UNIVERSITY OF TEXAS ARLINGTON

CSE-5335:
Web Data Management Presentation

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Section: 5335-004

FALL 2023

Performance of Msc Academic Program

- This is an educational management platform for comprehensive solution with user friendly interface .
- Users can login/register and perform different activities.
- According to their role, users can perform their specific activities.

Features

- Users can view the courses in the website.
- Instructor, administrator, program coordinator and QA officer can make changes to the website according to their roles.
- Users can comsmunicate through communication tool.
- Can upload course content and create/edit and delete courses ,assignments and exams.

Technologies Used

- HTML
- CSS
- Javascript(React)
- Php
- SQL
- Database
- Laravel Framework

Roles

- Student
- Administrator
- Instructor
- Program coordinator
- Quality Assurance Officer

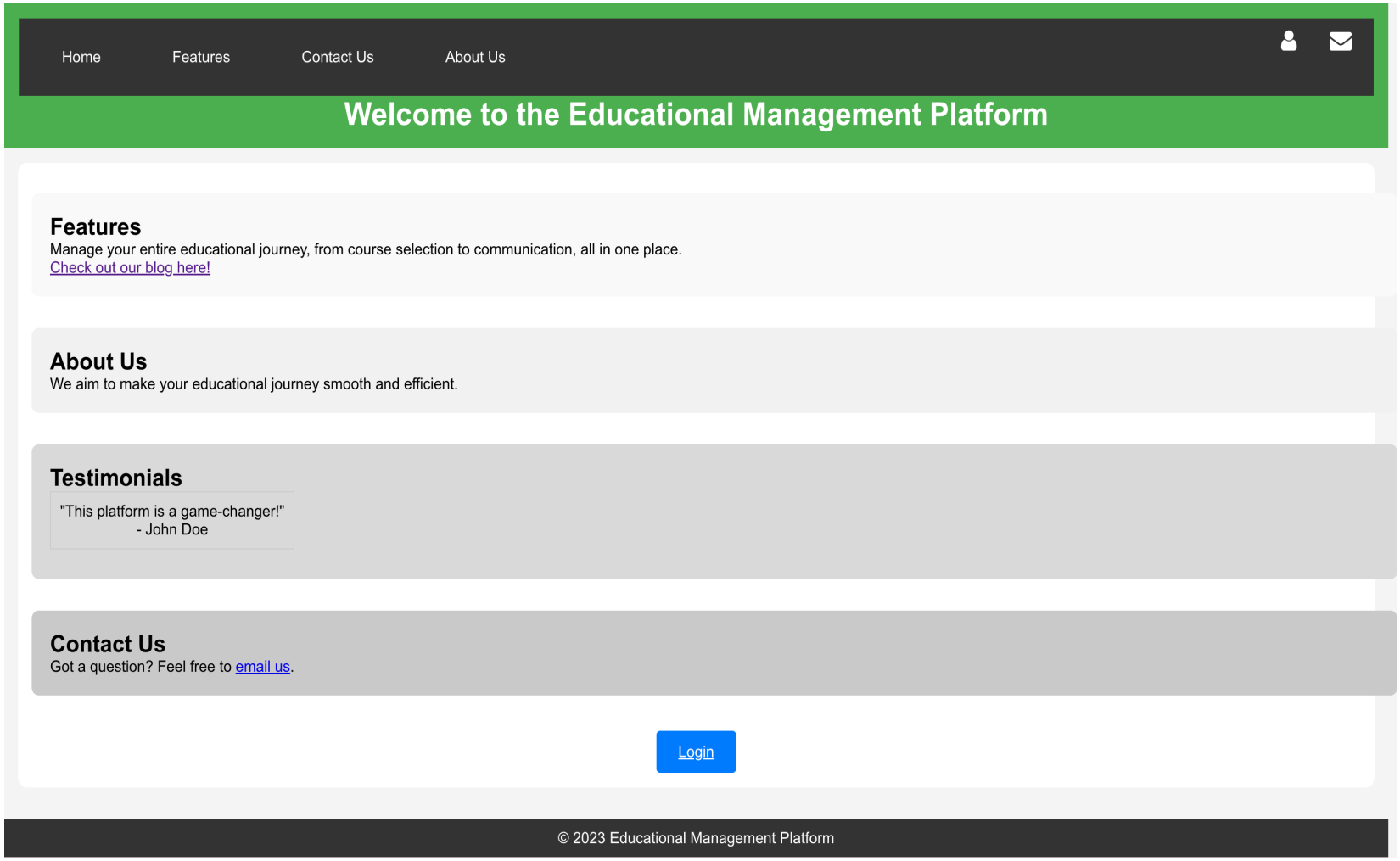
Main Pages of the website

- Homepage
- Login Page
- Registration page
- Contact us page
- Student page
- Instructor page
- Administrator page
- Program coordinator page
- QA officer page

