Database Systems | CS-2005

PROJECT REPORT

Submitted by: Muhammad Yahya,
Muhammad Omer Nasir
Roll#: 21i-2592, 21i-2476

Course Instructor: Ms. Ifrah Qaiser
Submitted on: Friday, December 1, 2023
Section: BCS-B

Table of Contents

Functional Requirements 3

1. Introduction 3

1.1 Purpose 3

1.2 Scope 3

2. User Management 3

2.1 Login Pages 3

2.2 Security Measures 3

3. Managing TAs 3

3.1 Add/Delete TAs 3

3.2 Process Payment 3

3.3 View Faculties and Associates 3

4. Managing LDs 4

4.1 Add/Delete LDs 4

4.2 View LD Attendance 4

4.3 Process Payment 4

5. Performance Evaluation 4

5.1 Feedback Provision 4

5.2 View TA Tasks in Pie Chart 4

6. Task Assignment 4

6.1 Assign Tasks 4

7. Attendance Tracking 4

7.1 Mark Attendance 4

7.2 View Labs Attended 4

7.3 Process Payments 4

Project Technical Details: 4

Enitity Relation Diagram 5

Usage Guidelines 6

1.1 User Roles 6

1.2 Login 6

2. Managing TAs and LDs 6

2.1 Adding or Deleting TAs and LDs (Admin) 6

2.2 Processing Payments (Admin) 7
2.3 Viewing Faculties and Associates (Admin) 7
3. Performance Evaluation 8
3.1 Providing Feedback (Faculty) 8
3.2 Viewing TA Tasks (Faculty) 8
4. Task Assignment 9
4.1 Assigning Tasks (Faculty) 9
5. Attendance Tracking 9
5.1 Marking Attendance (Faculty) 9
5.2 Viewing Own Attendance (LD) 9
5.3 Viewing Labs Attended (Admin) 9
Project Screenshots 10

Functional Requirements

1. Introduction

1.1 Purpose

The TA/LD Management System aims to efficiently manage Teaching Assistants (TAs) and Lab Demonstrators (LDs) in an educational institution. It encompasses User Management, Task Assignment, Managing TAs and LDs, Performance Evaluation, and Attendance Tracking.

1.2 Scope

The system covers the following modules:

- User Management (Login pages for Admin, Faculty, TA, and LD)
- Task Assignment
- Managing TAs and LDs (Add, Delete, Process Payments, View Faculties, View LD Attendance)
- Performance Evaluation (Feedback provision, View TA tasks in pie chart)
- Attendance Tracking (Marking attendance, View total labs attended, Process payments)

2. User Management

2.1 Login Pages

- **Admin, Faculty, TA, LD:** Each user type has a dedicated login page where they input their names and IDs to access the system securely.

2.2 Security Measures

- **Preventing SQL Injection:** The system employs parametrized queries to mitigate the risk of SQL injection. SQL injection is a malicious technique where an attacker can insert malicious SQL code into a query. Parametrized queries ensure that user inputs are treated as parameters rather than executable code, preventing unauthorized access.

3. Managing TAs

3.1 Add/Delete TAs

- **Admin:** Ability to add or delete Teaching Assistants.

3.2 Process Payment

- **Admin:** Process payments for TAs.

3.3 View Faculties and Associates

- **Admin:** View a list of faculties and their associated TAs and LDs.

4. Managing LDs

4.1 Add/Delete LDs

- **Admin:** Ability to add or delete Lab Demonstrators.

4.2 View LD Attendance

- **Admin:** View attendance records of Lab Demonstrators.

4.3 Process Payment

- **Admin:** Process payments for LDs.

5. Performance Evaluation

5.1 Feedback Provision

- **Faculty:** Provide feedback to LDs and TAs.

5.2 View TA Tasks in Pie Chart

- **Admin:** Visualize TA's remaining and completed tasks in a pie chart.

6. Task Assignment

6.1 Assign Tasks

- **Faculty:** Assign tasks to TAs.

7. Attendance Tracking

7.1 Mark Attendance

- **Faculty:** Mark LDs present during lab sessions.

7.2 View Labs Attended

- **Admin:** View the total labs attended by LDs.

