Marathwada Mitra Mandal's
College of Engineering, Karve Nagar, Pune

Department of Computer Engineering

A PBL-II

report on

MMCOEians

By

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Guided By

Mrs.Vandana Rupnar

2024-2025

Marathwada Mitra Mandal's
College of Engineering, Karve Nagar, Pune

'येथे बहुतांचे हित ।'

C E R T I F I C A T E

This is to certify that Mr / Mrs _____ with exam seat No_____ has successfully completed the discussion the dissertation entitled supervision in the partial fulfillment of SE - Computer Engineering of Savitribai Phule Pune University.

Date:

Place:

Prof._____   Dr. K. S. Thakre

          Mentor   Head,

Department of computer Engineering   Department of computer Engineering

Dr. V. N. Gohokar
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ACKNOWLEDGEMENT

We take this opportunity here to thank all those who have helped us in making this PBL-II project a reality. First of all, we express our deep gratitude to our project guide Prof .Vandana Rupnar for his / her valuable support, help & guidance from time to time during the project work. We are also grateful to our Head of Department, Dr. K. S. Thakre for giving us this opportunity to present this project report.

Last but not the least; we would like to thank our entire teaching and Non-teaching staff who assisted us directly or indirectly throughout the duration of this project.

<div align="right">

SC270 - Merukar Priti.

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SC279 - Rohan Shinde.

</div>

ABSTRACT (14 pts, Bold)

(12, Sentence case)

Abstract should include overview of Context of the project, Problem, Solution & Conclusion.

TABLE OF CONTENTS (14, bold, uppercase)

Please find index on next page

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LIST OF ABBREVIATIONS

Abbreviation	Illustration	Page No

LIST OF FIGURES

CHAPTER-1
INTRODUCTION

1.1 Motivation:

1. Limited networking opportunities: Students may have limited opportunities to build professional relationships with alumni.

2. Lack of effective communication: Students may face difficulties in connecting with alumni for guidance and mentorship.

3. Limited access to alumni expertise: Students might not have a platform to easily access the knowledge and experiences of successful alumni.

4. Difficulties in career exploration: Students may struggle to find relevant career paths and gain insights into industry trends from alumni.

5. Career Guidance and Mentorship: Connect with successful alumni mentors for personalized career advice, job search strategies.

1.2 Problem Definition:

Design an intelligent digital platform for MMCOE to seamlessly connect alumni and students, fostering mentorship, knowledge sharing, and career development.

CHAPTER-2
LITERATURE SURVEY

No.	Paper Title	Authors	Features	Advantages	Disadvantages	Paper Published Date	Technology/Programming Language Used
1	Design and implementation of Student and Alumni Web Portal	Shaimaa Q. Sabri, Akeela M. Ahmad	User profiles, basic communication, SWOT analysis integration	Enhances communication, strategic planning, user-friendly	Limited scalability, requires active participation	September 2017	Likely PHP, MySQL, HTML, CSS, JavaScript
2	Student-Alumni Net work Web App	Mohit Arora, Ankit Negi, Mohd Salar Khan	Social media-style platform, profiles, posts, comments, messaging, mentorship focus	Encourages engagement, mentorship, networking, modern features	Limited to specific institution, internet dependency	15 February 2022	Likely Python (Django or Flask), JavaScript (React/Angular/Vue), PostgreSQL/MySQL
3	Student Alumni Connecting Website	P. Murugan, Dr. V. Sathya	User registration, messaging, job board, admin dashboard, feedback collection	Facilitates mentorship, career development, user-friendly, global reach	Challenges in sustaining engagement, high dependency on participation	14 April 2024	Likely PHP, MySQL, JavaScript, HTML, CSS
4	AlmaHub: An Engaging, Supportive Alumni-Students Interaction Platform	Dr. Sachin S. Patil, Atharv Bhasme, Pranav Bobade, Abhishek Barkade, Pranav Pore	Cross-platform app, profiles, job portals, messaging, posts, Firebase database	Networking, professional development, community building	No video conferencing or automated seminar arrangements	7 April 2023	Flutter, Firebase
5	Alumni Career Network: A Machine Learning Enhanced Platform	Li Wei, Jian Zhang, Mei Chen	AI-driven career matching, skill-based networking, automated job recommendations, personalized content	Advanced career guidance, efficient networking, personalized user experience	Potential data privacy concerns, reliance on accurate user data	October 2023	Python (Scikit-learn, TensorFlow/PyTorch), Cloud Services (AWS, Azure, GCP), JavaScript
6	Virtual Mentorship Platform for Engineering Students	Raj Patel, Priya Sharma	Dedicated mentorship matching, virtual meeting scheduling, progress tracking, resource library	Structured mentorship programs, easy scheduling, progress monitoring	Requires consistent mentor participation, technical support for virtual meetings	November 2022	Likely Node.js, React, MongoDB, WebRTC

7	Development of a Blockchain-Based Alumni Network for Secure Credential Verification	David Lee, Sarah Kim	Blockchain-based profiles, secure credential verification, smart contract-based networking, decentralized data management	Enhanced security and trust, verifiable credentials, transparent networking, data integrity	Complexity of blockchain implementation, initial setup cost	December 2023	Solidity, Ethereum, JavaScript, Node.js
8	Mobile-First Alumni Engagement Platform with Gamified Features	Emily Chen, Michael Brown	Mobile-first design, gamified challenges and rewards, location-based networking, event management	Increased user engagement, interactive networking, enhanced community participation, easy event access	Potential for over-reliance on gamification, requires consistent content updates	January 2024	React Native/Flutter, Node.js, MongoDB, JavaScript