Pages before login

- Home page
- Contact Us Page
- Registration page
- Login/Signup page

Home Page


Home
Features
Contact Us
About Us
Welcome to the Educational Management Platform
Features
Manage your entire educational journey, from course selection to communication, all in one place.
Check out our blog here!
About Us
We aim to make your educational journey smooth and efficient.
Testimonials
"This platform is a game-changer!"
- John Doe
Contact Us
Got a question? Feel free to email us.
Login
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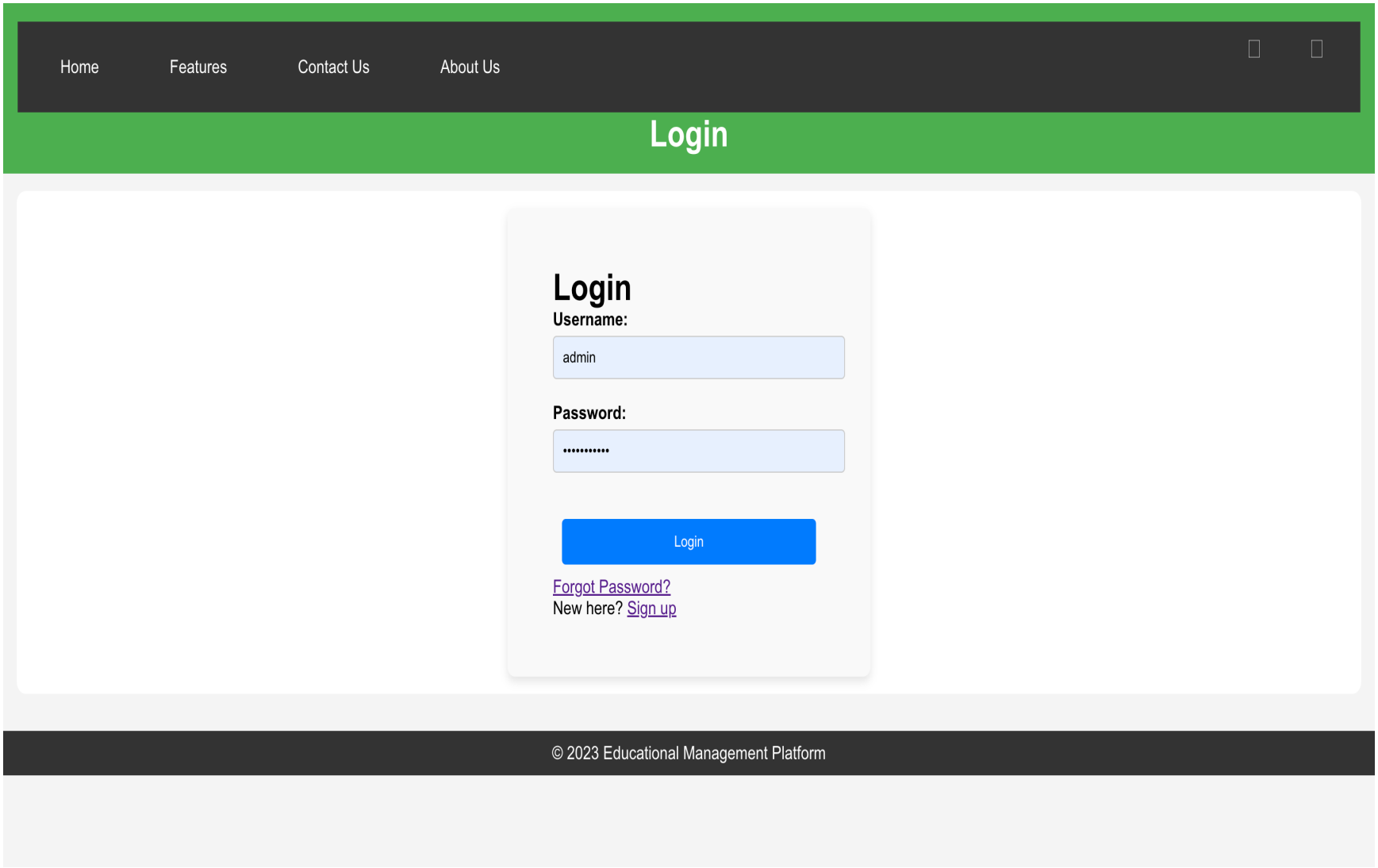
Login Page


Home
Features
Contact Us
About Us
Login
Login
Username:
admin
Password:
Login
Forgot Password?
New here? Sign up
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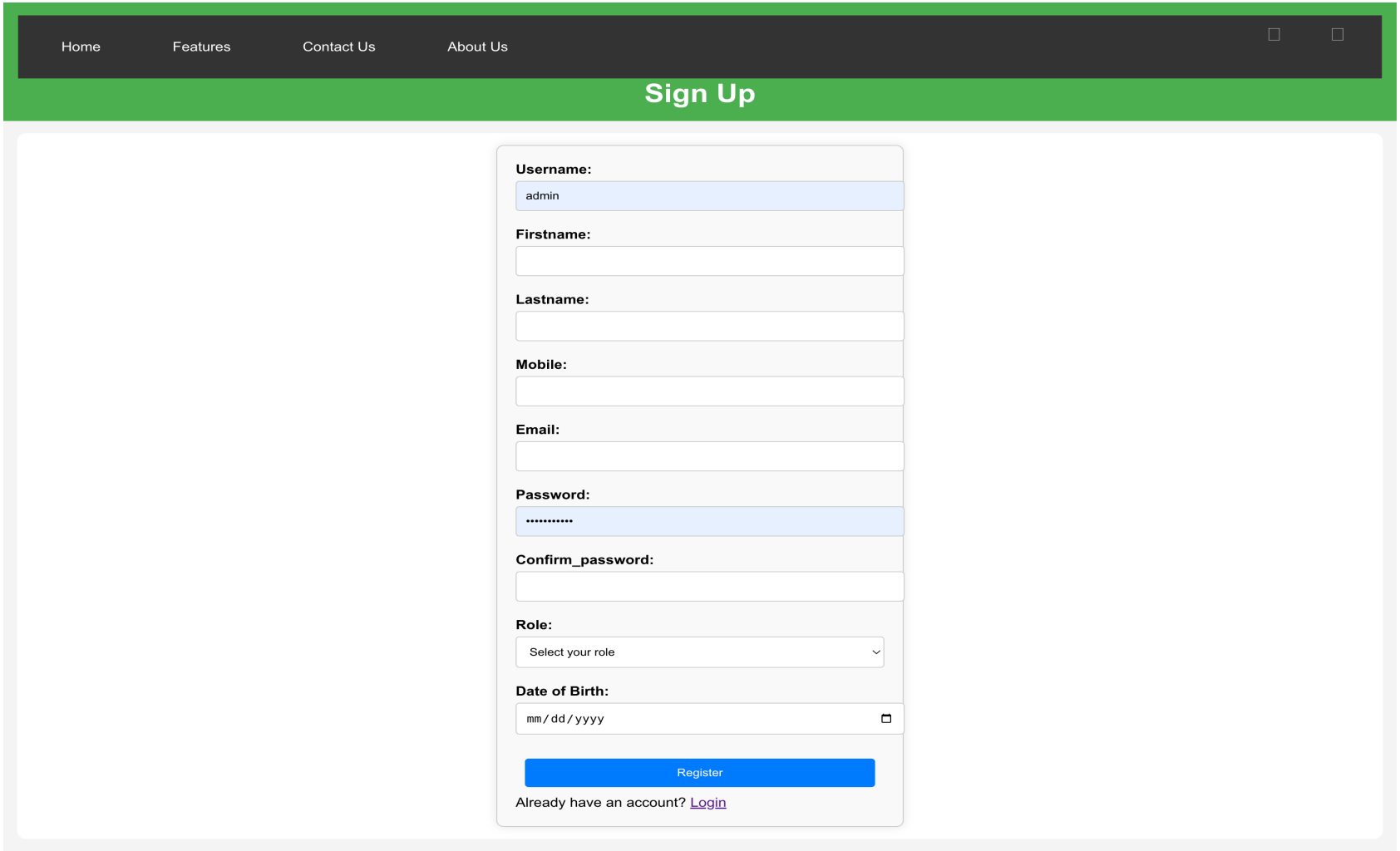
Sign up Page


