
SETU: ALUMNI-STUDENT NETWORKING PLATFORM EXCLUSIVELY FOR OUR COLLEGE

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ABSTRACT

In today's fast-paced professional landscape, networking has emerged as a key career influencer for students. Even though LinkedIn provides a global platform, it fails to cater to the specific needs of students who look for guidance from alumni of their respective institutions. To bridge this gap, we propose Setu-a dedicated alumni-student networking platform exclusively designed for Poornima College. Unlike the conventional social networks, which insist upon formal connection requests, Setu allows juniors to connect directly with alumni and enables open, barrier-free interaction. The system will be designed to enable frictionless connections by implementing a number of key features. [1]The Direct Messaging System allows students to connect directly with alumni for mentorship or career advice or insights from the industry. It serves as a centralized space in the form of a job board through which alumni can share job openings, internships, and referral opportunities with students who need direct access to career opportunities within their fields. The mentor module encourages alumni to guide the student, for example, in terms of project development, exam preparation, and industry-specific skills; thereby, creating a culture of learning and growth. A Secure Authentication System authenticates each user as a current student or alumni of Poornima College for maintaining the integrity and security of the platform. [2]This way, users interact in a safe and trusted environment. With all functions of networking, mentorship, and job search integrated into one place, Setu saves time and effort on the part of the students but also strengthens the relationship between the alumni and the alma mater. This would bring about an increased engagement, foster a collaborative community, enhance placement opportunities, and consequently contribute to the overall success of both students and alumni.

Keywords- Alumni-Student Networking Platform, Direct Communication, Job Opportunities and Referrals

1. INTRODUCTION

Networking has become a significant factor that can influence the professional success of students and recent graduates in today's highly competitive job market. Meaningful connections with industry professionals, mentors, and alumni can significantly enhance the access to career opportunities, internships, and valuable guidance. Traditional networking platforms like LinkedIn, however, can pose various challenge for students, especially those at an early stage in their career development. These networks focus on formal linkages, which may become an access barrier for students who may be reluctant to contact established professionals. Further, the generic nature of these networks does not identify specific needs toward networking between and among students and alumni from the same institution.[3]

To overcome these deficiencies, we propose Setu - a dedicated alumni-student networking platform designed exclusively for Poornima College. The primary objective of Setu is to bridge the communication gap between current students and alumni, fostering an environment of open, accessible, and barrier-free interaction. By removing the necessity of formal connection requests and providing a direct communication channel, the platform is looking to create a supportive ecosystem where students can easily seek mentorship, job referrals, and career advice from alumni. Networking within a college-specific community offers several advantages over traditional platforms. Alumni share a common background and understanding of the academic environment, making them more approachable and relatable to current students. Additionally, alumni who have transitioned successfully into professional roles can offer practical insights, industry-specific knowledge, and guidance on navigating career challenges that are particularly relevant to students of their alma mater. This will bring many long-term benefits for students and alumni. For students, the platform will provide direct access to a network of professionals who can offer guidance, support, and career opportunities that are tailored to their academic background and aspirations.[4] For alumni, Setu offers an opportunity to give back to their college community by mentoring and assisting the next generation of graduates, thereby strengthening their connection with their alma mater.

In a nutshell, Setu aims to revolutionize the way students and alumni interact by providing a dedicated, college-specific networking platform that facilitates seamless communication, fosters mentorship, and enhances access to career opportunities. [5]Through the collective knowledge and experience of the alumni community, Setu seeks to empower students with the resources and connections necessary for their professional growth and success.

2. METHODOLOGY

The approach to this study is based on identifying and developing a pilot Digital Information Management System that will unambiguously address the challenges and drawbacks of an obsolete system for student information management. The approach is segmented into several ordered tasks to guarantee the availability, reliability and, security of the system.

A. Requirement Analysis:

The project starts with the requirement analysis phase. This involves the gathering of inputs from the different facets in the University such as the teaching faculty, the administration and the IT department. The purpose is to determine crucial system requirements including easy and fast access to student information, improved search functionality, user rights management and exposition to future demands on the system. Questionnaires, individual and focus group interviews are conducted to get thick descriptions of the existing problems and expected changes.

B. System Design:

According to the analyzed requirements, the focus on system design is in establishing an optimal and modifiable system design. The design includes three core components:

- **Real-time Data Synchronization:** Makes sure that changes of student records occur without gaps or delays through all system interfaces.
- **User-Friendly Interface:** Has simple interfaces for navigation, control, and learning that are optimized for learning, academic, and administrative tasks from the perspective of different user categories including faculty, administrators, students, and others.
- **Search Mechanism:** Extensively optimized to support quickly the right student information in a suitable form and format. This way, the system enables filtering data result in accordance with specific parameters as: students' names, their grades, enrollment status, as well as their attendance records.



Fig 1 : Diagram Of System Design

C. Implementation:

The implementation phase and create a system that is new generation based on the modern development frameworks and tools. Therefore, technologies are chosen in a way that provides scalability, high performance, and high-security measures so that the developed platform fits all concepts of functional and non-functional requirements.