CHAPTER-3

HARDWARE REQUIREMENTS

Server: 8GB RAM, quad-core CPU, SSD storage

Storage: Minimum 100GB SSD

Network: 100 Mbps internet connection

Backup: Cloud or external backup storage

SOFTWARE REQUIREMENTS

Operating System: Windows Server
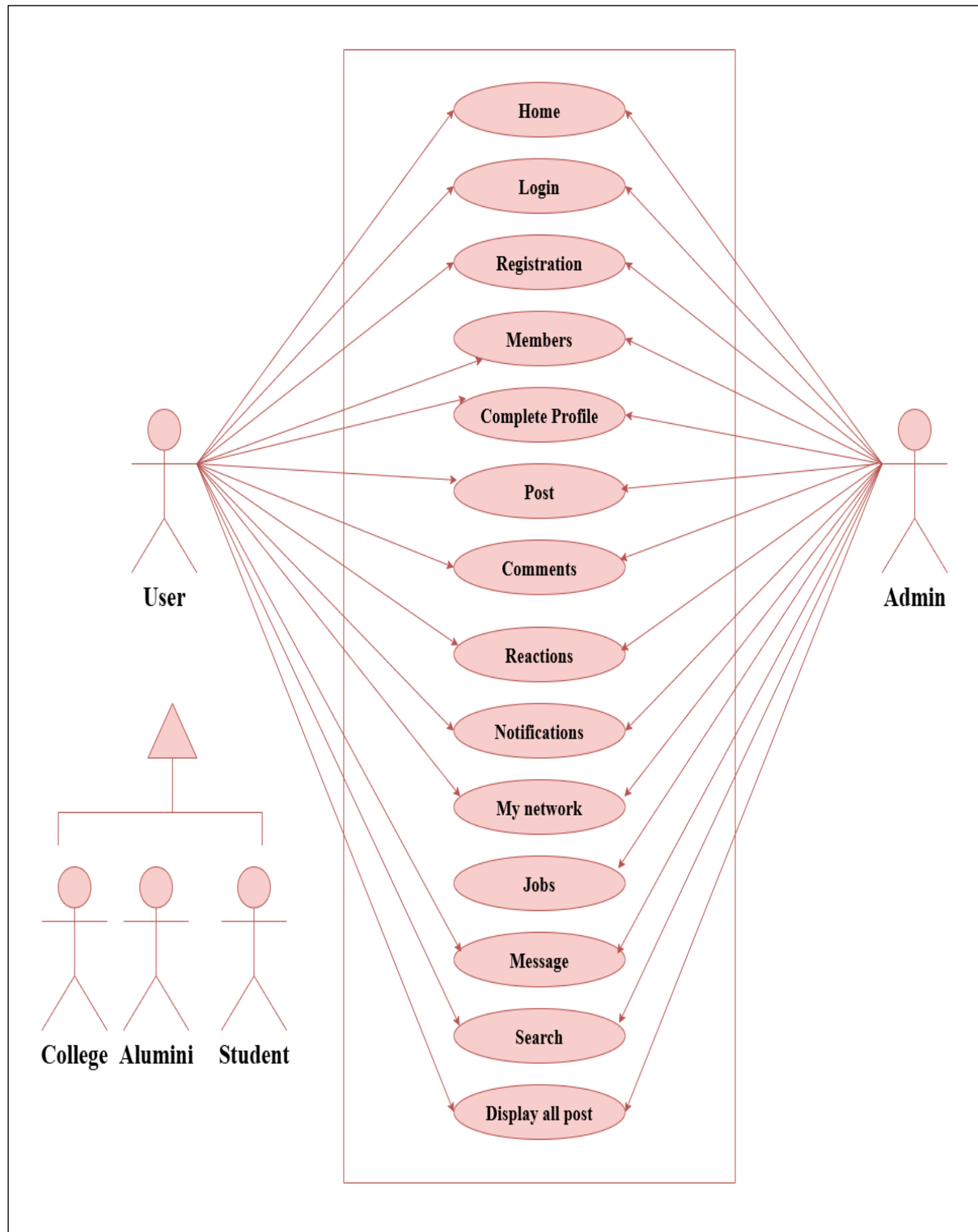
Database: MongoDB

Backend Technologies: Next js

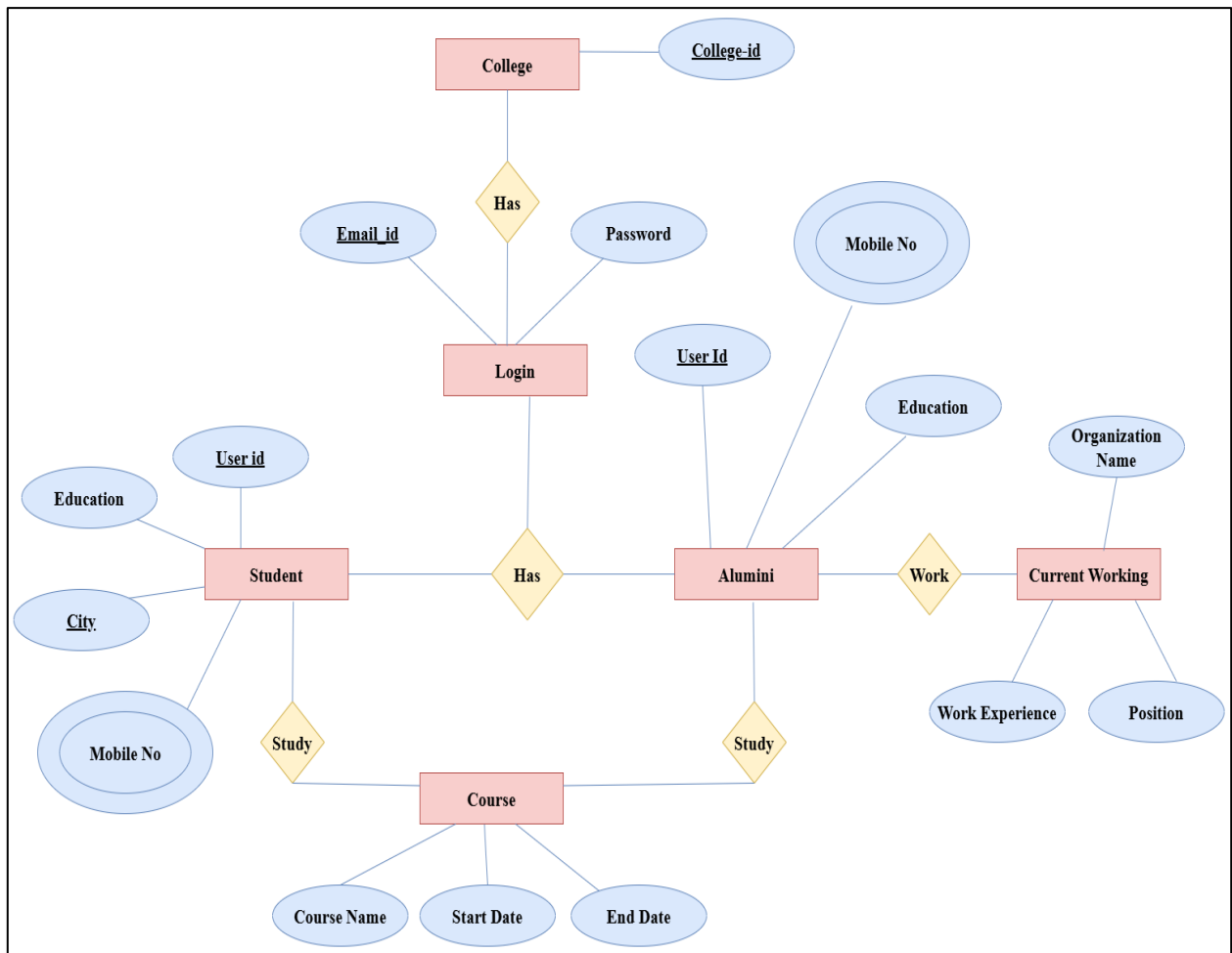**Frontend Technologies: Java Script, Next js, Tailwind CSS**

