

Digital College Platform for Mutual Empowerment

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Abstract—The Student Alumni Platform is an educational community designed to develop connections between students and alumni of an esteemed institution. It involves the current students and passed out alumni of the institution. This platform is helpful to make the students network, seek mentorship and have access to development resources which help the student to grow and learn. The alumni can offer guidance, share job opportunities, and contribute to their institution and students. By using this platform, the gap between student and alumni is solved and provides a seamless and interactive interface. The necessary features that are included in the platform are creating user profile, login, student dashboard, alumni dashboard with sending connection requests and messages. The platform is built by using HTML, CSS and JavaScript. As the platform evolves, future enhancements will further enrich user engagement by using more enhanced features like advanced messaging and group chats, LinkedIn integration, mobile access, and more features to help make the application more dynamic and dependent to the users. It also helps in building lifelong relationships by promoting the connections between student and alumni.

Index Terms—Student Alumni Platform, Networking, Career Guidance, Web Application, Education System.

I. INTRODUCTION

In recent years, the rapid advancement of digital technology has transformed the education sector. Educational institutions are increasingly adopting digital platforms to improve communication, collaboration, and information sharing among students, faculty members, and alumni. A Student Alumni Platform is an important system that helps connect current students with former graduates of an institution. Such platforms create opportunities for mentorship, career guidance, knowledge sharing, and professional networking.

Many students face difficulties in finding proper career guidance, internships, and job opportunities during their academic journey. Alumni, who already have professional experience in different industries, can play a significant role in guiding students and helping them understand real-world career paths. However, in many institutions, communication between students and alumni is limited due to the lack of a structured platform.

To address this problem, the Digital College Platform for Mutual Empowerment is proposed as a web-based solution that enables efficient interaction between students and alumni. The platform allows users to create profiles, connect with each other, exchange messages, and share opportunities such as internships, jobs, study materials, and other resources. It also supports collaboration in academic activities such as webinars, workshops, and mentoring sessions. Furthermore, the integration of intelligent technologies such as machine learning can enhance the platform by providing personalized job recommendations based on student profiles and skills. By creating a centralized and interactive system, the platform strengthens relationships between students and alumni while promoting knowledge exchange, career development, and institutional growth.

II. LITERATURE REVIEW

In recent years, several systems have been developed to enhance digital interaction within educational institutions by focusing on student services, alumni engagement, and administrative control.

In paper [1], Sharma et al. proposed a digital academic platform that allows students to access study materials and participate in online activities. The system improves accessibility and reduces

manual work. However, it does not provide features such as buying and selling of academic resources or user generated content like blogs and success stories.

In paper [2], Patil and Kulkarni developed a college management system that enables administrators to monitor student data and activities. The system improves control and record management but lacks real-time interaction between students and alumni.

In paper [3], Gupta et al. introduced a campus-based marketplace system where students can buy and sell used books and study materials. This system provides a secure environment for transactions, but it is limited only to marketplace functionality and does not include academic or career related features.

In paper [4], Mehta and Shah proposed a job portal system designed for students, where job opportunities and internships can be shared. Although it supports career development, it is not integrated with alumni interaction or student activities within a college environment.

In paper [5], Kumar et al. developed a blogging and content sharing platform that allows users to post articles and share experiences. This system enhances knowledge sharing but lacks structured academic integration and monitoring features.

In paper [6], Desai et al. introduced an alumni interaction system that enables alumni to connect with students and share career guidance. The system helps in building professional networks but does not include features like marketplace or centralized monitoring by the college.

In paper [7], Joshi and Patwardhan proposed an integrated student platform combining multiple features such as communication, resource sharing, and basic administration. However, the system still lacks a complete integration of student marketplace, alumni contributions like job posts and blogs, and administrative monitoring in a single platform.

From the above studies, it is observed that most existing systems focus on individual functionalities such as marketplace, job portals, blogging, or administration. There is no unified system that integrates student activities (buy/sell), alumni contributions (jobs, blogs, success stories), and college monitoring into a single platform.

Therefore, the proposed Digital College Platform for Mutual Empowerment aims to provide a comprehensive system that integrates all these modules, enabling students, alumni, and college

administration to interact efficiently within a secure and centralized environment.