Home
Features
Contact Us
About Us
Sign Up
Username:
admin
Firstname:
Lastname:
Mobile:
Email:
Password:
Confirm_password:
Role:
Select your role
Date of Birth:
mm/dd/yyyy
Register
Already have an account? Login

Contact Us Page

Home Features Contact Us About Us

Welcome to the Educational Management Platform

Contact Us

If you have any questions or feedback, please don't hesitate to contact us:

Name:

Email:

Message:

Submit

Login

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Pages after login

- Administrator page
- Student page
- Instructor page
- Program coordinator page
- QA officer page

Admin

Dashboard

Home Dashboard Contact Us About Us

Admin Dashboard

Admin Actions

Manage Courses
Go

Manage Users
Go

Manage Exams
Go

Performance Metrics
Go

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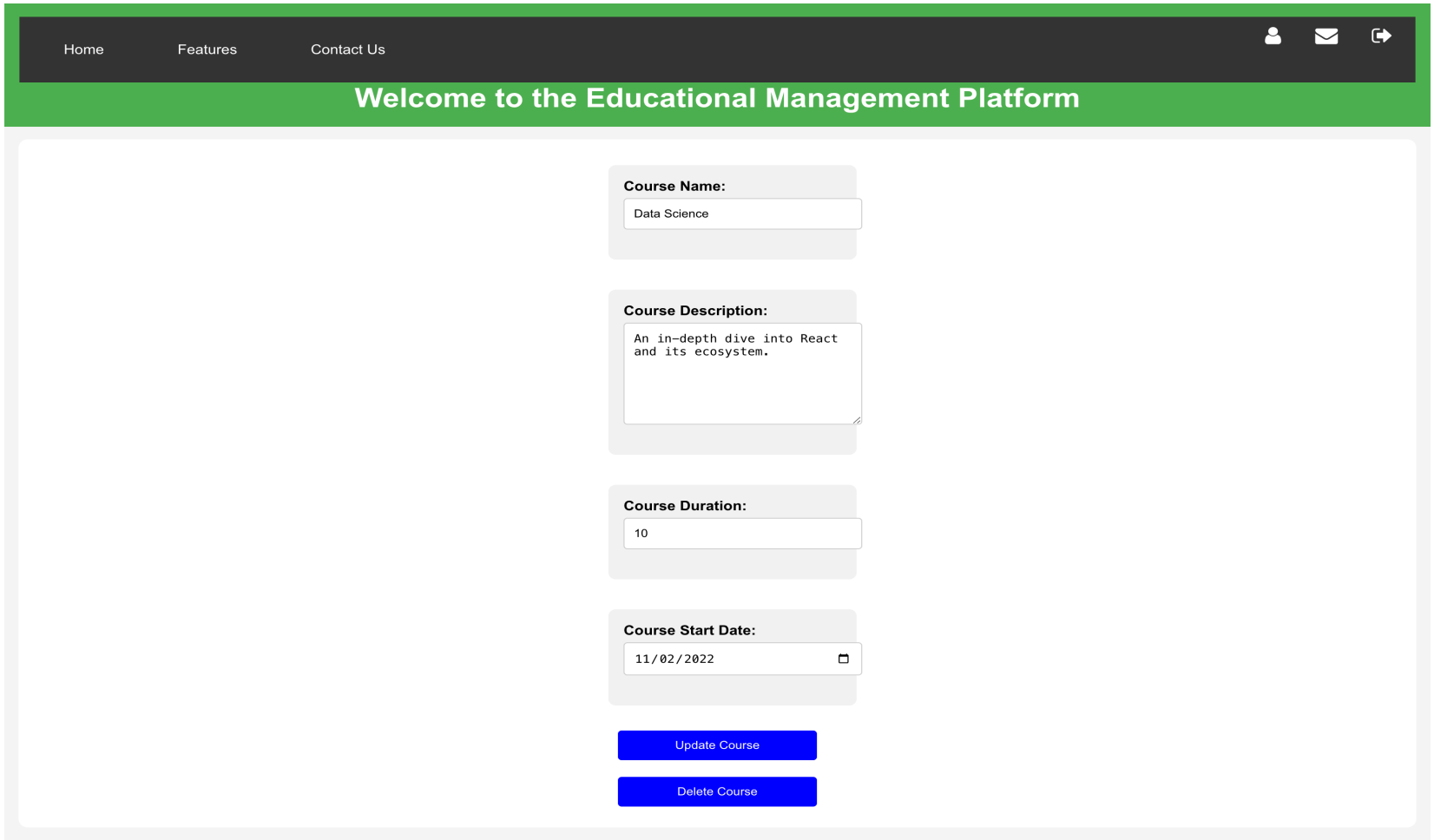
Admin