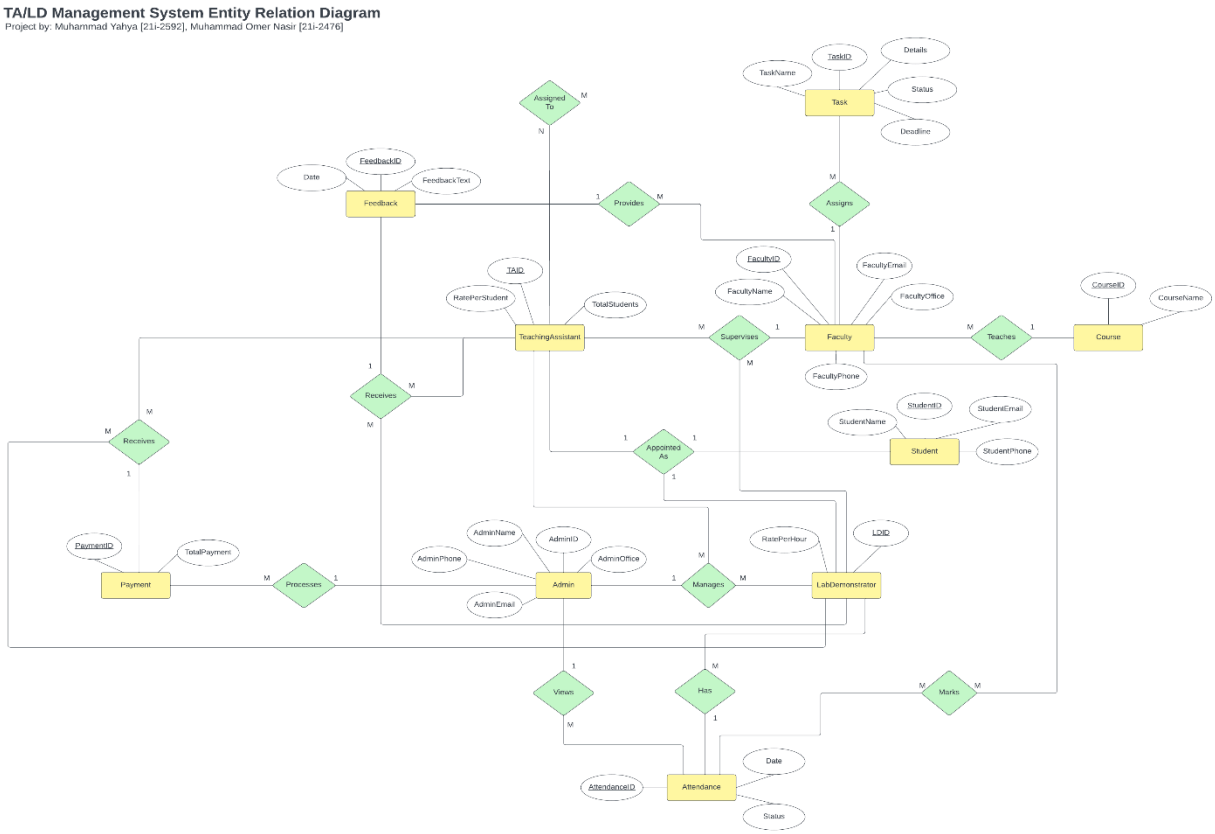
7.3 Process Payments

- **Admin:** Process payments for LDs based on attendance.

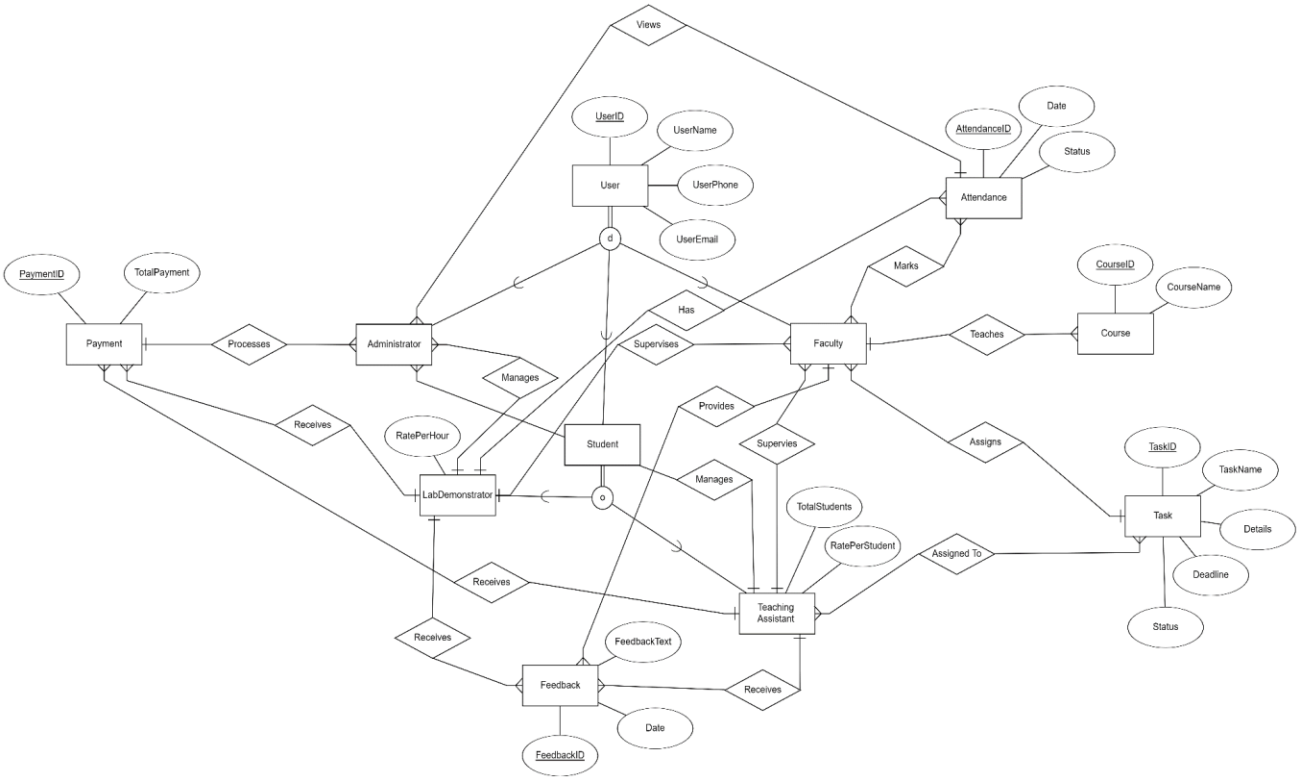
Project Technical Details:

The TA/LD Management System was created using web forms (HTML, CSS, ASP.NET) in Visual Studio 2022. Microsoft Reporting Services were utilized for report generation. To ensure accountability, audit trails were implemented through Log tables and triggers for payment and admin operations.