III. SYSTEM ARCHITECTURE

- Login/Sign Up
 - This is the entry point of the system where users (students, alumni, or general users) can either register for a new account or log in with existing credentials.
 - It ensures authentication and user identity management before granting access to the system.
- User Interface
 - After logging in, users interact with the system through the User Interface (UI).
 - This component provides an organized and intuitive layout, enabling users to access different sections like Jobs, Books, and Gadgets.
 - It acts as a central hub that connects users to all other functional modules.
- Job Module
 - The Job section allows users to explore employment or internship opportunities.
 - This section is supported by Machine Learning (ML) Models that can recommend relevant job openings or match candidates based on their profiles and skills.
- Books Section
 - The Books Section enables users to browse, borrow, or purchase books.
 - It is directly linked to the Payment component, which handles financial transactions for book purchases.
- Gadgets Section
 - The Gadgets Section provides options for users to view and buy gadgets or tech products.
 - Like the Books Section, it connects to the Payment module for secure payment processing.
- ML Models
 - These models are primarily linked with the Job module.
 - They are responsible for providing intelligent recommendations, job matching, and analytics to enhance the user experience.
- Payment
 - The Payment component manages all financial operations, including transactions for books and gadgets.

- It ensures secure and smooth processing of user payments.

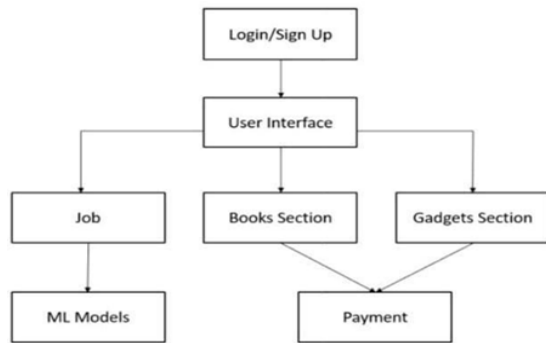


Fig. System Architecture

1. Frontend (User Interface):

- Technologies: HTML, CSS, JavaScript, Bootstrap, AJAX
- Purpose: User interaction, product display, shopping cart, and checkout interface.

2. Backend (Server Side):

- Technologies: PHP
- Purpose: Business logic, authentication, and database operations.

3. Database:

- Technologies: MySQL
- Purpose: Storing student data, products, orders, and alumni details.

4. Payment Gateway Integration:

- Secure transaction handling (UPI QR Code).

IV. METHODOLOGY

The proposed Digital College Platform for Mutual Empowerment is developed using a modular approach that integrates Student, Alumni, and Admin functionalities into a single system. The system follows the Software Development Life Cycle (SDLC), including requirement analysis, design, implementation, and testing. Data Flow Diagrams (DFD) are used to represent system flow and interaction between users. The student module allows users to register, buy/sell books and gadgets, and view jobs, blogs, and success stories. The Alumni module enables posting of jobs, blogs, and success stories, along with student interaction. The admin module monitors all activities, manages users, and generates reports. A centralized database is used to store user data, marketplace details, and job-related information, ensuring efficient data management.

V. RESULT AND DISCUSSION

The proposed Digital College Platform for Mutual Empowerment was successfully designed to integrate student, alumni, and administrative functionalities into a single system. The platform enables students to buy and sell books and gadgets, while alumni can post job opportunities, blogs, and success stories.

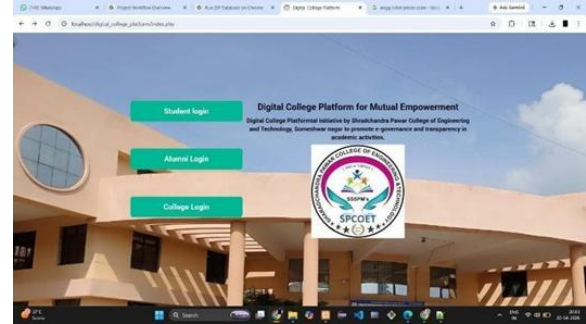


Fig. Homepage

The student panel, includes both buyer and seller functionalities. Students can view available books and gadgets listed by other users and purchase them as per their requirements. At the same time, students can also act as sellers by uploading product details such as item name, description, and price. This module provides a simple and secure platform for internal buying and selling within the college.