Update course



Admin

Manage exams

Home Dashboard Contact Us About Us

Manage Exams

Existing Exams

Midterm Exam
Description: Covers topics from weeks 1-6
Date: 2023-12-01
Total Marks: 100
Duration: 120 minutes
Remove

Test Exam
Description: Covers topics from weeks 1-6
Date: 2023-12-01
Total Marks: 100
Duration: 120 minutes
Remove

Test Exam
Description: Covers topics from weeks 1-6
Date: 2023-12-01
Total Marks: 100
Duration: 120 minutes
Remove

Exam 3
Description: New exam for Data Science
Date: 2023-10-18
Total Marks: 80
Duration: 120 minutes
Remove

ML Quiz 1
Description: ML Quiz 1
Date: 2023-12-28
Total Marks: 100
Duration: 60 minutes
Remove

ASE quiz 1
Description: ASE quiz 1
Date: 2023-11-24
Total Marks: 80
Duration: 90 minutes
Remove

WDM exam1
Description: WDM exam 1
Date: 2023-11-22
Total Marks: 80
Duration: 90 minutes
Remove

PLC Exam 1
Description: exam 1
Date: 2023-11-29
Total Marks: 80
Duration: 90 minutes
Remove

Python Exam 1
Description: Python exam 1
Date: 2023-11-30
Total Marks: 40
Duration: 90 minutes
Remove

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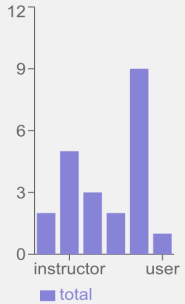
Admin

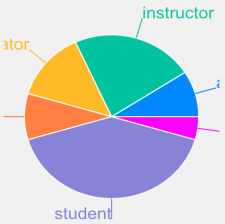
View Graphs

Admin Graphs

Role Counts



User Role Distribution



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Student

Dashboard

Home Features Dashboard Contact Us

Welcome

Course Catalog

Exam Management

Performance Tracking

Course Catalog

Check out the latest courses and program objectives here.

Exam Management

Take your pending exams or review past exams.

Performance Tracking

View your academic performance and grades.

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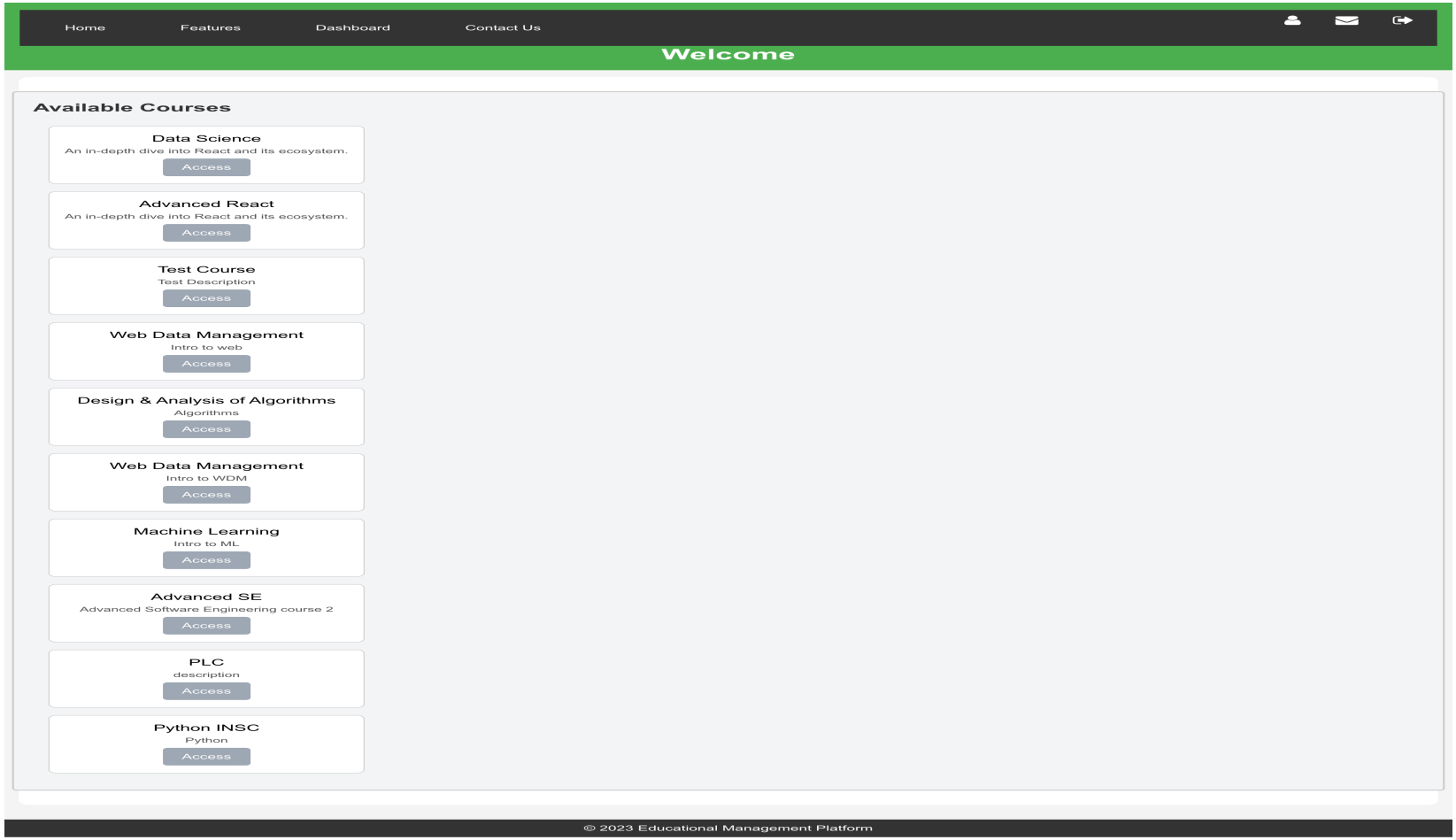
Student

View Courses



Student

Resources

Home Features Dashboard Contact Us

Exam Resources

Data Structures - Study Guide	**Format:**	PDF	Download
	Pages:	50	
	Description:	A comprehensive guide covering Arrays, Linked Lists, Queues, and Stacks.	

