PROJECT REPORT ON

Alumni Management System

Submitted in the Semester VI Exam

Degree of

B.Sc COMPUTER SCIENCE(HONOURS)

Under the guidance of

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(S.A.C.T)

Submitted by

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CERTIFICATE

This is to certify that the dissertation is the record of Final Year Project, entitled "Alumni Management System" undergone at Bangabasi Morning College, University of Calcutta carried out by Prasenjit Paul (Roll No. 203144-21-0111), Koushal Saha (Roll No. 203144-21-0041) and Krishnendu Bhunia (Roll No. 203144-21-0040) of the Department of Computer Science, Bangabasi Morning College, for the partial fulfilment of the award of the degree of Bachelor of Science (Session 2020 - 2023) by University of Calcutta in the year 2023 under my supervision and guidance. To the best of my knowledge, the results embodied in this report, are original in nature and worthy of incorporation in the present version of the report for B.Sc programme in Computer Science. This report is not being submitted elsewhere for examination by other students except them.

_____

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ACKNOWLEDGEMENT:

First of all, we, Prasenjit Paul, Koushal Saha and Krishnendu Bhunia of B.Sc Honours Computer Science semester VI, would like to express our profound sense of gratitude towards our Project Guide Mr. Bhabani Prasad Roy, Professor, Department Of Computer Science, for his able guidance, support and encouragement during the course of our final year project : College Alumni Management System. This project work was undertaken in partial fulfilment of the requirements for the award of the degree of Bachelor of Science from Bangabasi Morning College, University of Calcutta.

We are deeply indebted to our Project Guide for giving us this opportunity to work on this project and for his kind help and support to develop an understanding of the subject and making a clear knowledge by providing necessary insight. His readiness for consultations at all times, his educative comments, his concern, concrete support have been invaluable.

Lastly, we would like to thank the entire faculty of the Department of Computer Science of our college for cultivating a healthy and creative environment to work in the project.

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1. Abstract:

The Alumni Management System project aims to develop a comprehensive and easy-to-use platform for managing the institution's alumni network. The system facilitates alumni to create and maintain their profiles, communicate with each other, and remain informed of the college's recent news and events. The system provides 2 sides of users UI, which are the admin side and the alumnus/alumna's side. The platform provides advanced features such as job opportunities posted by other alumni or admin, upcoming event management, and a discussion forum. The details of the students can be got in just few mouse clicks. Alumni will need to register to the website and this process will need the verification of the college management in order to enlist the alumnus/alumna in the website user. After the admin will verify the user as an alumnus of the college the alumni user can begin to explore the features or functionalities of the system on their side.

It is a web enabled system developed in PHP and powerful MYSQL database backend. The system helps the institution to establish a strong connection and long-term relationships with its alumni, promoting the college's reputation and creating a sense of communication, engagement, and networking opportunities among its members.

2. Introduction:

The College Alumni Management System project, an innovative and purpose-driven platform that aims to establish and nurture a strong bond between our esteemed educational institution and its esteemed alumni community. With a vision to create a thriving ecosystem for graduates, this system offers a seamless and user-friendly interface, empowering our alumni to remain connected, share their achievements, and actively participate in the college's continued growth and success.

The College Alumni Management System project is built on the foundation of fostering meaningful relationships, knowledge sharing, and professional opportunities among our graduates. Through inspiring galleries, interactive forums, and engaging events, this project serves as a conduit for alumni to showcase their accomplishments, provide mentorship, and collaborate with each other and current students.

Our mission is to create a dynamic and vibrant alumni community, where every graduate can take pride in their alma mater, stay updated with the latest developments, and embark on a journey of lifelong learning. We believe that by leveraging modern technologies and user-centric design, our alumni management system will become a valuable resource for both alumni and the college, strengthening our ties and collectively contributing to a brighter future.

3. Domain Description

It is a web-based application developed in php 5.0/MySQL Maria db version 5.02 on Apache server. The front end has been designed and validated using HTML, CSS, JavaScript, the backend is handled by php (Hypertext Preprocessor) and for database we uses MySQL which is an open-source technology.

The different aspects of the project are to view various features available as-The Alumni Gallery is a feature that allows alumni to showcase their college life, the success stories of past graduates , achievements by uploading pictures. The Alumni Forum is a dynamic discussion platform where alumni can engage in various topics of interest. Courses aspect offers lifelong learning opportunities for graduates. The Job section of the Alumni Management System connects alumni with potential employment opportunities. Alumni can post job openings within their organizations, and fellow graduates can apply for these positions. There is also a chat implementation feature is available which enables real-time communication and networking among alumni.

4. Motivation of this project:

The motivations behind the development of a Alumni Management System project are rooted in several key benefits:

1. This project aims to foster a strong sense of belonging and engagement among alumni by providing them with a dedicated platform to stay connected with their respected teachers.

