



Archives available at journals.mriindia.com

International Journal on Advanced Computer Theory and Engineering

ISSN: 2319-2526
Volume 14 Issue 01, 2025

Outcomes of Association with a Fellow in Advancing Technical Education

A. B. Gavali¹, Gophane Divya Anil², Gaikwad Pooja Mahesh³, Tupsamudre Pushpak Dattatray⁴, Bhukan Pritam Eknath⁵

¹Assistant Professor, S. B. Patil College of Engineering

²⁻⁵Department of Computer Engineering, Savtribai Phule Pune University

gophanedivya123@gmail.com, poojagaikwad4603@gmail.com, pushpaksamudre@gmail.com, bhukanpritam13@gmail.com

Peer Review Information	Abstract
<p><i>Submission: 15 Feb 2025</i> <i>Revision: 23 March 2025</i> <i>Acceptance: 27 April 2025</i></p> <p>Keywords</p> <p><i>Alumni Network</i> <i>Career Guidance</i> <i>Real-Time Interaction</i> <i>Professional Development</i></p>	<p>Higher education institutions must establish solid connections with their alumni. However, this is often done without relying on sufficient data to guide their decisions. To gain insights into what future graduates will value and enjoy, we seek to enhance teaching strategies, refresh course content, and stay current with emerging technologies. Ultimately, collaborating with this individual enables us to better equip students for successful careers in a technology-driven future.</p>

Introduction

University alumni can support their institutions in various ways, with financial gifts being one of the most valuable. But their involvement in university activities and events is also crucial. This participation is a key part of the foundation of higher education. Alumni also contribute by promoting their school through positive word-of-mouth. Because of this, universities should focus on maintaining strong connections with their alumni to ensure lasting relationships. By doing so, universities can provide meaningful benefits to their graduates.

Relationship marketing is a vital concept for universities and can be understood in different ways. In simple terms, it's about continuously working to attract, keep, and strengthen bonds with alumni and other stakeholders. The goal is to create ongoing value for both individuals and the wider community.

Literature Review

The paper discusses challenges faced by the University of Antique Tario – LimMemorial Campus (UA-TLMC), such as dispersed alumni, ineffective data management, limited communication, and a lack of tailored engagement. It suggests the development of a web-based alumni portal to bring alumni together, streamline data management, improve communication, and offer personalized interactions. Future upgrades might include AI and virtual reality features, expansion to a broader audience, studies on long-term impact, global benchmarking, and continuous updates to keep up with evolving needs.[1]

The paper points out problems with current college community platforms that don't offer special features for different roles like Super Admins, Alumni, and Students, which limits engagement. It suggests creating a platform with different functions for each role to improve interaction and build a more inclusive

community. The plan includes a web-based alumni portal to connect alumni, manage data better, and improve communication. Future updates will focus on making features better based on feedback, adding new networking tools, and regularly updating the platform to meet users' changing needs.[2]

The Alma Hub project plans to create a platform for alumni and students to connect through a mobile app and website. It will help bring them closer to the college by offering a space to interact and get updates on campus activities. Unlike other college portals, Alma Hub will have features for networking and job postings, along with a simple design and better customization to make it easier for alumni and students to stay in touch.[3]

The paper points out the gap between industry and academia, which slows down innovation, and mentions that alumni engagement is often not fully utilized to close this gap. It suggests a collaborative approach that uses alumni connections to improve communication and create more opportunities in research, recruitment, fundraising, and internships. Future efforts will aim to strengthen partnerships and continuously improve the approach based on feedback and changing needs.[4]

The paper talks about the problem universities face in helping students connect with alumni for career advice. It suggests creating a system that looks at students' academic records and alumni's work experience to suggest possible career paths. The system will use smart technology to improve communication between students and alumni. Future updates will aim to make the system more accurate, improve the technology, and add more career advice features along with links to industry information.[5]