- **JavaScripts:** The system is built using **js**, ensures fast performance, improved SEO, and a scalable architecture for handling high volumes of student data.
- **PHP :** PHP is a server-side scripting language often used for creating websites. PHP can be directly placed in HTML code, which makes it particularly suitable for web development. PHP also has extensive support for a wide number of databases, including MySQL, Oracle, and PostgreSQL, which makes it a powerful tool for building complex website .
- **Database:** Presently relational databases are in common usage, whereas object-oriented databases are coming into view as a next generation of database technology. A methodology is provided in this paper to ensure proper sharing of information in object-oriented databases and relational databases. Object-oriented data model is chosen as a standard data model to develop an integrated picture of the heterogenous databases. An object-oriented query language serves as a standard query language. An algorithm is developed for converting a relational data definition to an equivalent object-oriented data definition and merging local data definitions. Two methods for distributed query processing are derived. One for the general query and the other for a special category of restricted queries. With the techniques derived, one is able to make use of distributed object-oriented databases and relational databases in a manner such that locations and structural discrepancies of the databases are transparent to users.

D. Role-Based Access Control (RBAC)

The system can be supplemented with role based access control system to control the permission for access to different information. User roles include an administrator, a faculty member, and/or a student, and system content and functional capabilities are protected by the role of the user. This means observance with the provisions on the protection of data; the safeguarding of student records; and discouragement of entry by unauthorized personnel. [6] The role assignment and verification are also supported by the Firebase Authentication as well.

3. COMPARSION BETWEEN SIMILAR PROJECTS

Numerous education networking and management tools are used for communication between students, the faculties, and alumni as well as in managing student data and their career-related resources. More traditional university portals are, being administrative in nature, catered to students and make academic records, class schedule, and campus announcements easily accessible. But these portals do not carry interactive facilities, thus allowing in real-time interaction with alumni or personalized mentorship options, which results in less effective relationship generation. Moreover, institutions' databases of alumni only provide basic contact information, and they are usually very outdated, without any available direct interaction or engagement.

Traditional University Portals:

Most universities and colleges rely on traditional student portals to handle administrative activities like maintaining academic records, tracking attendance, scheduling examinations, and announcing events on campus. These portals, however, are best suited to the simple management of the academics and are central forums for the most important kind of student information. They can't really do much more than that though. One major drawback of these systems is the absence of interactive networking abilities. These are mainly designed to support management .

Social Media Platforms (e.g., LinkedIn, Facebook Groups):

LinkedIn and Facebook Groups have become integral tools for professional networking and connecting with a wide range of people, from industry professionals to alumni and recruiters. This means that students can expand their networks beyond the immediate surroundings and gain access to a global pool of potential connections. The specific use of LinkedIn has mainly been for professional branding, applications, and discussions on general industries, but in Facebook Groups, students discuss topics in informal ways of sharing and receiving advice. This is a helpful medium of connection that contributes to aiding them as they connect with professionals as well as learn about specific areas in the course of their career pursuits.

However, even though these platforms are very widely used, they are not necessarily designed for the needs of particular institutions. Thus, in most cases,

students end up struggling to connect with alumni from their particular college. The absence of an institution-specific network makes it hard for students to find relevant connections out of a sea of profiles, thus making it time-consuming and inefficient. Another important reason is that platforms like LinkedIn sometimes make it difficult for the user to send direct messages without having a premium account or being mutual friends with the recipient. This restricts the potential of the students to hold meaningful discussions with alumni or professionals, unless they already are part of their network. Furthermore, job posts on these platforms are often general and do not fit the needs of students in a specific institution. It implies that a student may not always find jobs that correspond to their academic background, skills, or even career objectives.[7]

Alumni Databases:

Many colleges and universities maintain alumni databases as part of their administrative functions. These databases usually contain basic contact information like the name, email address, year of graduation, and sometimes, major or profession of the alumni. The main purpose of these databases is to enable the institution to keep in touch with its alumni for a variety of reasons, such as event invitations, fundraising campaigns, and general institutional updates.[8] They provide a central data repository to record the changing addresses of alumni and guarantee that the institution is able to reach them whenever required. These administrative databases Traditional alumni databases fail to serve a more crucial limitation-that is, the tendency toward being static and, subsequently, outdated. These databases are mainly used as contact lists, but they do not allow direct communication between students and alumni. This becomes a massive issue when students need guidance from alumni, mentorship or career advice, as they often have no means to reach out to them through these static lists. Further, these databases are not updated in real-time, and so their contact details might no longer be accurate, which is another problem through which students cannot get the support from alumni at any specific time.

Job Portals and Career Services:

Many colleges and universities maintain alumni databases as part of their administrative functions. These databases usually contain basic contact information like the name, email address, year of graduation, and sometimes, major or profession of the alumni. The main purpose of these databases is to enable the institution to keep in touch with its alumni for a variety of reasons, such as event invitations, fundraising campaigns, and general institutional updates. They provide a central data repository to record the changing addresses of alumni and guarantee that the institution is able to reach them whenever required. These administrative databases but they never help to initiate any productive interaction between the alumni and the students. Traditional alumni databases fail to serve a more crucial limitation-that is, the tendency toward being static and, subsequently, outdated. These databases are mainly used as contact lists, but they do not allow direct communication between students and alumni. This becomes a massive issue when students need guidance from alumni, mentorship or career advice, as they often have no means to reach out to them through these static lists. Further, these databases are not updated in real-time, and so their contact details might no longer be accurate, which is another problem through which students cannot get the support needed from alumni at any specific time.