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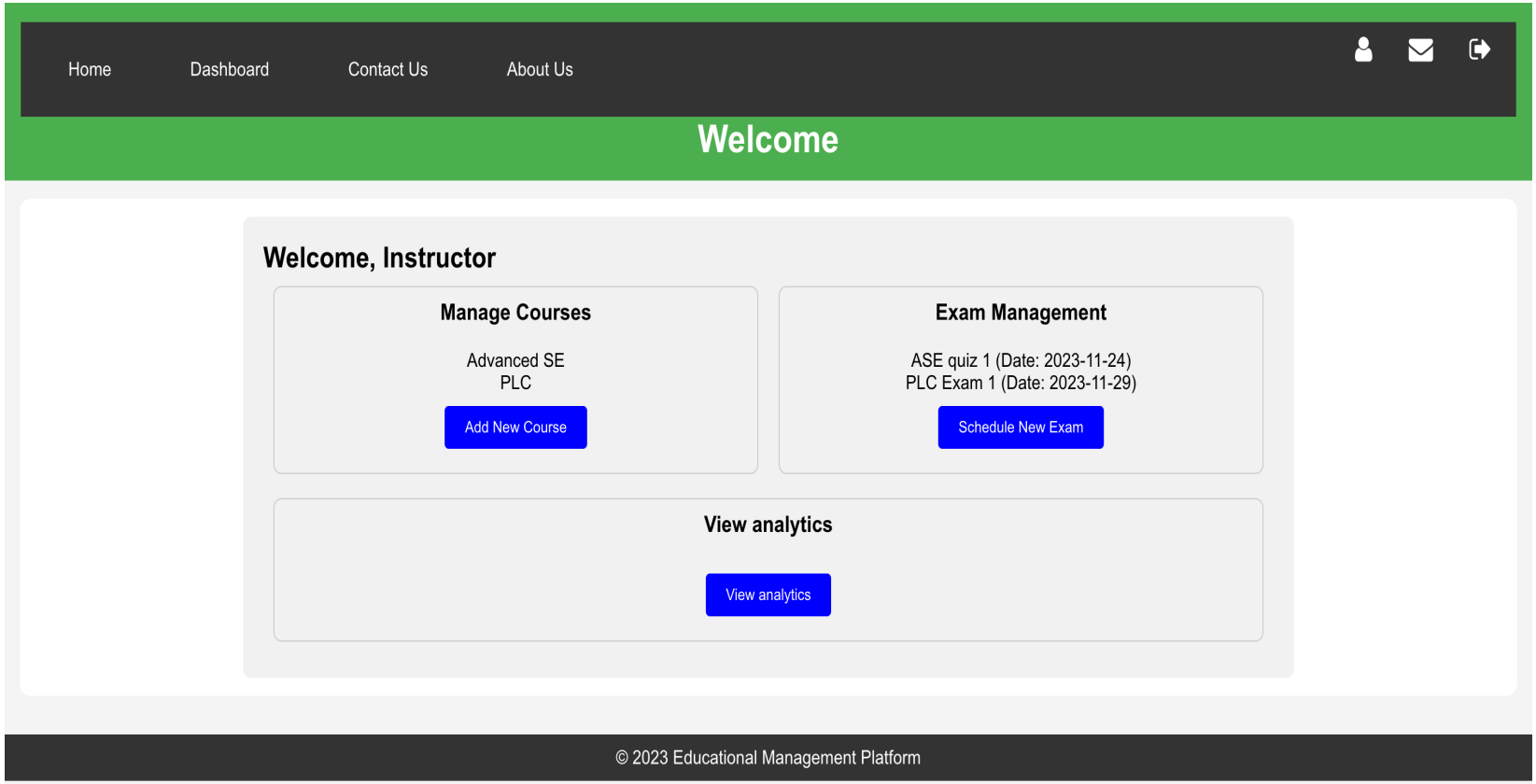
Instructor

Dashboard



Instructor

Add course

Home Dashboard Contact Us About Us

Welcome

Add a New Course

Course Name:

Course Description:

Duration (in weeks):

Start Date:

mm/dd/yyyy

Add Course

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Instructor

Schedule exam

Home Dashboard Contact Us About Us

Welcome

Schedule a New Exam

Course:

Select Course

Exam Name:

Exam Description:

Exam Date:

mm/dd/yyyy

Total Marks:

Duration (Minutes):