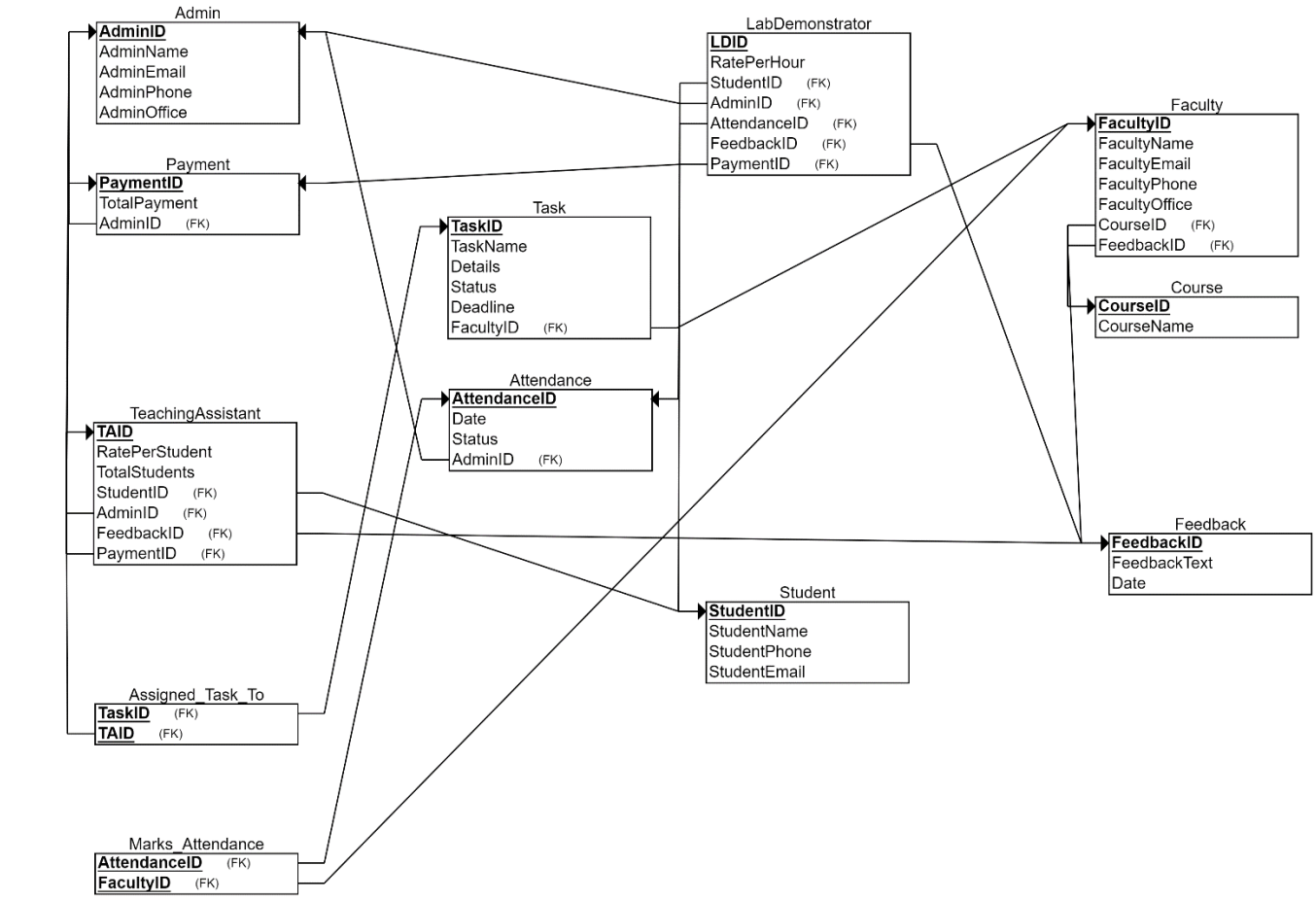
Enitity Relation Diagram



Enhanced Entity Relation Diagram



Relational Schema



Usage Guidelines

1.1 User Roles

- Admin: Has access to all modules and functionalities.
- Faculty: Manages task assignments, performance evaluations, and attendance tracking.
- TA: Subject to task assignments and performance evaluations.
- LD: Monitors own attendance and performance evaluations.

1.2 Login

1. Open your web browser and navigate to the provided URL.
2. Choose your user type (Admin, Faculty, TA, or LD) on the login page.
3. Enter your name and ID as prompted.
4. Click the "Login" button to access your designated dashboard.

2. Managing TAs and LDs

2.1 Adding or Deleting TAs and LDs (Admin)

- Add TA/LD: Navigate to the Admin Dashboard, select the "Manage TAs" or "Manage LDs" section, and follow the prompts to add a new staff member.
- Delete TA/LD: In the Admin Dashboard, select the respective section, locate the staff member, and choose the delete option.

2.2 Processing Payments (Admin)

- To process payments for TAs or LDs, navigate to the Admin Dashboard, select the "Process Payments" section, and follow the prompts to initiate payment processing.

2.3 Viewing Faculties and Associates (Admin)

- In the Admin Dashboard, select the "View TA and Lab Demonstrators” section to see a list of faculties and their associated TAs and LDs.

3. Performance Evaluation

3.1 Providing Feedback (Faculty)

- Navigate to the Faculty Dashboard, select the "Provide Feedback" section, and provide feedback to TAs and LDs as required.

3.2 Viewing TA Tasks (Faculty)

- In the Faculty Dashboard, find the "View TA" section to visualize TAs' remaining and completed tasks through an intuitive pie chart.

4. Task Assignment

4.1 Assigning Tasks (Faculty)

- Access the Faculty Dashboard, choose the "Assign Task" section, and assign tasks to TAs with the provided tools.