CHAPTER-4
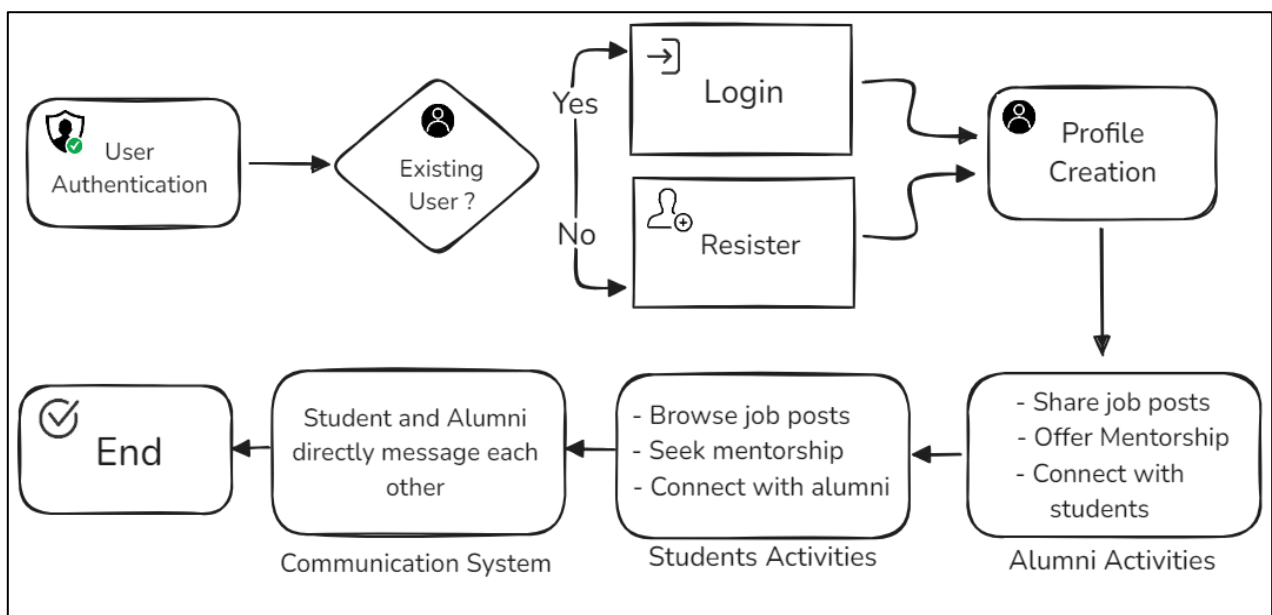## SYSTEM ARCHITECTURE

4.1 System Architecture:

USE CASE DIAGRAM:

ER DIAGRAM:

USER FLOW DIAGRAM:

CHAPTER-5

IMPLEMENTATION

5.1 Algorithms/technology used *:*

- ➢ React.js: UI Rendering & Routing
- ➢ Node.js + Express.js: Backend API
- ➢ MongoDB: Document storage
- ➢ Nodemailer: Email Verification
- ➢ next.js, mongoDB, clerk auth, typescript

5.2 Dataset used:

   No external dataset used users generate data through form inputs.