2. This management system seeks to create a vibrant and active alumni community. By offering features like alumni galleries, forums, courses, jobs, and chats.

3. This project aims to celebrate the success stories and achievements of alumni.

4. It allows graduates to continue their education and professional development even after graduation. Lifelong learning opportunities can enhance alumni skills, keeping them up-to-date with industry trends and advancements.

5. By facilitating alumni recruitment and job placements, the system can strengthen the ties between the college and various industries.

6. Every service that we provide is included in the web site itself so as to provide the alumni with the necessary information that they want.

5. Scope of the work:

The following are some key elements within the scope:

- These systems have a feature for alumni to showcase their achievements, accolades, and career milestones through images, descriptions.

- The development team will create a platform for alumni to participate in discussions, share knowledge, and interact with each other through forum topics and real-time chat functionality.

- This system provides a catalogue of courses and resources for alumni to engage in lifelong learning and professional development.

- This management system will incorporate a section where alumni can explore job openings posted by employers within the alumni network, fostering alumni employment and career growth.

- This system facilitates the organization and promotion of alumni events, reunions, and networking opportunities.

- Implementing user authentication and access controls to ensure the security and privacy of alumni data.

- Testing of the system to identify and rectify any bugs, errors, or usability issues.

6. Background Environment:

Software Used:

● Front End Tool: HTML, CSS, JavaScript, Bootstrap.

● Backend: PHP/ MySQL Database.

● Operating System: Windows 8 /10 / 11.

7. Background (alumni /server architecture, project architecture description) :

With these server technologies it has become easier to maintain Web pages especially helpful for a large web site. The developer needs to embed the server-side language code inside the HTML page. This code is passed to the appropriate interpreter which processes these instructions and generates the final HTML displayed by the browser. Note the embedded server-script code is not visible to the alumni (even if you check the source of the page) as the server sends ONLY the HTML code.

Browsers interact with the server using a set of instructions called protocols. These protocols help in the accurate transfer of data through requests from a browser and responses from the server.

A request sent for a PHP page from alumni is passed to the PHP interpreter by the server along with various program variables. The interpreter then processes the PHP code and generates a dynamic HTML output. This is sent to the server which in turn redirects it to the alumni.

The browser is not aware of the functioning of the server. It just receives the HTML code, which it appropriately formats and displays on your computer.

8. Requirement Gathering Architecture:

Requirement gathering for the Alumni Management System project involves systematically collecting, analyzing, and documenting the needs and expectations of stakeholders to define the system's scope and functionalities. Here's a brief overview of the requirement gathering architecture:

1. Identifying Stakeholders: Identify all the relevant stakeholders involved in the project, including college administrators, alumni representatives, current students, faculty, and potential users of the system.

2. Conducting Interviews and Surveys: Hold interviews and surveys with the stakeholders to understand their perspectives, pain points, and expectations from the Alumni Management System. Gather feedback on the current alumni management process and identify areas that need improvement.

3. Organizing Focus Groups: Organize focus groups with key stakeholders to facilitate open discussions and brainstorming sessions. This allows for in-depth exploration of specific requirements and potential solutions.

4. Analyzing Existing Data: Analyze existing data related to alumni information, events, alumni engagement metrics, and previous feedback. This helps in identifying patterns and trends that can inform the system's design and functionalities.

5. Defining Use Cases and User Stories: Create use cases and user stories to capture specific scenarios in which the Alumni Management System will be used. These use cases and user stories help in defining the system's functional requirements from the end-users' perspective.

6. Prioritizing Requirements: Work with stakeholders to prioritize requirements based on their importance, feasibility, and impact on alumni engagement and college objectives. This helps in creating a roadmap for the system's development.

7. Architecture Design: Based on the gathered requirements, define the high-level architecture of the alumni management system. This includes

identifying the necessary modules, data flow, and integration points with other systems, if applicable.

8. Creating Functional and Non-Functional Requirements: Document both functional requirements (what the system should do) and non-functional requirements (qualities the system should possess, such as security, scalability, and performance).

9. Review and Validation: Conduct regular review and validation sessions with stakeholders to ensure that the documented requirements accurately represent their needs and expectations.

10. Iterative Process: Keep the requirement gathering process iterative, allowing for continuous feedback and updates as the project progresses and new insights emerge.

8.1. Functional requirements:

Functional requirements for a Alumni Management System project outline the specific features, capabilities, and functionalities the system must possess to meet the needs of its users. Here's a brief overview of functional requirements for the project:

1. User Registration and Authentication:

- The system should allow alumni to register with their essential details, such as name, email, graduation year, etc.

- Alumni should be able to authenticate themselves securely using login credentials or social media logins.

2. Alumni Profile Management:

- Each alumnus should have a dedicated profile page to manage personal and professional information.