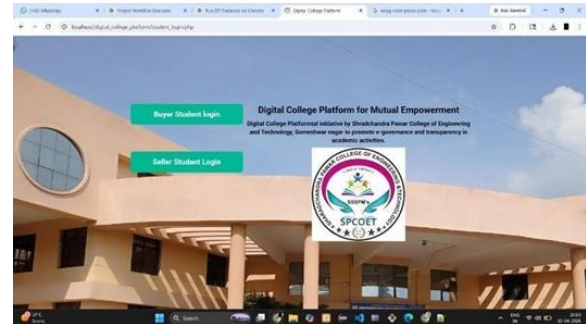


Fig. Student Panel

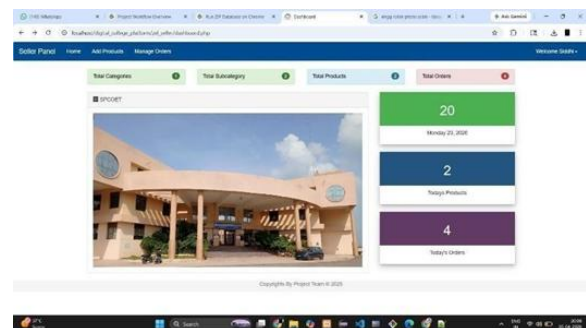


Fig. Seller Dashboard

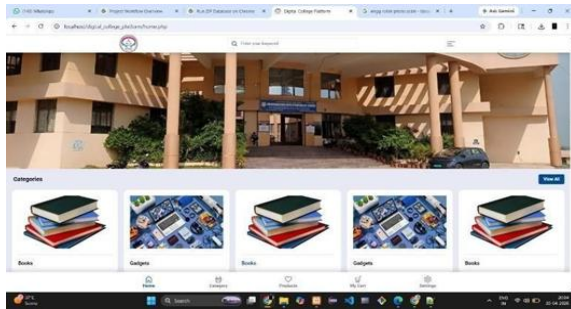


Fig. Buyer Dashboard

The alumni login module provides secure access to registered alumni users. In this module, alumni can enter their login credentials such as email ID and password to access the system. After successful authentication, they can use various features like posting job and internship opportunities, sharing blogs and success stories, and interacting with students. This module ensures that only authorized alumni can access and contribute to the platform.

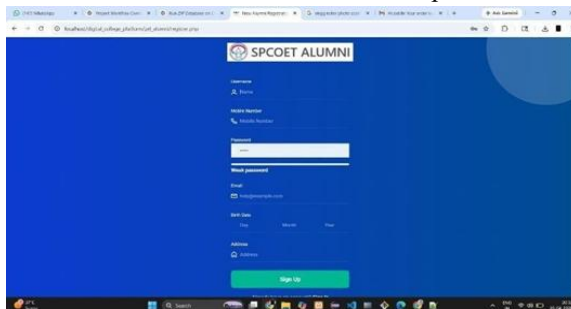


Fig. Alumni Login

The admin panel is responsible for managing and monitoring the overall system activities. In this module, the admin can view and control the activities of both students and alumni. The admin can manage user accounts, monitor buy/sell transactions, and review job postings, blogs, and success stories shared by alumni. This module also allows the admin to generate reports and ensure that the platform is used properly and securely.

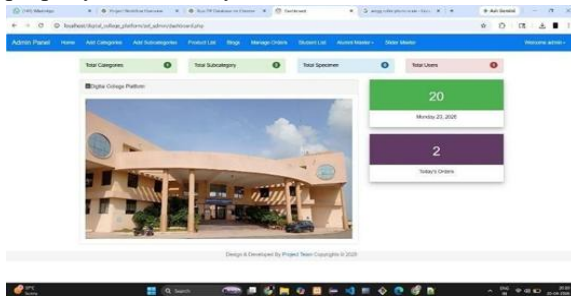


Fig. Admin Panel

The payment module enables students to perform secure transactions while buying books and gadgets through the platform. It allows users to proceed with payment after selecting a product from the marketplace. The system ensures that transaction details are handled safely and confirms successful payments. This module provides a smooth and reliable payment experience for users within the college environment.