5.3 Details of Modules /Execution Steps:

1. Registration & Email Verification

Input: Name, Email, Password

Process: Store in DB, Send verification link via Nodemailer

Output: Verified account activation

2. Login & JWT Authentication

Input: Email, Password

Process: Authenticate & issue token

Output: Dashboard access

3. Profile Management

Input: Skills, Location, Bio

Process: Update & store profile

Output: Visible to other users

4. Alumni Search Module

Input: Year, Skills, Location
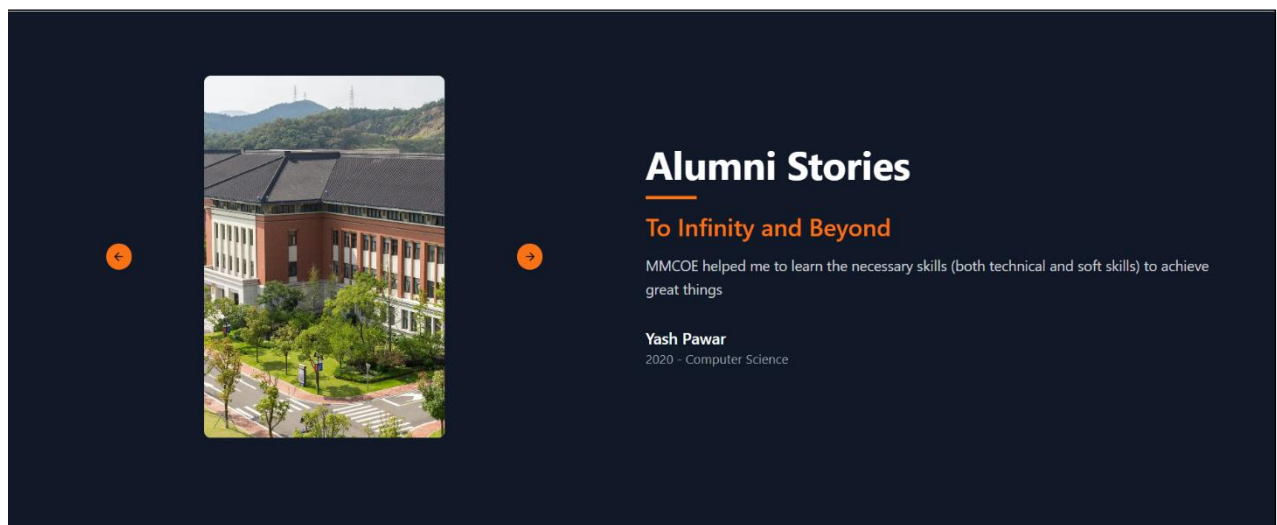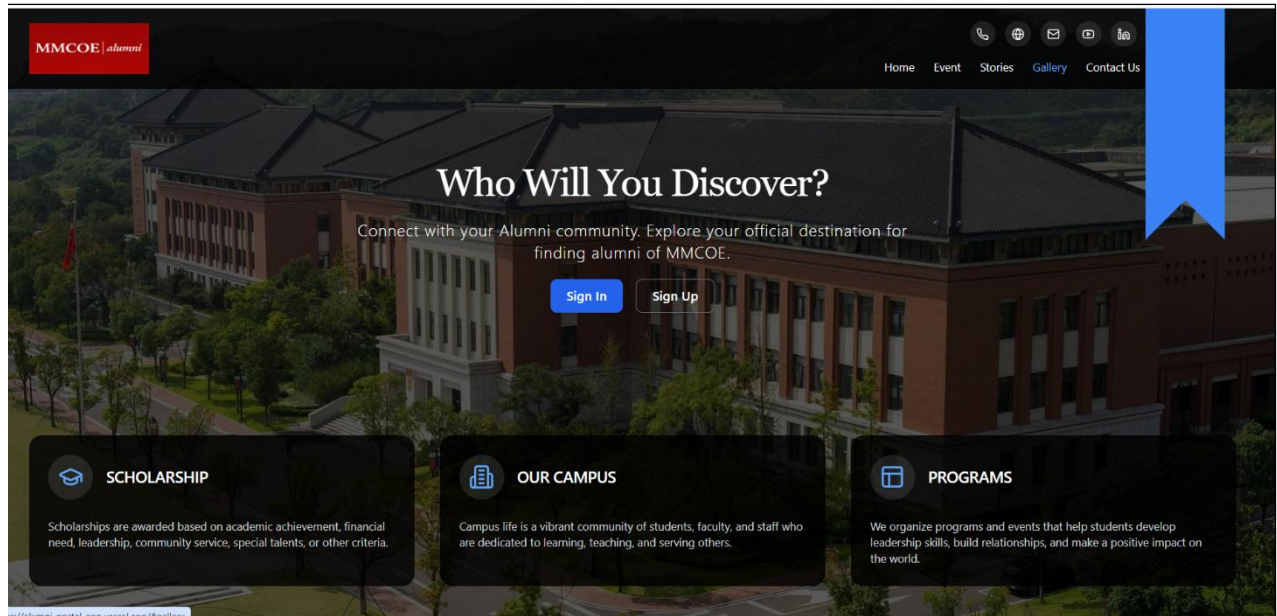
Process: Filter in DB

Output: Search result list

CHAPTER-6

RESULTS

6.1 Analysis based Results in graphical representation *(pi charts, bar charts, etc.)*

6.2 Screenshots of Result :

Homepages:

Upcoming Events

Connect with fellow alumni at our upcoming events and gatherings

📅 Mar 30   ◎ College Auditorium

Alumni Meet

Home Coming

View Details →

📅 Apr 3   ◎ College Auditorium

demo 1

aaa

View Details →

View All Events →

Gallery

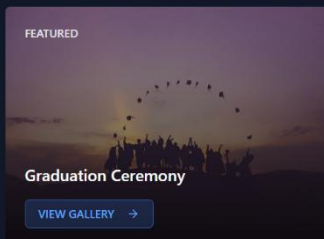Check out the latest photos and videos from the alumni events and activities.

EVENT | FEST

Homecoming Highlights

VIEW GALLERY →

FEATURED

Alumni Weekends

VIEW GALLERY →

FEATURED

Graduation Ceremony

VIEW GALLERY →

▷ **Live Streaming**

Watch the live streaming of the event happening now.

‹		April 2025				›
Su	Mo	Tu	We	Th	Fr	Sa
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3

Marathwada Mitra Mandal's
College of Engineering
Approved by AICTE New Delhi Recognized by DTE
Maharashtra and affiliated to Savitribai Phule Pune University
Accredited with 'A' Grade by NAAC

MMCOE Alumni Network

Stay connected with your alma mater and fellow graduates.