5. Attendance Tracking

5.1 Marking Attendance (Faculty)

- In the Faculty Dashboard, select the "Mark Attendance section, mark LDs present during lab sessions, and save the information.

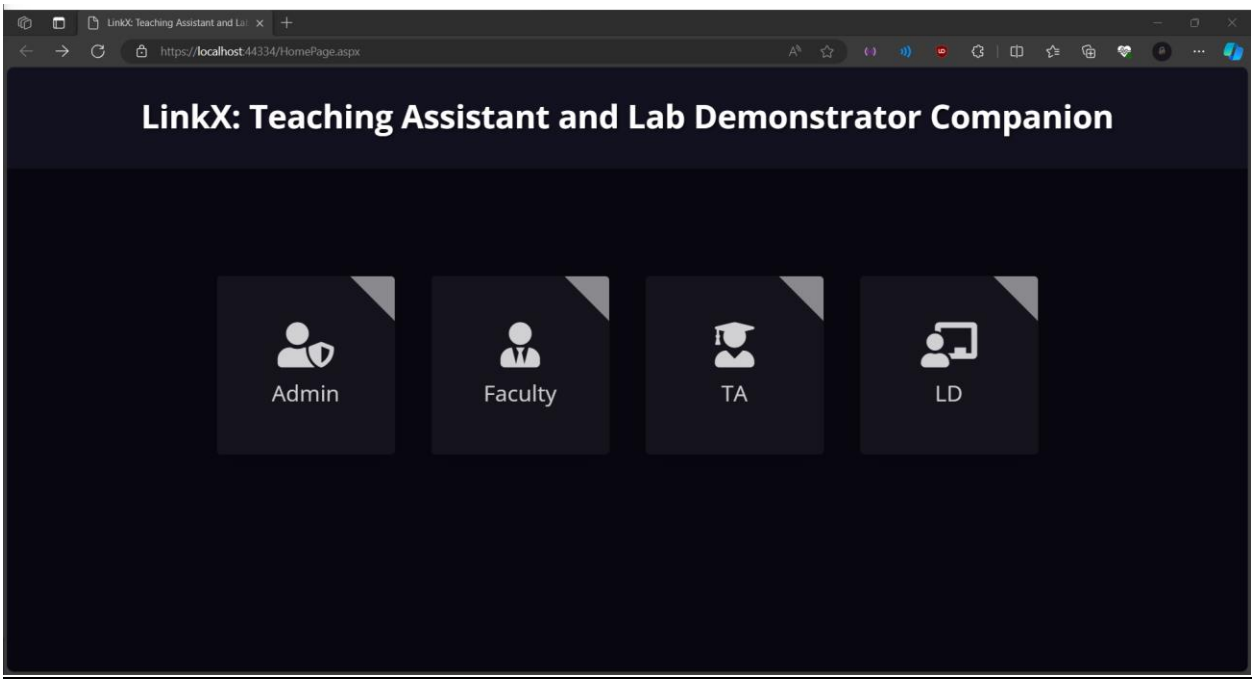
5.2 Viewing Own Attendance (LD)

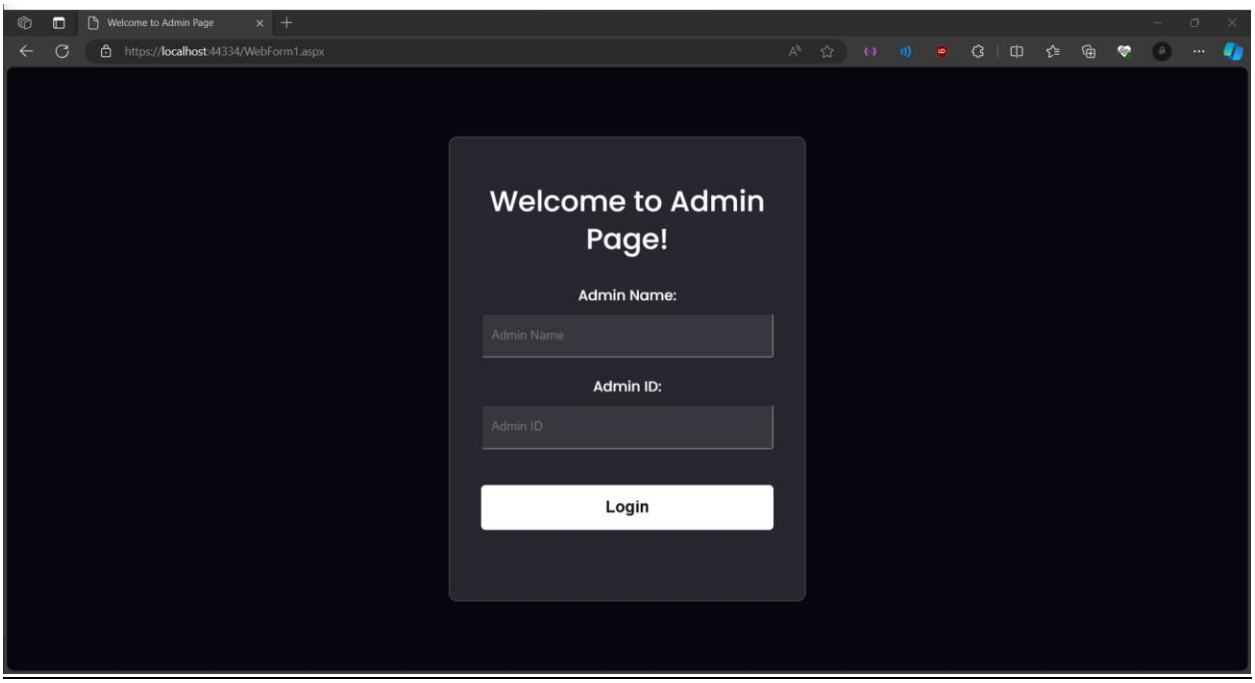
- LDs can view their own attendance records by navigating to the LD Dashboard and Logging in.