Schedule Exam

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Instructor

Performance Metrics

Home Features Contact Us

Performance Metrics

Course Performance

Data Science
Total Students: 1

Exam Scores

Exam ID: 1
Min Score: 80
Max Score: 80
Average Score: 80.0000

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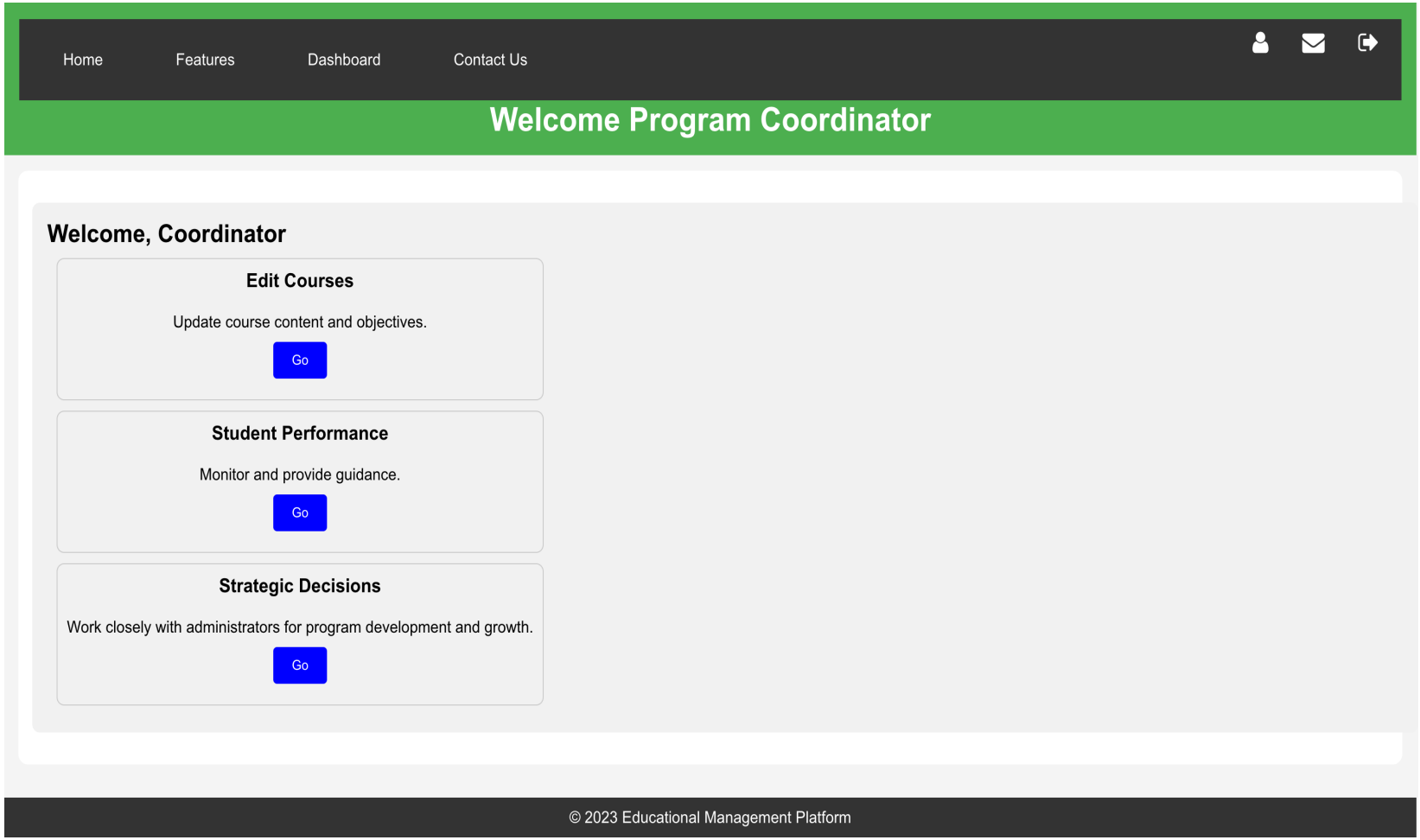
Program Coordinator

Dashboard



Program Coordinator

Strategic decisions

Home Features Dashboard Contact Us

Strategic Decisions

Advnaced SE

Program Direction
Future Vision: To become the leading Software engineer program in the country.
Current Objective: Improve retention rate by 10% in the next academic year.

Risk Assessment
- **High Risk:** Faculty turnover
- **Medium Risk:** Decreasing student enrollment
- **Low Risk:** Software licensing issues and other

Stakeholder Feedback
"The program has significantly improved in terms of curriculum. Well done!" - Manager

Update Decisions

Enter program name:

Enter future vision:

Enter current objective:

Enter problems of high risk:

Enter problems of medium risk:

Enter problems of low risk:

Enter stakeholder feedback:

Submit strategic decisions

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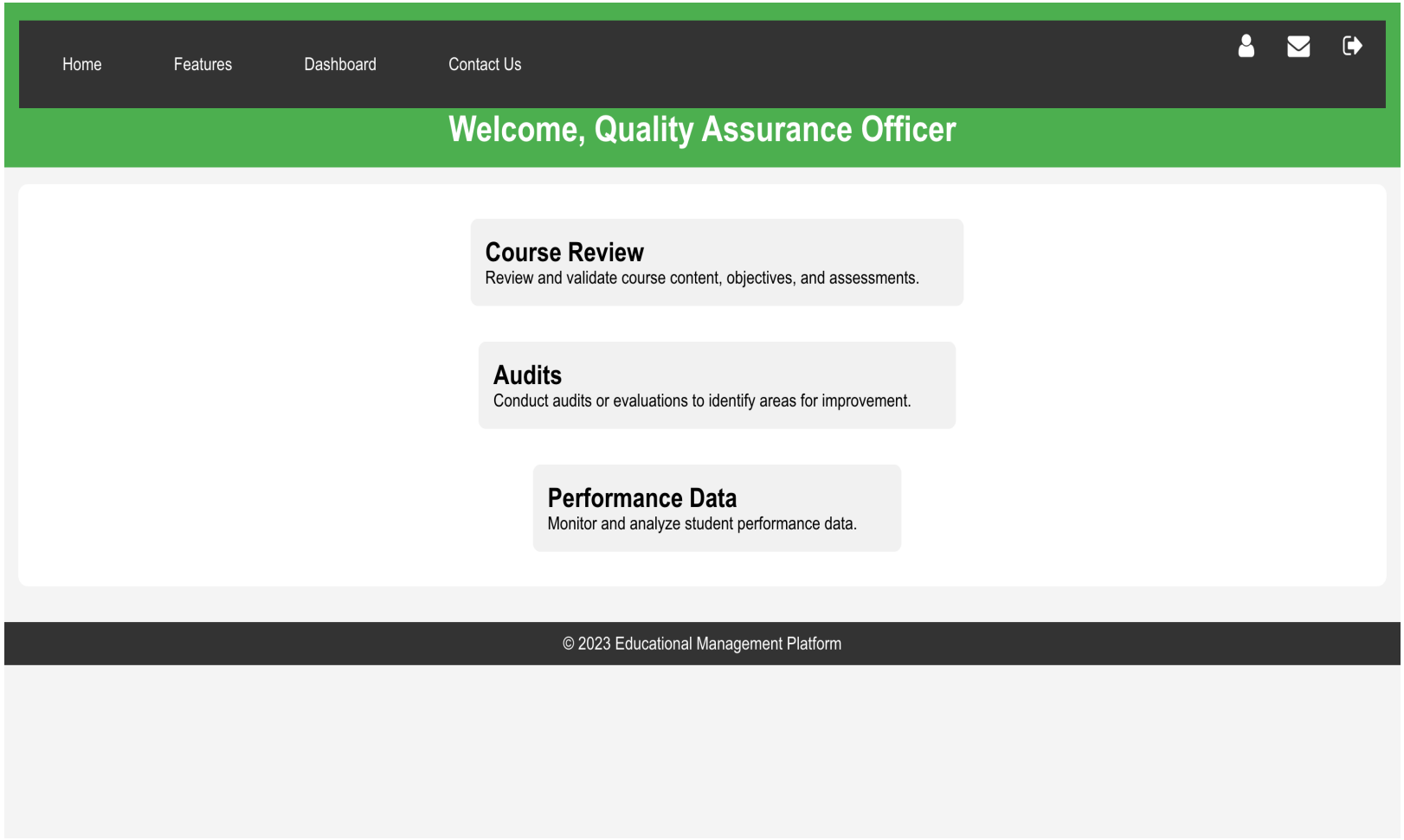
QA Officer