- Alumni should be able to update their contact details, employment history, and other relevant data.

3. Alumni Gallery:

- The system should include a gallery page for alumni to showcase their achievements, awards, and milestones through images and descriptions.

4. Alumni Job Opportunities:

- The system should feature a jobs page where employers can post job openings for alumni.

- Alumni should be able to search and apply for jobs within the alumni network.

5. Alumni Events and Reunions:

- The system should provide an events page that displays upcoming alumni events, reunions, and networking gatherings.

6. Alumni Forum and Chats:

- The system should host an interactive forum for alumni discussions, knowledge sharing, and mentorship.

- Alumni should be able to engage in real-time chats with other graduates and college representatives.

7. Alumni Courses and Continuing Education:

- The system should offer a course list containing educational resources, webinars, and workshops for lifelong learning.

8. Account Management and Privacy Settings:

- The system should allow users to manage their account settings, including privacy preferences and communication options.

- Alumni should have control over who can view specific details on their profile.

9. User Interaction and Networking:

- The system should facilitate networking and interaction among alumni, such as adding connections and sending messages.

10. User Access Control and Roles:

- The system should define different user roles, such as alumni, administrators, and faculty, each with specific access privileges.

11. Reporting and Analytics:

- The system should have reporting capabilities to track alumni engagement metrics, course participation, event attendance, etc.

8.2. Non-functional requirements:

Non-functional requirements specify the characteristics and qualities that the Alumni Management System system should possess, rather than specific features and functionalities. Here are some common non-functional requirements for such a system:

1. Performance:

   - The system should have fast response times and handle a large number of concurrent users without significant degradation in performance.

   - It should be able to handle the expected volume of alumni data, events, and communication without performance bottlenecks.

   - Response times for common operations, such as searching alumni records or sending mass communications, should be within acceptable limits.

2. Security:

   - The system should implement robust security measures to protect alumni data and ensure confidentiality, integrity, and availability.

   - Access controls should be in place to restrict unauthorized access to sensitive information.

   - Alumni personal data, such as contact details and financial information, should be encrypted and stored securely.

3. Scalability:

   - The system should be designed to accommodate future growth and handle increasing numbers of alumni records and user interactions.

   - It should have the ability to scale up or scale out by adding more hardware resources or utilizing cloud infrastructure as needed.

4. Usability:

   - The system should have an intuitive and user-friendly interface that is easy to navigate and understand for both administrators and alumni.

 - The system should support accessibility standards to ensure usability for users with disabilities.

5. Reliability and Availability:

 - The system should be highly reliable and available, minimizing downtime and ensuring uninterrupted access for administrators and alumni.

 - Robust backup and recovery mechanisms should be in place to protect against data loss and facilitate system restoration in case of failures.

 - Disaster recovery plans should be established to mitigate risks and ensure business continuity.

6. Compatibility:

 - The system should be compatible with different web browsers, operating systems, and devices to provide a seamless user experience.

 - It should adhere to relevant standards and protocols, enabling integration with external systems or services.

7. Compliance:

 - The system should comply with relevant data protection regulations, privacy laws, and industry standards.

 - It should adhere to ethical guidelines and best practices for handling alumni data and respecting their privacy preferences.

 - Compliance with accessibility standards, such as WCAG (Web Content Accessibility Guidelines), should be considered.

8. Performance Monitoring and Reporting:

 - The system should provide monitoring and logging capabilities to track system performance, identify issues, and facilitate troubleshooting.

 - It should generate system performance reports, error logs, and usage statistics to help administrators assess system health and make informed decisions.

9. Design/Methodology:

9.1 Module description:

There are two parts of our project, one is the Admin panel, and the other one is the Alumni panel. Each panel has been divided into several modules.

Admin Panel:

The Alumni Management System project is a comprehensive platform designed to enhance alumni engagement and communication within the college community. Here's a brief overview of each page:

- ❖ **Login Page:** The login page is the gateway to the system, where alumni, administrators, and other users can authenticate their credentials to access the platform.

- ❖ **Home Page:** The home page serves as the central hub of the system, offering a dashboard with relevant updates, announcements, and personalized content for each user. It provides quick links to different sections, including the gallery, course list, alumni list, jobs page, events page, forum page, user page, and system settings.

- ❖ **Gallery Page:** The gallery page showcases alumni achievements, success stories, and milestones through images and descriptions. It allows alumni to create and manage their profiles and share inspiring content with the college community.

- ❖ **Course List:** The course list page displays a catalog of courses, workshops, webinars, and educational resources available to alumni.

- ❖ **Alumni List**: The alumni list page presents a directory of all registered alumni, offering options for search and filters to find specific graduates based on graduation year, field of expertise, and more. It encourages networking and reconnecting among alumni.