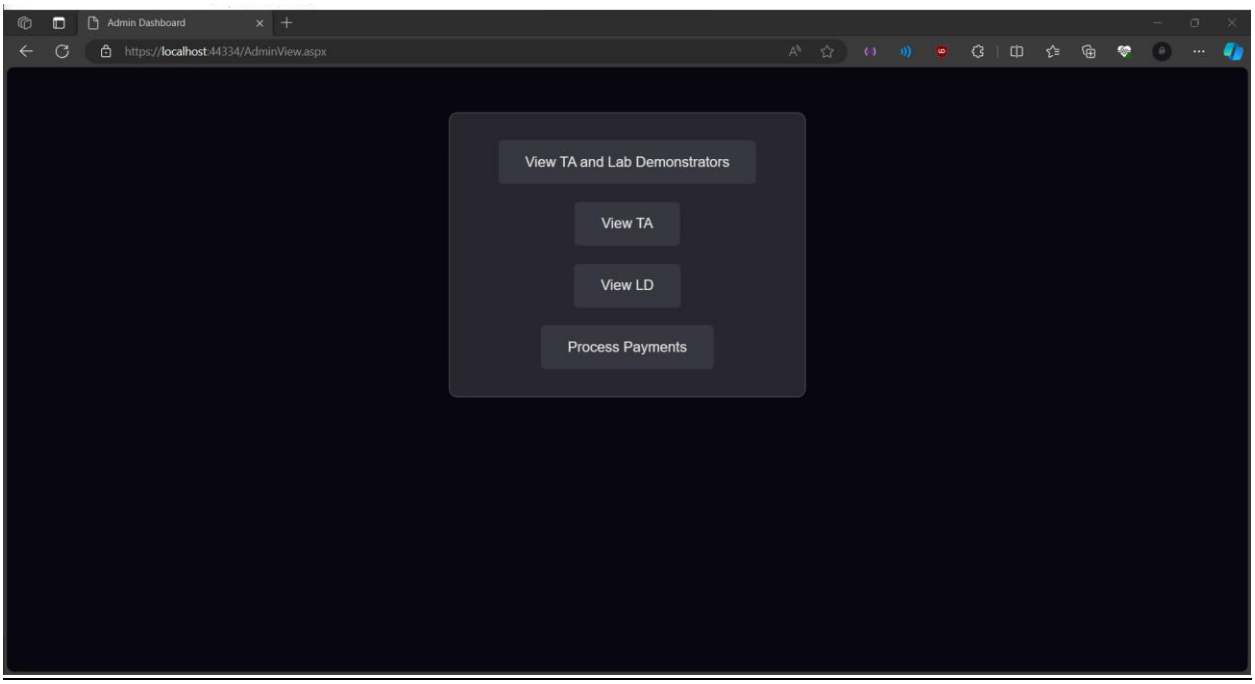
5.3 Viewing Labs Attended (Admin)

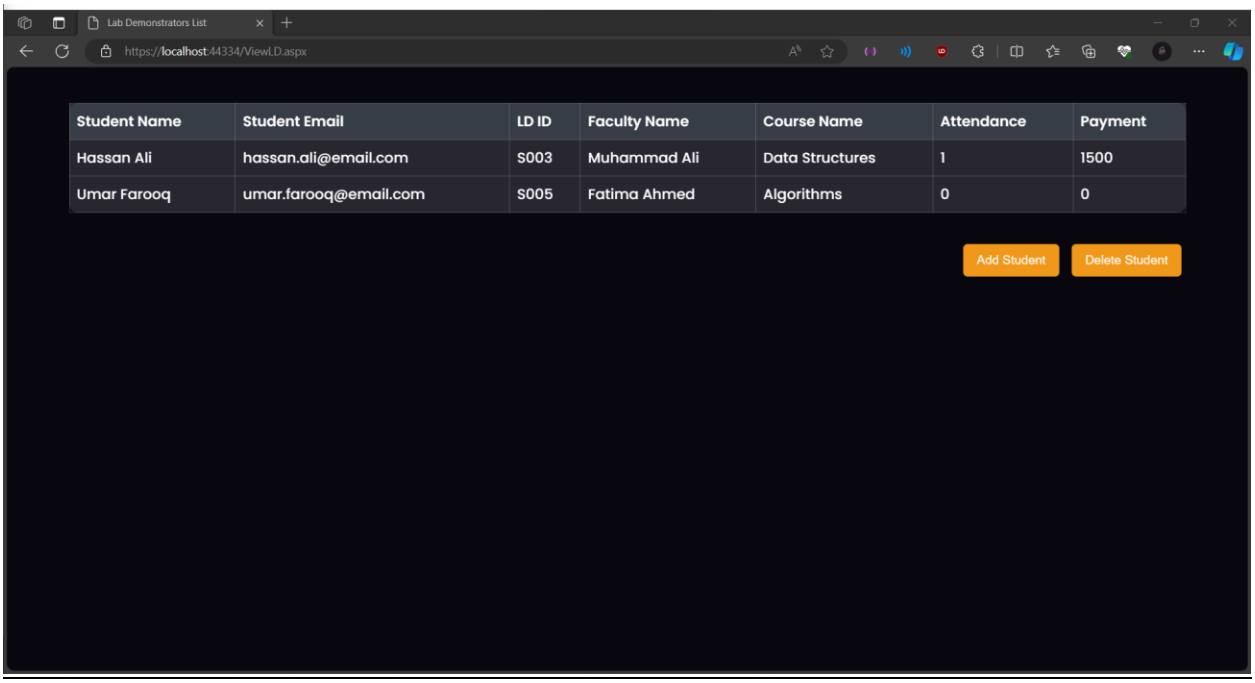
- Go to the Admin Dashboard, find the "View LD" section, and view the total labs attended by LDs.