Dashboard



QA Officer

Course Review

Home Features Dashboard Contact Us

Course Review

Select Course:

Advanced SE

Course Objectives:

ASE objectives updated

Course Content:

ASE course content updated

Course Assessments:

ASE assessment 5

Findings and Areas for Improvement:

ASE finding 6 implementation

Submit Review

Blog

Educational Management Platform

Advantages

Centralized Learning Hub: A single platform provides a central location for educational content, resources, and tools, streamlining the educational process.

October 15, 2023

Disadvantages

Technical Issues: Users may encounter technical problems such as login issues, compatibility issues with certain devices or browsers, or difficulties navigating the platform.

October 15, 2023

Improvements

Make the content creative, actionable and meaningful:People don't like to consume boring content. While creating content for your courses, create creative and visually appealing content. Add high-quality visuals, charts, and infographics. Instead of using a text box, you can use a drop-down menu or radio button wherever possible. Break content into smaller modules and quizzes...

October 15, 2023

SEMINAR Demo

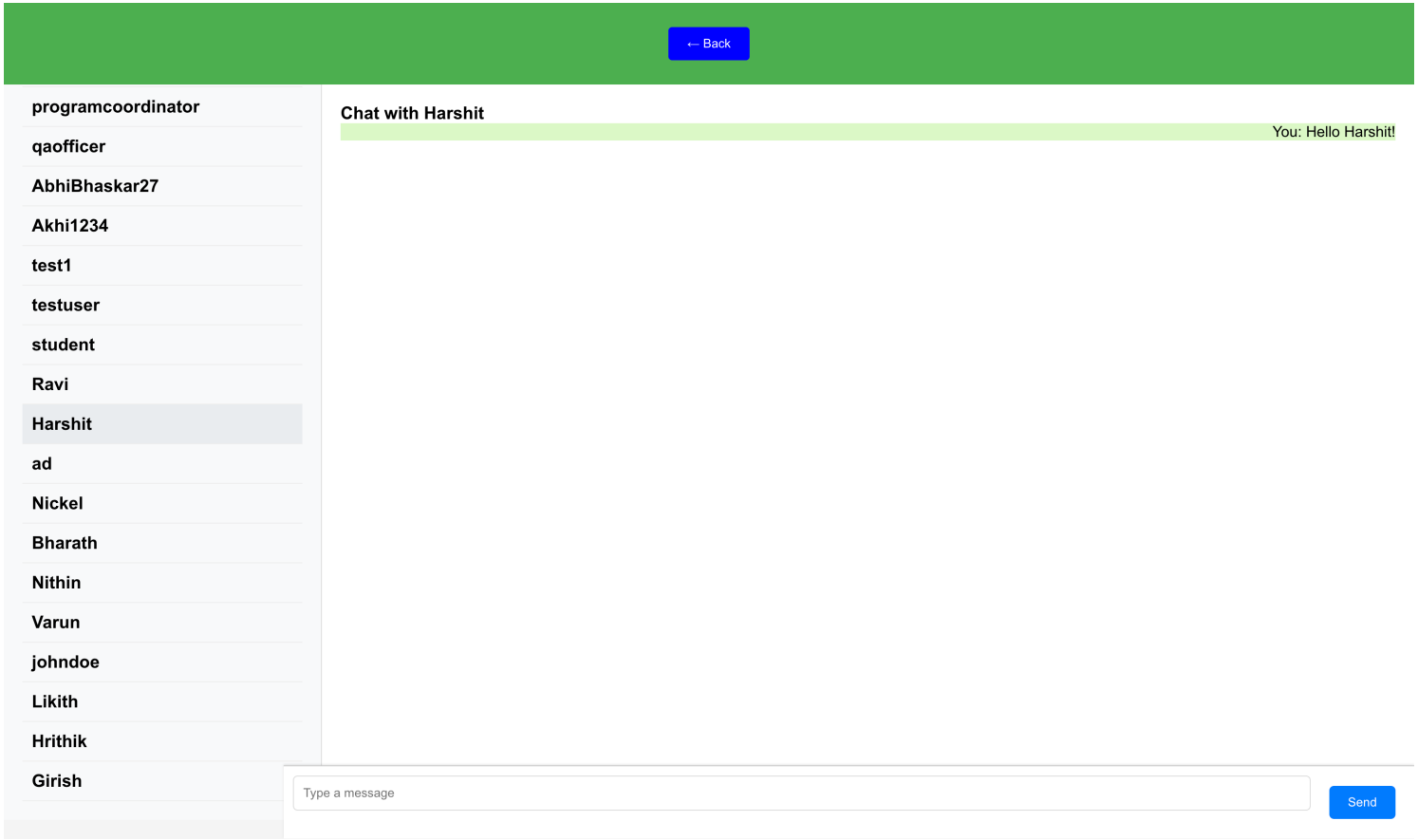
Node/ Chat

Chat

- The chat page is a simple application which allows different users to send and receive messages to other users. There is no constraint regarding the user role and any user can chat with any other user.