Sr.No. 18, Plot No. 5/3, CTS No.205, Behind Vandevi Temple, Karvenagar, Pune - 411052
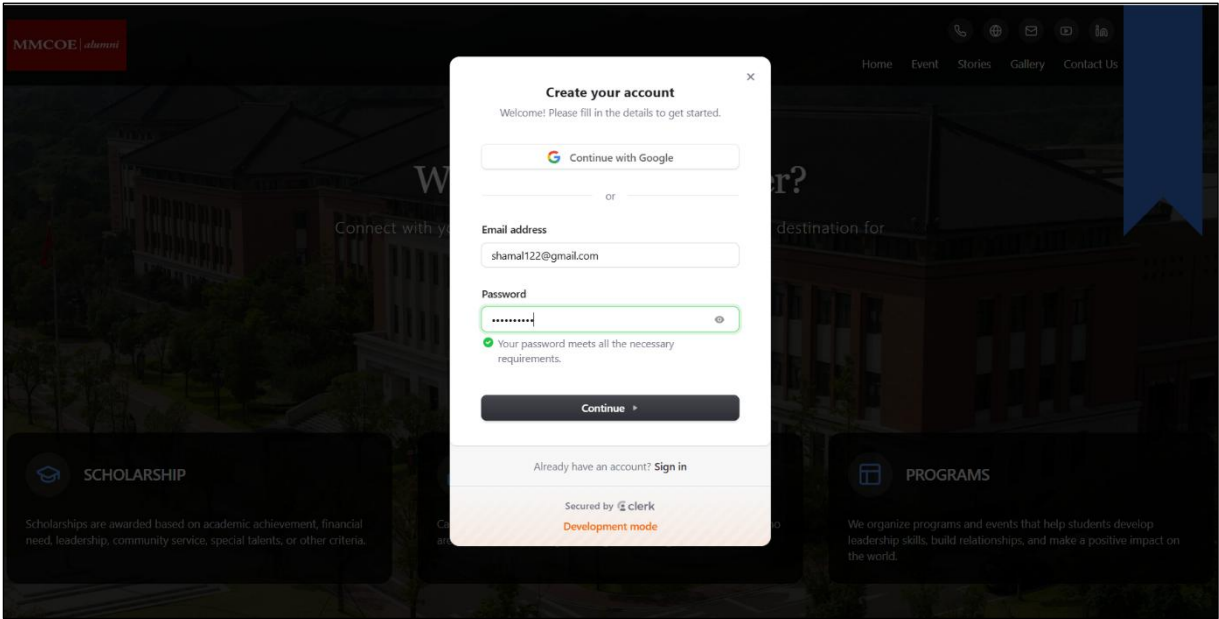
Alumni Links

- Alumni Association
- Events & Reunions
- Networking Opportunities
- Career Support
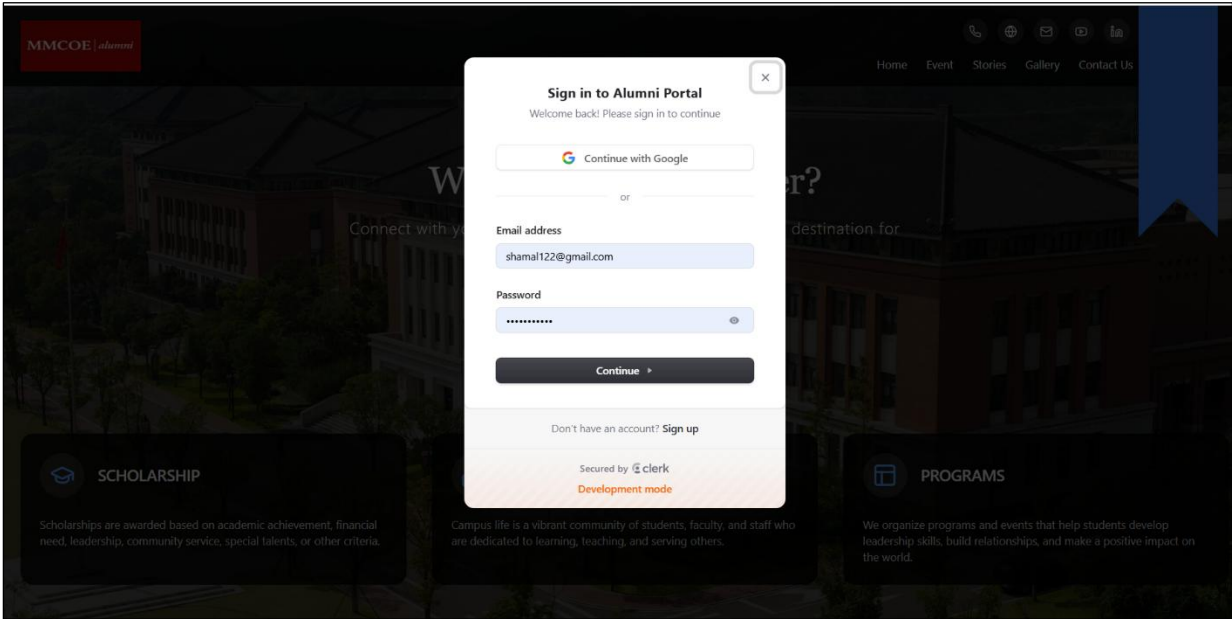- Success Stories