4. TECHNOLOGY USED

Some of the technologies that can be integrated to enhance job portals and career services, which can help in overcoming their limitations, are going to improve the experience for students and provide more personalized and efficient services. Here's a breakdown of the key technologies that could be used to improve these systems, particularly in the context of Setu:

Frontend Technologies

JavaScript: is the main technology used to build the frontend of SETU. Its component-based architecture allows for modular development, ensuring that the app is both scalable and maintainable. React enables dynamic user interfaces where each component is independently updated without reloading the entire page. This results in a smoother, faster experience for users. It also optimizes performance by reducing direct interaction with the real DOM, thus making the app responsive, especially when updating lists or making real-time changes. The feature of re-rendering only affected components means SETU can handle complex interactions in UI, such as real-time synchronization or collaborative edits, without affecting performance.

Responsive Design: The responsive design techniques implemented ensure that Setu can be accessed across different devices, such as smartphones, tablets, and desktops. Frontend uses the CSS frameworks, such as Bootstrap, that provide flexible grid systems which automatically adjusts to screen sizes. In this way, all users regardless of the device will be provided with an optimal view. This will then dynamically resize elements and reconfigure layouts to maintain usability on any screen, thus allowing users to access their shopping lists anywhere.

Php:

PHP is a scripting language that runs on servers and is frequently used for creating websites. It was developed by Rasmus Lerdorf in the middle of the 1990s and has since grown to be one of the most well-liked programming languages for creating dynamic web applications. PHP is available to developers of all experience levels because it is open-source and cost-free to use. PHP can be directly inserted into HTML code, making it especially well-suited for web development. Additionally, PHP supports a large number of databases, such as MySQL, Oracle, and PostgreSQL, making it a potent tool for creating intricate web applications. This paper has an introduction to PHP programming language, what PHP stands for, what PHP is employed for, who employs it, its pros and cons, its syntax, and why it is in favor among other languages. There are some additional features in this paper to make it easy for you to know the PHP programming language. These are ten reasons to learn PHP and the applications of PHP programming.

Mysql (Database connectivity):

a relational database management system (RDBMS), its reliance on Structured Query Language (SQL) for data manipulation, the core concepts of tables, rows, columns, primary keys, foreign keys, constraints, different data types, and its ability to manage complex relationships between data entities, enabling efficient data retrieval and analysis through queries; also, highlight its open-source nature, scalability, and performance optimization techniques like indexing and query optimization strategies. Key aspects of Relational Model data into tables with rows and columns, where each table represents an entity and columns represent attributes of that entity, allowing for relationships between different tables through foreign keys. SQL (Structured Query Language) as the primary language used to interact with a MySQL database, including operations like SELECT, INSERT, UPDATE, DELETE, and how it enables querying and manipulating data. importance of designing a well-structured database schema, considering normalization principles to avoid data redundancy and ensure data integrity. primary keys (unique identifiers for each row in a table) and foreign keys (columns that reference the primary key of another table), which establish relationships between tables..

5. CONCLUSION

The Setu platform is an innovative solution to connect Poornima College students and alumni, facilitating seamless and efficient connectivity to seek mentorship and career opportunities. Unlike traditional alumni databases and general job portals, Setu focuses exclusively on the Poornima College community with tailored features that cater to the specific needs of students. It empowers students to connect directly with alumni, enabling them to seek mentorship, career guidance, and job referrals in a user-friendly environment. The design of the platform ensures that students can access real-time information about job and internship opportunities, curated specifically for them based on their academic background and career goals. This targeted approach provides a much more relevant and efficient job search experience when compared to generic platforms, such as LinkedIn or Facebook groups.[9]

Setu uses the latest tech stack to provide for a robust and scalable platform. Technologies such as HTML5, CSS3, and JavaScript are used for creating an interactive and responsive interface on the front-end while ensuring students have a seamless and intuitive experience across devices. These front-end technologies are complemented by popular frameworks such as React.js or Vue.js, which provide dynamic updates of content, smooth navigation, and a very interactive user interface. APIs are also very crucial in fetching real-time data, especially for job listings and alumni interactions, making sure users are always connected with up-to-date information. On the back-end, Node.js or Python-based frameworks run on the platform to carry out server-side operations in order to manage data properly.[10] This system is integrated with algorithms in machine learning to allow personalization in recommending suitable mentors or job Opportunities according to students' specific aspirations for their careers. By integrating these next-generation technologies, Setu offers an innovative solution for enhancing the interaction between students and alumni, making the process of career development and networking more personalized, targeted, and impactful. Given its unique set of features and continuous improvements, Setu is the future-proof solution that helps students unlock their career potential with ease and efficiency.

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