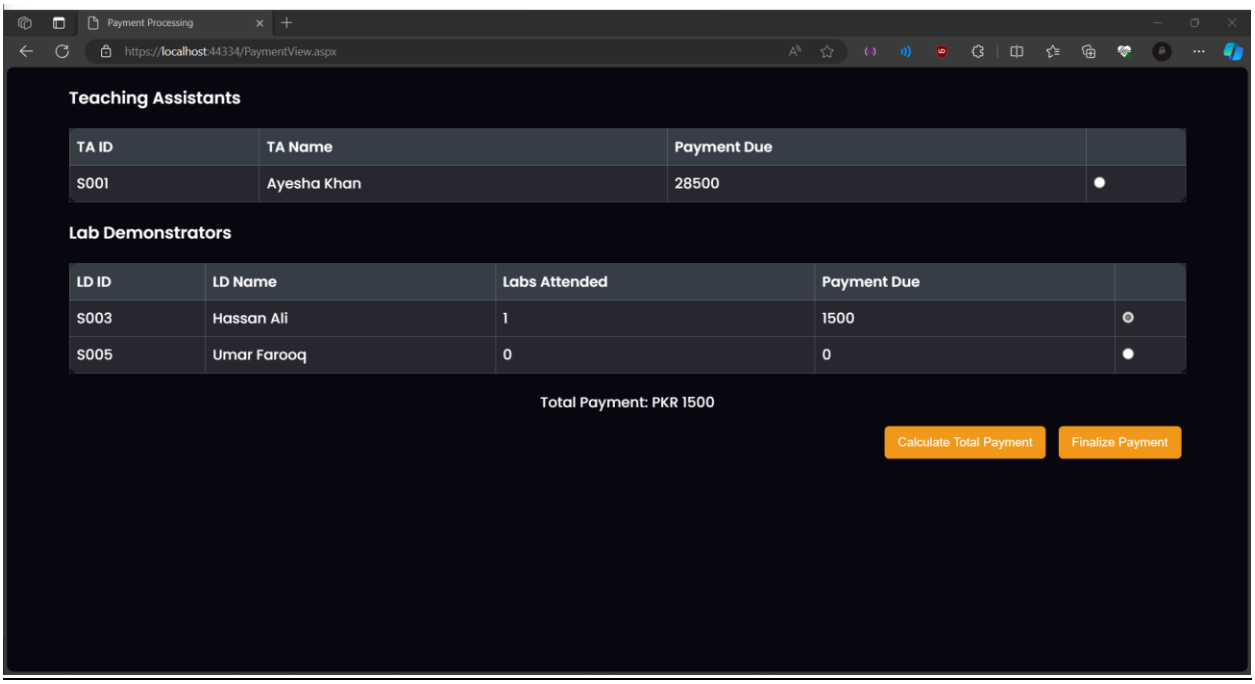
Project Screenshots

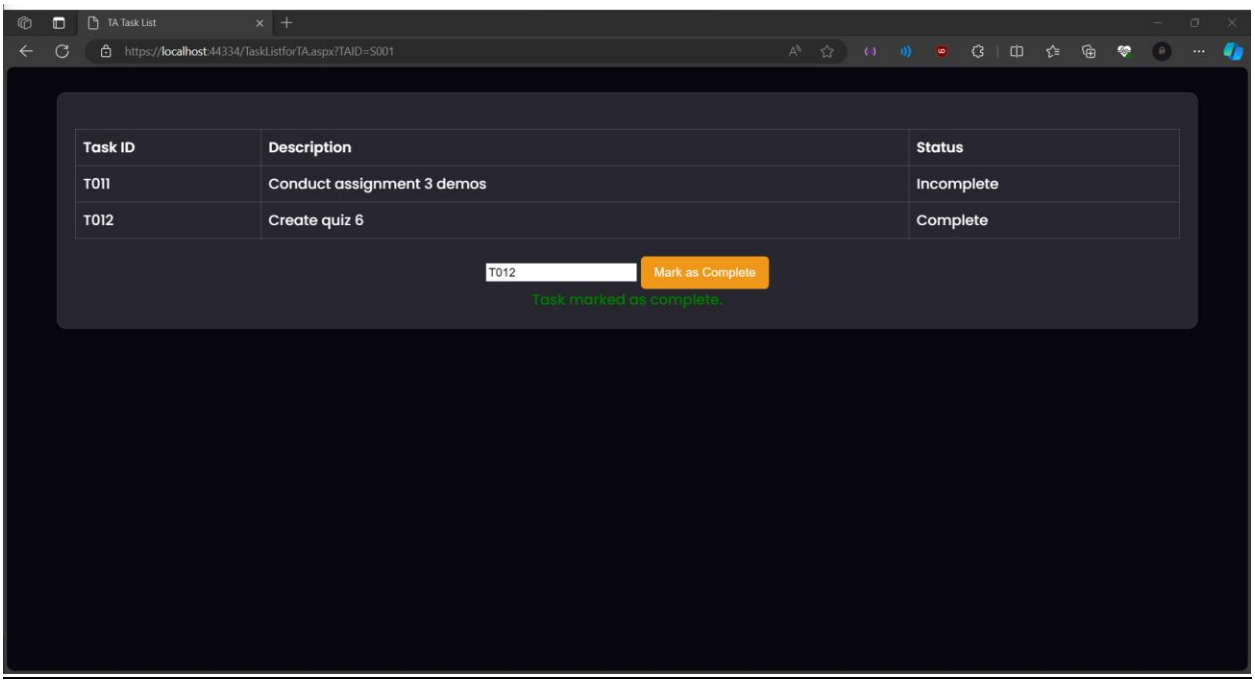


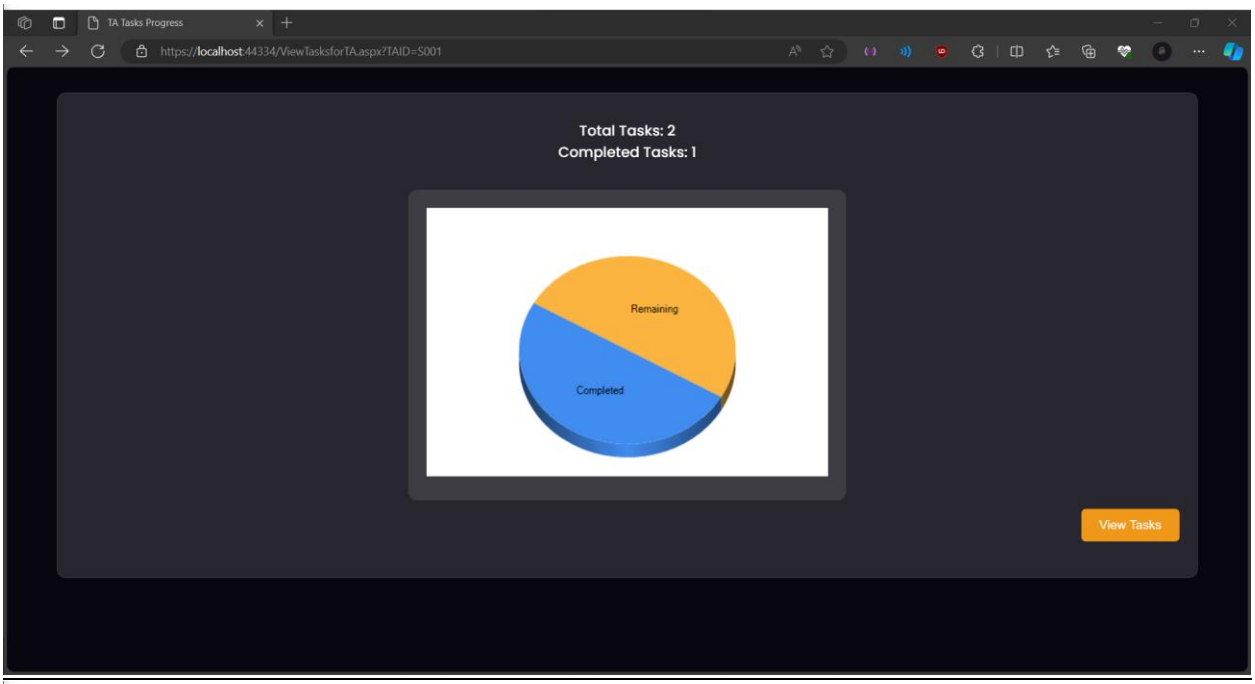