- The chat functionality was implemented using Node JS with express server. Sequalize library is used to handle database connections and queries. A message schema with the following fields is created: sender_id, receiver_id, message_text. The app.js file contains 2 apis i.e a POST api to send message and another GET api to receive the message.

Chat


← Back
programcoordinator
qaofficer
AbhiBhaskar27
Akhi1234
test1
testuser
student
Ravi
Harshit
ad
Nickel
Bharath
Nithin
Varun
johndoe
Likith
Hrithik
Girish
Chat with Harshit
You: Hello Harshit!
Type a message
Send

Code Snippets

FRONT_END

- build
- node_modules
- public
- src
  - pages
    - AboutUsPage.js
    - AdminDashboard.js
    - AdminGraphs.js
    - AdminPerformanceMetr...
    - ai-insights.js
    - ChatView.js
    - ContactUs.js
    - EditCourses.js
    - EditUser.js
    - ForgotPassword.js
    - HomePage.js
    - InstructorAddCourse.js
    - InstructorDashboard.js
    - InstructorProfile.js
    - InstructorScheduleExa...
    - Login.js
    - ManageCourses.js
    - ManageExams.js
    - ManageUsers.js
    - MessagesDashboard.js
    - Profile.js
    - ProgramCoordinatorDas...
    - ProgramCoordinatorPro...
    - ProgramCoordinatorStr...
    - QAAudit.js
    - QACourseReview.js
    - QADashboard.js
    - QAPerformanceData.js
    - QAQualityProcesses.js
    - Register.js
    - Services.js
    - StudentCourseAccess.js

OUTLINE

TIMELINE

src > pages > ai-insights.js > AIInsightsPage

```js
import React, { useState } from 'react';
import axios from 'axios';
import '../style.css';
const AIInsightsPage = () => {
    const [question, setQuestion] = useState('');
    const [responseMessage, setResponseMessage] = useState('');
    const [isLoading, setIsLoading] = useState(false);

    const handleSubmit = async (event) => {
        event.preventDefault();
        setIsLoading(true);
        try {
            const result = await axios.post('https://jxg2714.uta.cloud/backend/generative-ai.php', { question });
            const message = result.data.response.choices[0].message.content;
            setResponseMessage(message);
        } catch (error) {
            console.error('Error fetching AI response:', error);
            setResponseMessage('Error fetching response. Please try again.');
        }
        setIsLoading(false);
    };
    return (
        <div>
            <header>
                <button onClick={() => window.history.back()} className="back-button">
                    &#x2190; Back
                </button>            </header>
            <main className="ai-insights-container">
                <h2>AI Insights</h2>
                <form onSubmit={handleSubmit}>
                    <label htmlFor="questionInput">Ask a Question:</label>
                    <textarea
                        id="questionInput"
                        value={question}
                        onChange={(e) => setQuestion(e.target.value)}
                        placeholder="Type your question here..."
                    />
                    <button type="submit" disabled={isLoading}>
                        {isLoading ? 'Loading...' : 'Submit'}
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER

```
npm install -g serve
serve -s build

Find out more about deployment here:

  https://cra.link/deployment

(base) abhishekbhaskar@Abhisheks-MacBook-Pro front_end %
```

Code Snippets

src > pages > EditCourses.js > EditCourses

```javascript
import React, { useEffect, useState } from 'react';

const EditCourses = () => {
    const [formData, setFormData] = useState({});
    const [courseId, setCourseId] = useState(null);

    useEffect(() => {
        const urlParams = new URLSearchParams(window.location.search);
        const id = urlParams.get('courseId');
        setCourseId(id);

        fetch('https://jxg2714.uta.cloud/backend/courses.php')
            .then((response) => response.json())
            .then((data) => {
                const specificCourse = data.find((course) => course.id === id);
                if (specificCourse) {
                    setFormData(specificCourse);
                }
            });
    }, []);

    const handleChange = (e) => {
        const { name, value } = e.target;
        setFormData({ ...formData, [name]: value });
    };

    const handleSubmit = (e) => {
        e.preventDefault();

        fetch('https://jxg2714.uta.cloud/backend/courses.php', {
            method: 'PUT',
            headers: {
                'Content-Type': 'application/json',
            },
            body: JSON.stringify({
                id: courseId,
                ...formData,
            }),
        })
```

```
npm install -g serve
serve -s build

Find out more about deployment here:

  https://cra.link/deployment

(base) abhishekbhaskar@Abhisheks-MacBook-Pro front_end %
```

Challenges faced

- It was a challenge to create a user friendly website.
- We faced major challenge when converting from html to react then to Laravel.
- We faced a challenge in database connectivity and also implementing CRUD functionality.
- We collaborated effectively as a team, identifying and overcoming the challenging aspects that initially posed difficulties for us.

Creative functionalities

Some of the creative functionalities we have implemented are:

- **Data analysis and trends using Generative AI-**

A chatbot which allows the users to ask any kind of queries both generic and specific to the application. It is built using Open AI's chat completions api. Data from all the database tables is first collected and stored in a variable. This data along with the question is passed as parameters to the Open AI api call. The response returned from the OpenAI api is returned to the user.

- **Admin graphs for performance metrics**

Bar chart and pie charts are displayed for the user role distribution data. This is implemented using the recharts npm library. The users table data is fetched and passed to the BarChart and PieChart functions of the library.

Improvement

- Can add 2 Factor Authentication for login.
- Can add microphone in the chat box.
- Can allow third party integration.

Future Addition to your Portfolio

- This project is showcased in our portfolio with the overview, project objectives, technologies used and challenges faced.
- This will give an overview of how well folks are good as a team and can showcase the knowledge and technologies we gained.

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Thank You