div>2023-2-60-149@std.ewubd.edu</div> <div>012345679012</div> <div>Male</div> <div>8/29/2025</div> <div>CSE</div> <div>8/29/2025</div> </div> | | | | | | | | | |
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Conclusion

The development of the Student Information Portal taught us how to create and put into place a database system that effectively handles student records. Through this project, we were able to have practical experience with role-based access, SQL queries, and the general architecture of an information management system. Creating an effective database structure, guaranteeing data consistency, and troubleshooting issues during the database-application integration process were some of the difficulties we faced. The project offered useful technical and problem-solving skills in spite of these challenges. A secure login process, a web-based interface, online course registration, and data analytics integration to better monitor student performance patterns are some future enhancements that can be made to the system.

References

Database System Concepts by Avi Silberchatz, Henry F. Korth, S. Sudarshan
Seventh Edition

<https://db-book.com/>

<https://youtu.be/dvdR2jovLaE?si=yce1D4slpEIBcTwV>