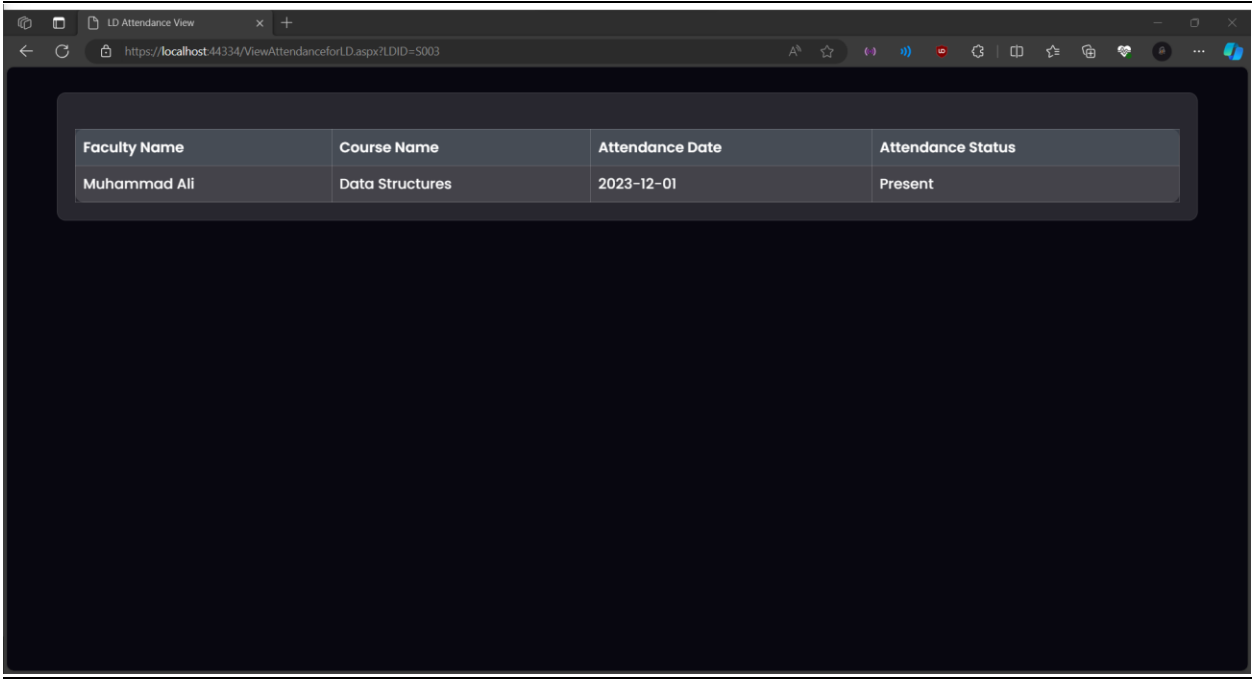

Admin Dashboard
https://localhost:44334/AdminView.aspx
View TA and Lab Demonstrators
View TA
View LD
Process Payments