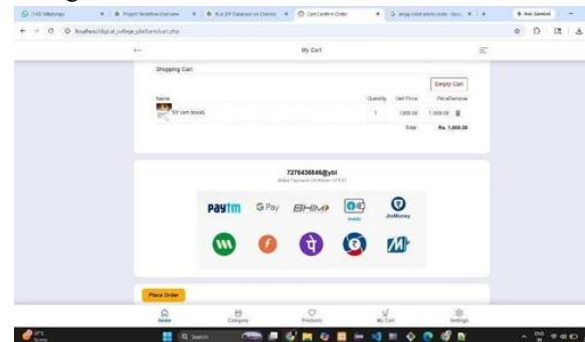


Fig. Payment Module

The order successful module confirms that the user's purchase has been completed successfully. After the payment process, the system displays a confirmation message to the user. It ensures that the order details are processed correctly and provides assurance to the buyer. This module improves user experience by giving clear feedback about the successful transaction.

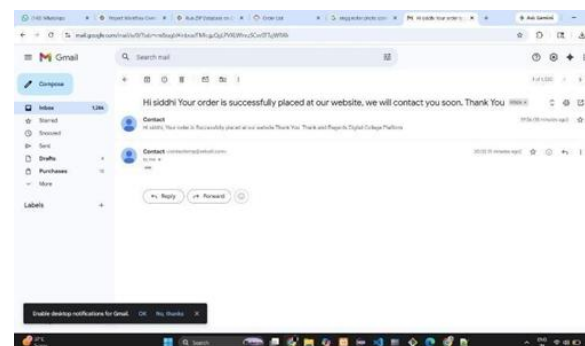


Fig. Order Successful

VI. APPLICATIONS

- Colleges and Universities: Useful for building strong student–alumni networks that support knowledge sharing, mentorship, and career growth.
- Placement and Training Cells: Helps in posting job openings, internships, and training opportunities directly to students.

- **Student Communities:** Facilitates collaboration among students through project sharing, discussions, and peer learning.
- **Alumni Associations:** Enables alumni to organize mentorship programs, events, and networking sessions.
- **Educational Resource Exchange Systems:** Allows sharing of study materials, e-books, and academic resources between students and alumni.
- **Career Guidance Centers:** Provides a platform for experts and alumni to guide students in career planning and skill development.
- **Event Management Units:** Helps in promoting and managing college or alumni events such as webinars, workshops, and reunions.
- **Online Learning Platforms:** Can be integrated for hosting online sessions, tutorials, and knowledge exchange between alumni and students.
- **Research and Innovation Cells:** Supports collaboration between students, faculty, and alumni in research projects and innovations.
- **Corporate Partnerships:** Strengthens links between academia and industry by allowing alumni in corporate roles to share job openings and internships.
- **Community Outreach Programs:** Encourages alumni and students to participate in social and community development initiatives.

VII. CONCLUSION

The proposed system successfully integrates student, alumni, and admin functionalities into a single platform. It improves communication, provides a secure marketplace, and supports career opportunities through alumni contributions. The system reduces dependency on multiple platforms and ensures better management and monitoring. Overall, it enhances the efficiency, usability, and interaction within the college environment.

VIII. FUTURE WORK

The proposed system can be further enhanced by adding advanced features to improve usability and performance. In future, a mobile application can be developed to provide easy access to users anytime and anywhere. Secure online payment gateways can

be integrated to make transactions safer and more reliable. Artificial Intelligence techniques can be used to recommend suitable jobs, blogs, and products based on user preferences.

The platform can also include a rating and review system for buyers and sellers to improve trust. Video conferencing or live session features can be added for better interaction between students and alumni. Additionally, the system can be expanded to support multiple colleges, creating a wider network for collaboration and opportunities. Continuous updates and security improvements can make the system more efficient and user-friendly.

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