The paper talks about the problem of updating alumni records and helping students with career advice. It suggests creating a social networking site where alumni and students can connect, share ideas, and keep records accurate. The platform will be easy to use. Future updates might include better security for data and mobile apps to make it more accessible and engaging.[6]

The paper talks about the challenge the Department of Electronics and Computer Engineering (DOECE) at Pulchowk Campus faces in keeping track of alumni because of old information. It suggests creating a web-based system where alumni can update their details and access online yearbooks, making it easier to stay connected. Future updates may include

better analytics, networking features, and changes based on feedback from users.[7]

The paper looks at how community college students and alumni see the value of their career and technical education, focusing on how it helps with financial independence and confidence. Researchers did a study to find the main benefits. In the future, they plan to expand the study to more programs, track long-term career effects, and use the results to improve community college programs and policies.[8]

The paper talks about the communication gap between students and alumni, which makes it harder to access opportunities. It suggests creating an interactive portal to connect students, faculty, alumni, and industry professionals. The portal will include features like an events calendar, job listings, a mentorship section, and a discussion forum. Future updates may include AI for personalization, new features based on feedback, and better security.[9]

The paper focuses on improving mentoring between alumni and students with the Smart Alumni System (SAS). This system helps connect users using social networking tools and suggests mentors based on data. A web prototype shows how the system works. Future plans include using better data techniques and adding more user roles to enhance mentoring and engagement.[10]

Limitations of existing system:

Here are some common limitations of existing alumni systems:

- Outdated Information
- Limited Engagement
- Inadequate Networking Features
- Poor User Experience
- Lack of Personalization
- Ineffective Mentorship Matching
- Limited Accessibility
- Security Concerns
- No Feedback Mechanism
- Insufficient Resourced support.

These limitations can hinder effective alumni engagement and support for current students.

Problem Statement

Many universities struggle to maintain strong connections with their alumni, affecting event participation, donations, and positive word-of-mouth. The main issue is the lack of effective strategies to engage alumni. To improve this, universities need to create personalized communication, tailored events, and recognition programs. Additionally, some specialized programs struggle to meet industry demands,

leading to graduates who are not fully prepared. There's also often a gap between new technologies and traditional teaching methods, limiting innovative teaching practices.

Proposed System

Here in this section we have cover the detailed information of proposed system. Here we will see objectives of proposed system along with architecture, hardware and software requirements, applications.

1. Architecture

Following Figure represents Architecture of our proposed system

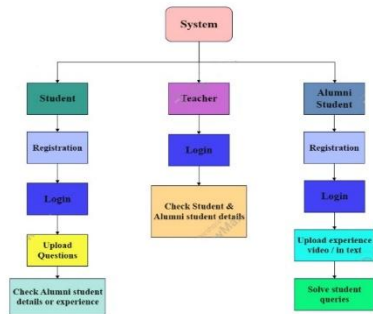


Fig1: Proposed System

2. Architecture Description

The system supports three user roles: students, teachers, and alumni. Students can register, log in, check alumni details, and upload questions. Teachers can view both student and alumni information. Alumni can register, log in, upload experience videos and texts, and answer student queries, fostering interaction and knowledge sharing.

3. Objective

Following are objectives of our proposed system:

- Enhance Curriculum Relevance
- Integrate Emerging Technologies
- Improve Accessibility
- Foster Continuous Professional Development
- Expand Access to Quality Technical Education
- Promote Innovative Research in Technical Education

4. Hardware and Software Requirements

- Operating System: Windows 10
- IDE: VS code
- Programming Language: Python
- System Processors: Core2Duo
- Speed: 2.4GHz
- Hard Disk: 150GB

5. Applications

- Here are the Applications of our project:
- Real-Time Alumni Contributions
- Career Pathway Mapping

- Alumni Spotlights
- Industry Collaboration Platforms
- Networking Apps
- Skill Development Workshops

Result Discussion

Here this section covers the result of implemented project.