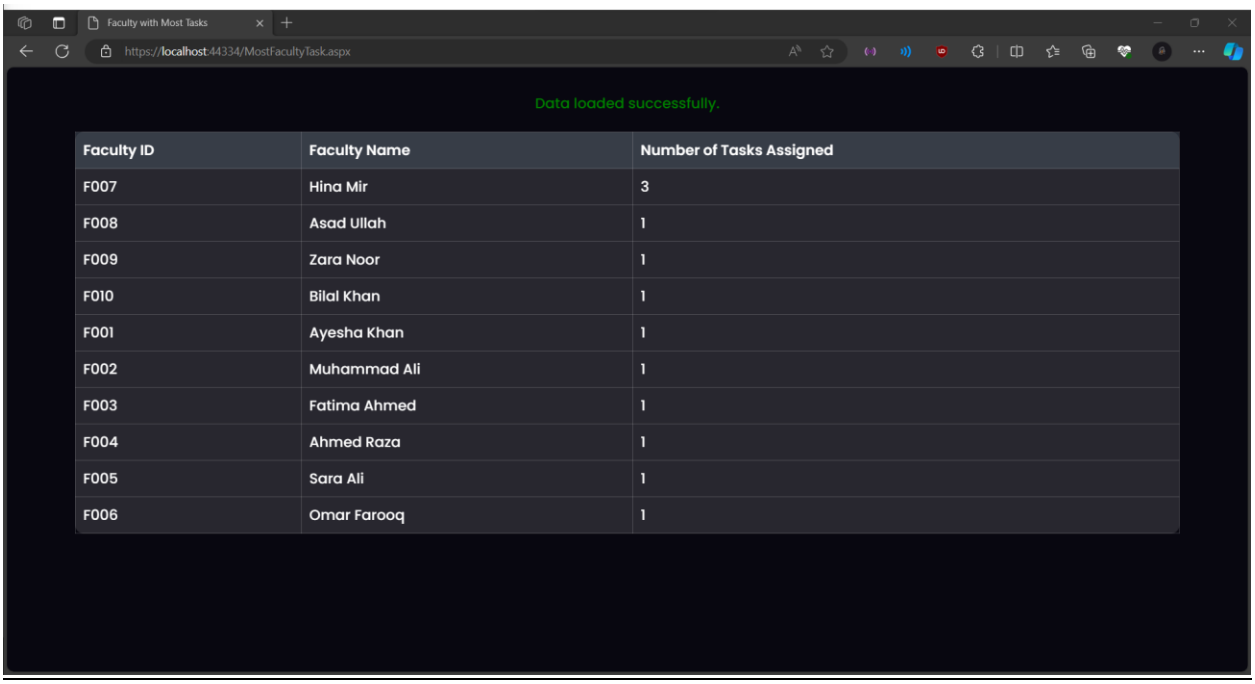

Lab Demonstrators List
https://localhost:44334/ViewLD.aspx
Student Name
Student Email
LD ID
Faculty Name
Course Name
Attendance
Payment
Hassan Ali
hassan.ali@email.com
S003
Muhammad Ali
Data Structures
1
1500
Umar Farooq
umar.farooq@email.com
S005
Fatima Ahmed
Algorithms
0
0
Add Student
Delete Student


Payment Processing
https://localhost:44334/PaymentView.aspx
Teaching Assistants
TA ID
TA Name
Payment Due
S001
Ayesha Khan
28500
Lab Demonstrators
LD ID
LD Name
Labs Attended
Payment Due
S003
Hassan Ali
1
1500
S005
Umar Farooq
0
0
Total Payment: PKR 1500
Calculate Total Payment
Finalize Payment


TA Task List
https://localhost:44334/TaskListforTA.aspx?TAID=S001
Task ID
Description
Status
T011
Conduct assignment 3 demos
Incomplete
T012
Create quiz 6
Complete
T012
Mark as Complete
Task marked as complete.


TA Tasks Progress
https://localhost:44334/ViewTasksforTA.aspx?TAID=S001
Total Tasks: 2
Completed Tasks: 1
Remaining
Completed
View Tasks


LD Attendance View
https://localhost:44334/ViewAttendanceforLD.aspx?LDID=S003
Faculty Name
Course Name
Attendance Date
Attendance Status
Muhammad Ali
Data Structures
2023-12-01
Present


Faculty with Most Tasks
https://localhost:44334/MostFacultyTask.aspx
Data loaded successfully.
Faculty ID
Faculty Name
Number of Tasks Assigned
F007
Hina Mir
3
F008
Asad Ullah
1
F009
Zara Noor
1
F010
Bilal Khan
1
F001
Ayesha Khan
1
F002
Muhammad Ali
1
F003
Fatima Ahmed
1
F004
Ahmed Raza
1
F005
Sara Ali
1
F006
Omar Farooq
1