Quick Links

- Placements
- Scholarships
- Workshops & Conferences
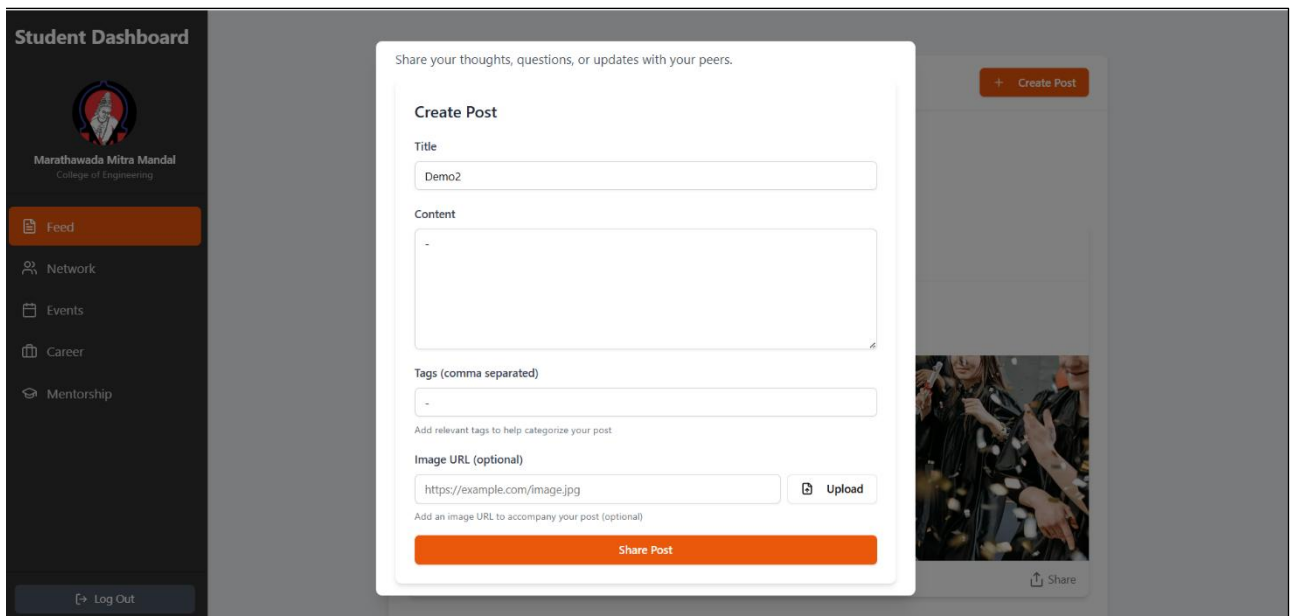- Give Back to MMCOE

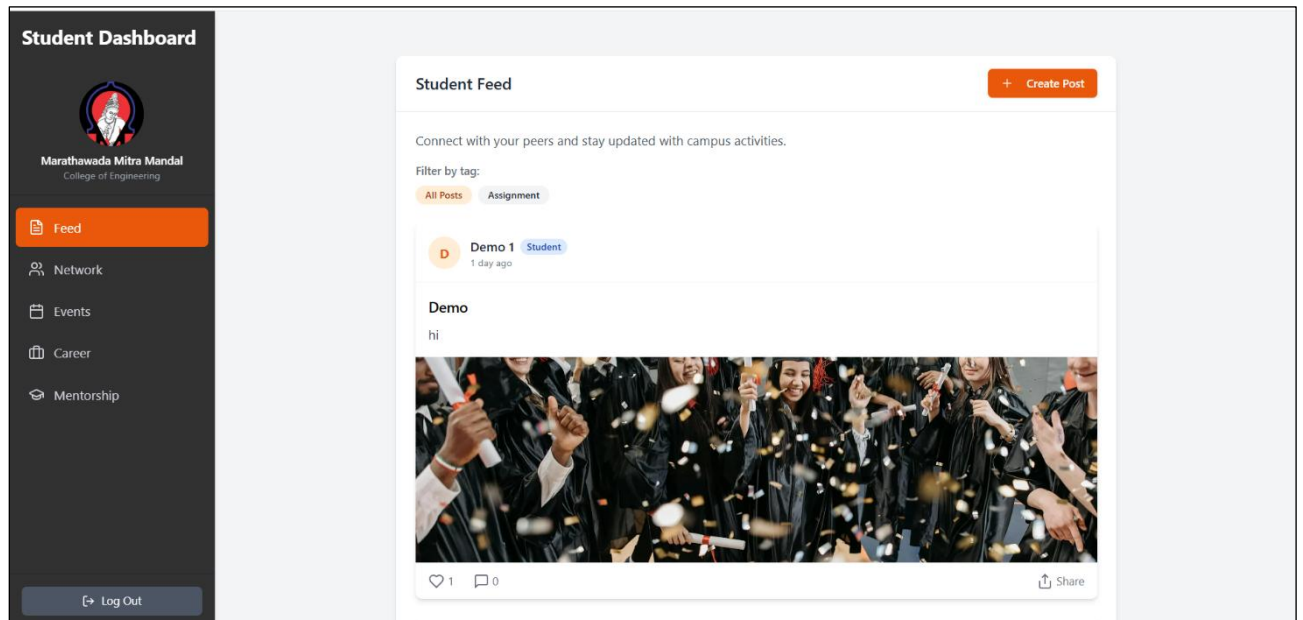## Sign Up:

Sign In:

Student Dashborad:

Student Dashboard

Marathawada Mitra Mandal
College of Engineering

- Feed
- Network
- **Events**
- Career
- Mentorship

Log Out

Campus Events

Stay updated with upcoming campus events, workshops, and activities.

Alumni Meet

📅 March 30, 2025 - 5:30 AM

Location: College Auditorium

Home Coming

Student Dashboard

Marathawada Mitra Mandal
College of Engineering

- Feed
- Network
- Events
- **Career**
- Mentorship

Log Out

Career Development

Explore internship opportunities and access career development resources to jumpstart your professional journey.

Internship Opportunities Career Resources

Available Internships

[All] [Full-time] [Part-time] [Remote] [Hybrid]

Software Intern   Remote

🏢 ABc

📍 Pune   🕐 2 months $ 1000

📅 **Apply by:** April 28, 2025

demo

Posted on April 07, 2025   ↗ Apply Now

Student Dashboard

Marathawada Mitra Mandal
College of Engineering

- Feed
- Network
- Events
- **Career**
- Mentorship

Log Out

Career Development

Explore internship opportunities and access career development resources to jumpstart your professional journey.