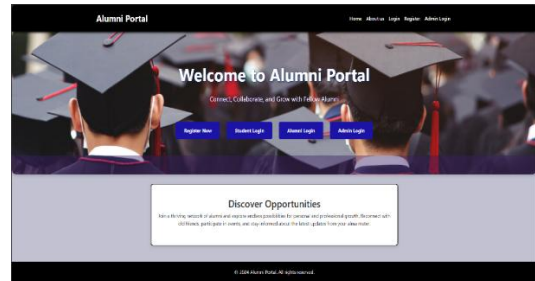


Fig2: Home Page

It provides easy access to registration, login options for students, alumni, and admins. The page helps users stay connected and explore opportunities.

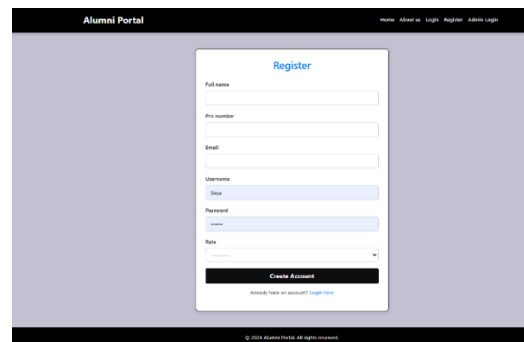


Fig3: Registration Page

Registration Page, where new users sign up by entering their details and selecting their role.

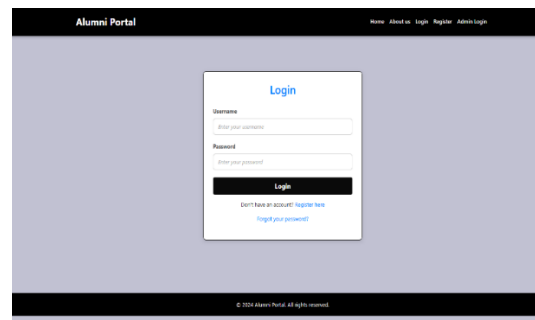


Fig4: Login Page

Where registered users securely log in to access the portal. It provides secure access for students, alumni, and admins, ensuring easy login and account management.

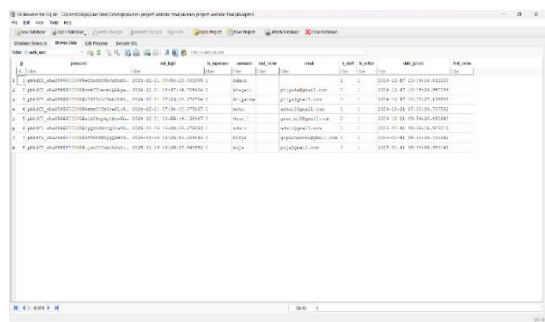


Fig5: Database

The db.sqlite3 database used in the Alumni Portal. It stores user details in the auth_user table, including id, username, email, and date_joined. This database helps manage user accounts and authentication.



Fig8: Notification and Events Dashboard

Notifications Events page shows important updates and upcoming events for alumni. It includes invitations, event details, and schedules, helping alumni stay connected and informed.



Fig6: Alumni Dashboard

Which serves as the main interface for users. It provides various functionalities such as updating profiles, posting jobs and internships, uploading notes, adding experiences, viewing funding details, and checking notifications. This dashboard helps alumni and students connect, share opportunities, and access important resources easily.

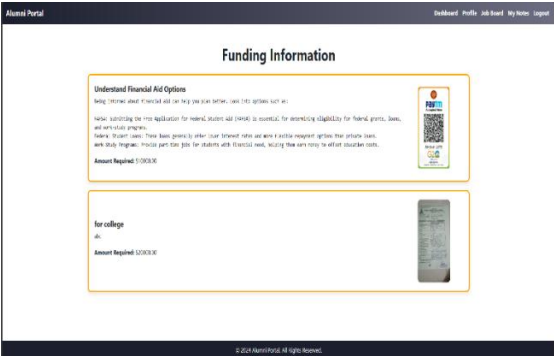


Fig9: Funding Dashboard

It provides details about financial aid, required amounts, and images for payment options. This helps students find support easily.