Internship Opportunities **Career Resources**

Resume Template for Tech Students DOCX
Professional resume template tailored for engineering students.
⬇ Download

Technical Interview Preparation Guide PDF
Comprehensive guide covering all aspects of technical interviews.
⬇ Download

LinkedIn Profile Optimization Tips PDF
Learn how to optimize your LinkedIn profile to attract recruiters.
⬇ Download

Mock Technical Interview Questions PDF
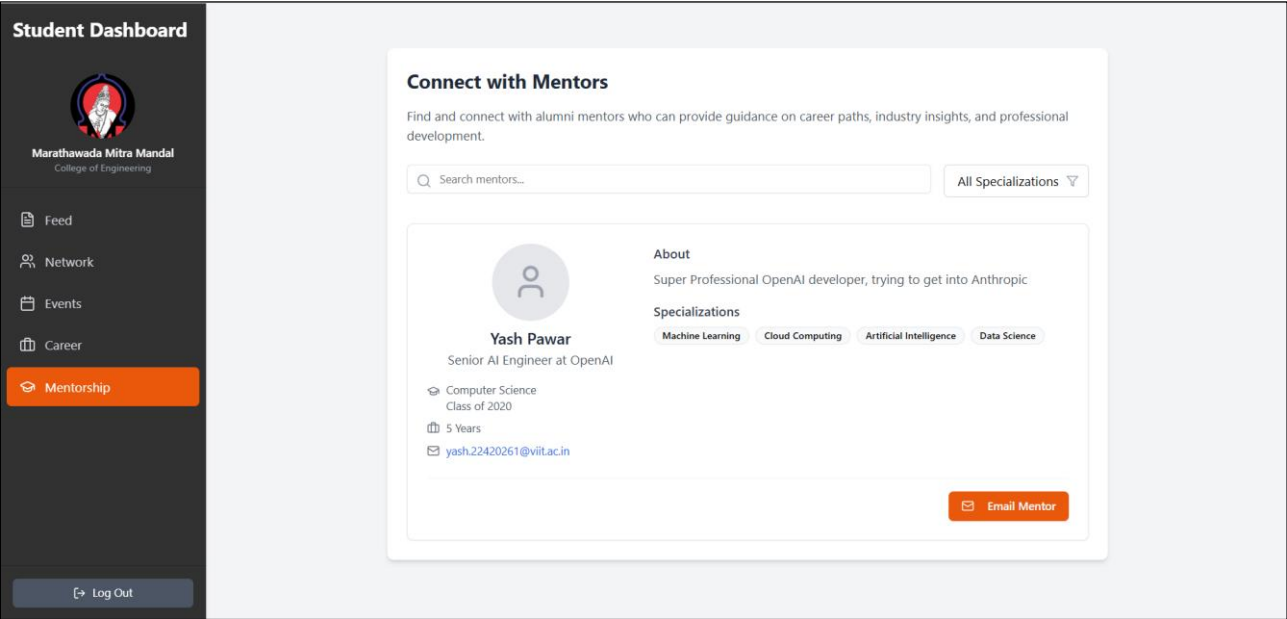Collection of common technical interview questions with solutions.
⬇ Download
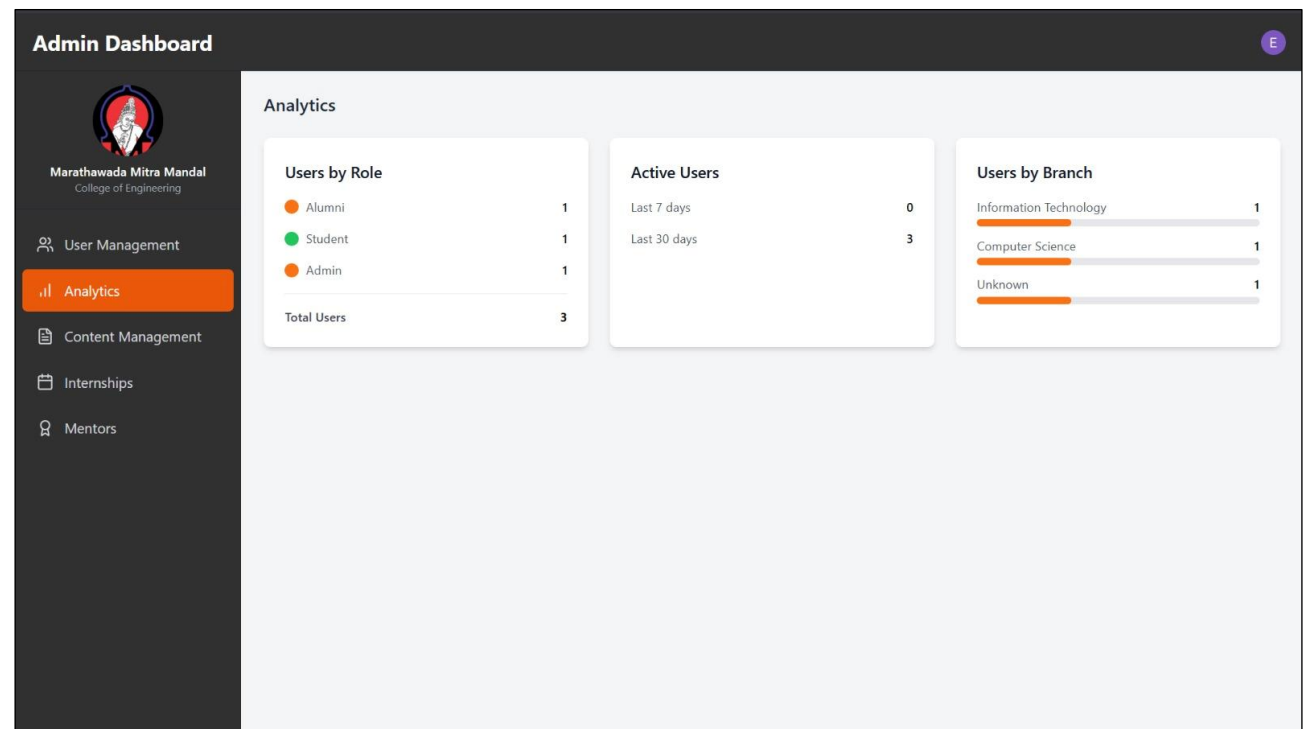
Additional Resources

Useful Links

↗ College Placement Cell Portal
↗ Industry Connect Program
↗ Skill Development Workshops

Admin Dashborad:

Admin Dashboard

E

Marathawada Mitra Mandal
College of Engineering

- User Management
- Analytics
- Content Management
- Internships
- Mentors

User Management

Search users...   Role: All ⌄

NAME	EMAIL	ROLE	BRANCH	YEAR	ACTIONS
Yash Tulse	rohann.connect@gmail.com	alumni	Information Technology	2024	Edit Delete
Demo 1	shinderohann02@gmail.com	student	Computer Science	2027	Edit Delete
Eren Yeager	notfunnyrohan0010@gmail.com	admin			

Admin Dashboard

E

Marathawada Mitra Mandal
College of Engineering

- User Management
- Analytics
- Content Management
- Internships
- Mentors

Content Management

Events

📅 Events Management   + Add Event

● **Alumni Meet**
📅 Mar 30, 2025   College Auditorium
Home Coming   ✓ ✎ 🗑

Alumni Stories

0 pending approval

Equal Justice Works Fellow, Center for Disability & Elder Law
By: demo (2024 - Electronics & Telecommunication)   🚫 Unpublish   🗑 Delete

Elisabeth Hieber has already made an impact in improving the lives of transgender, nonbinary, and gender non-conforming people.

Submitted on March 25, 2025   Published

Admin Dashboard

E

Marathawada Mitra Mandal
College of Engineering

- User Management
- Analytics
- Content Management
- Internships
- **Mentors**

Mentor Program Management

Mentor Applications

[All] [⚠ Pending] [⊘ Approved] [⊗ Rejected]   🔍 Search applications...

Total Applications	Pending	Approved	Rejected
1	**0**	**1**	**0**

Yash Tulse
rohann.connect@gmail.com   Approved 4/1/2025 ⌄

Admin Dashboard

E

Marathawada Mitra Mandal
College of Engineering

- User Management
- Analytics
- Content Management
- **Internships**
- Mentors

Internship Management

Post New Internship

Add New Internship Opportunity

Internship Title
e.g. Software Development Intern

Company Name
e.g. TechCorp Solutions

Location
e.g. Pune, Maharashtra or Remote

Type
Full-time ⌄

Duration
e.g. 3 months

Stipend
e.g. ₹15,000/month

Application Deadline
📅 Select deadline

Description
Describe the internship opportunity, responsibilities, and requirements...

Alumini Dashboard:

R

Marathawada Mitra Mandal
College of Engineering

- Feed
- Network
- Events
- **My Stories**
- Mentorship

My Stories

View, manage, and track the status of your submitted stories.

Approval Status

0	**0**	**0**
Pending	Published	Total

Your Submitted Stories   + Submit New Story

You haven't submitted any stories yet.

Share your journey and inspire others!

R

Marathawada Mitra Mandal
College of Engineering

- Feed
- Network
- **Events**
- My Stories
- Mentorship

Upcoming Events

Stay connected with your alma mater through various alumni events and gatherings.

Alumni Meet

📅 March 30, 2025 - 5:30 AM

Location: College Auditorium

Home Coming

Past Events

No past events to display.

Alumni Dashboard

R

Marathawada Mitra Mandal
College of Engineering

- Feed
- Network
- Events
- My Stories
- **Mentorship**

Mentorship Program

You are an approved mentor! Students can now request mentoring sessions with you.

Application Status

Thank you for applying to our mentorship program!

Your Specializations

Robotics

🗑 **Remove Mentorship**

CHAPTER-7
OTHER SPECIFICATION

7.1 Limitations:

While the Alumni Portal provides a functional platform for basic alumni and student interactions, it currently has several limitations:

- **No Messaging System Yet**: The platform lacks an integrated messaging system, making direct communication between users impossible without relying on external platforms.

- **Limited Admin Functionality:** Admins currently have restricted control over user management and content moderation. Features like event approvals, analytics dashboards, and advanced user role management are not yet implemented.

- **No Real-Time Chat or Notifications:** The portal does not support real-time features such as instant chat or notifications. Users are not alerted about new posts, replies, or connection requests, which affects engagement.

7.2 Applications:

Despite its limitations, the Alumni Portal has strong potential in various practical and professional areas:

- Alumni-Student Mentorship: Students can connect with experienced alumni for guidance, career advice, and skill development. This promotes a valuable mentorship culture within the institution.

- Job/Internship Recommendations: Alumni working in industry can post and share job or internship opportunities. Students can use the portal as a career-launching platform through trusted connections.

- Networking Platform: The platform serves as a digital space where students and alumni can network, collaborate on projects, discuss industry trends, and stay connected with the college community.

7.3 Challenges Faced

- ➢ Handling token expiration in email verification.

- ➢ Managing asynchronous backend tasks (email, auth)

- ➢ Responsive design for mobile screens.

7.4 Features:

- ➢ Authentication can be done upto 10000 unique users.
- ➢ for database as many users upto 512 MB(free)

REFERENCES

1] S. Q. Sabri, A. M. Ahmad, and M. B. Abdulrazzaq, "Design and Implementation of Student and Alumni Web Portal," *Science Journal of University of Zakho*, vol. 5, no. 3, pp. 272–277, Sep. 2017, doi:10.25271/2017.5.3.395.

[2] M. Arora, A. Negi, and M. S. Khan, "Student-alumni network web app," International Journal of Advance Research, Ideas and Innovations in Technology, vol. 8, no. 1, pp. 471–473, 2022.

3] Dr .v sathya, . P. Murugan and M. B. Abdulrazzaq, "Design and Implementation of Student and Alumni Web Portal," *Science Journal of University of Zakho*, vol. 5, no. 3, pp. 272–277, 14 April.2024, doi: 10.25271/2017.5.3.395

[4]S. S. Patil, A. Bhasme, P. Bobade, A. Barkade and P. Pore, "AlmaHub: An Engaging, Supportive Alumni-Students Interaction Platform," 2023 IEEE 8th International Conference for Convergence in Technology (I2CT), Lonavla, India, 2023, pp. 1-6, doi: 10.1109/I2CT57861.2023.10126226**.**