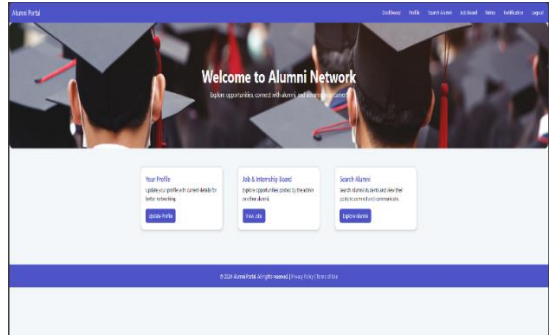


Fig10: Student Dashboard

Student Dashboard helps students connect with alumni and find opportunities. It has features like Profile Update, Job Internship Board, and Upload Notes. Students can update their details, apply for jobs, and share study materials. It is simple to use and easy to navigate.

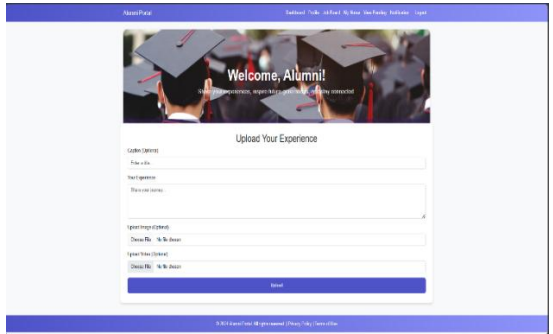


Fig7: Upload Experience

The Experience Page allows alumni to share their journey after graduation. It includes a form where users can enter a title, write about their experience, and upload images or videos. This helps alumni stay connected and inspire future students.



Fig11: Job Board

The Job Portal serves as a valuable resource for alumni looking for employment opportunities. It simplifies the job search process by providing detailed job descriptions and relevant application information in a single platform.

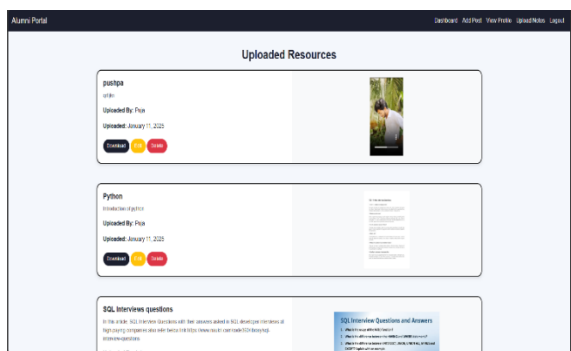


Fig12: Uploaded Notes Dashboard

The Uploaded Resources section shows shared files with details like title, uploader, and date. Users can download, edit, or delete files. It helps students and alumni share study materials easily.

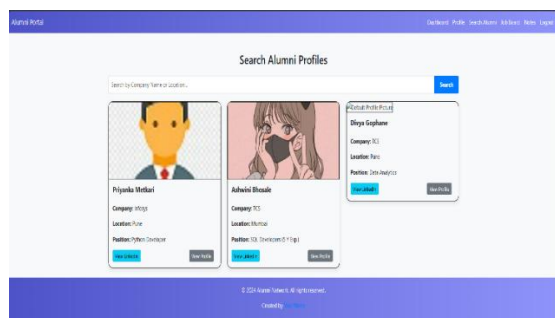


Fig13: Search Alumni Profiles

This Alumni Portal helps users search and connect with alumni based on company and location. It displays alumni profiles with details like name, company, job role, and location, along with options to view LinkedIn and full profiles. The top menu provides navigation to the dashboard, job board, and other features.

Conclusion

This result paper stresses the significance of higher education institutions in cultivating

strong, positive relationships with their alumni. It highlights that future alumni consider specific engagement activities to be both rewarding and enjoyable, which encourages them to maintain an ongoing connection with the university. By prioritizing these activities, universities can ensure continued alumni involvement and support.

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