- ❖ **Jobs Page:** The jobs page features job opportunities posted by employers within the alumni network. Alumni can explore and apply for relevant positions, fostering career growth and networking within the community.

❖ **Events Page:** The events page highlights upcoming alumni events, reunions, and networking opportunities. It allows alumni to RSVP and stay informed about gatherings and activities.

❖ **Forum Page:** The forum page is an interactive platform for alumni discussions and knowledge sharing. It includes various categories for different topics, encouraging alumni to engage in meaningful conversations and mentorship.

❖ **User Page:** The user page provides a personalized space for each user to manage their account settings, profile information, and communication preferences. It enables users to control their interactions within the platform.

❖ **System Setting Page:** The system setting page is accessible to administrators and allows them to configure and customize the platform. It includes options for managing user roles, privacy settings, email notifications, and other system-related configurations.

Alumni Panel:

The Alumni Management System alumni side offers a user-friendly interface and a range of features that empower graduates to stay connected, showcase their achievements, explore job opportunities, participate in discussions, and manage their profiles efficiently.

❖ **Home Page:** The alumni home page serves as the central hub of the system for graduates. It offers a personalized dashboard with relevant updates, announcements, and quick links to various sections, such as the gallery, jobs page, forum, and account settings. The home page provides a user-friendly and intuitive interface for easy navigation.

❖ **Signup Page:** The signup page allows alumni to create their accounts within the system. Alumni provide essential details such as their name, email, graduation year, and preferred login credentials. Successful signup grants access to the alumni portal and its features.

❖ **Gallery Page:** The gallery page enables alumni to showcase their achievements, career milestones, and personal experiences through images and descriptions. Each alumnus has a dedicated profile to manage and share their content with the college community.

❖ **Login Modal:** The login modal appears whenever an alumni user accesses the system. It allows for secure authentication with email/username and password.

❖ **Jobs Page:** The jobs page provides a platform for alumni to explore job opportunities posted by employers within the alumni network. Alumni can browse through job listings, filter them based on preferences, and apply for suitable positions.

❖ **About Page:** The about page offers an overview of the Alumni Management System, detailing its purpose, benefits, and how it facilitates alumni engagement.

❖ **Forum Page:** The forum page allows alumni to engage in discussions, share knowledge, and seek advice from fellow graduates. Alumni can participate in different categories or start new threads on various topics, encouraging meaningful interactions and mentorship within the alumni community.

❖ **Account Management Page:** The account management page empowers alumni to control their profile and preferences. Alumni can update personal information, manage privacy settings, and customize communication preferences.

❖ **Chat Page:** The Chat Page is a real-time communication feature that enables alumni to connect and interact with each other directly through private messages and group chats.

9.2. Use Case Diagram:

Alumni
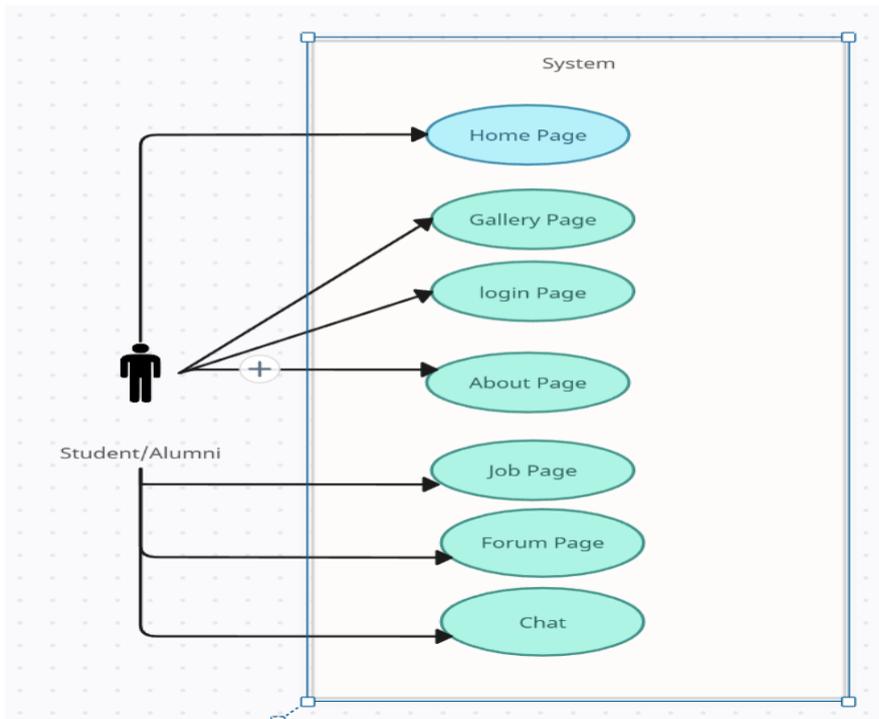
Admin
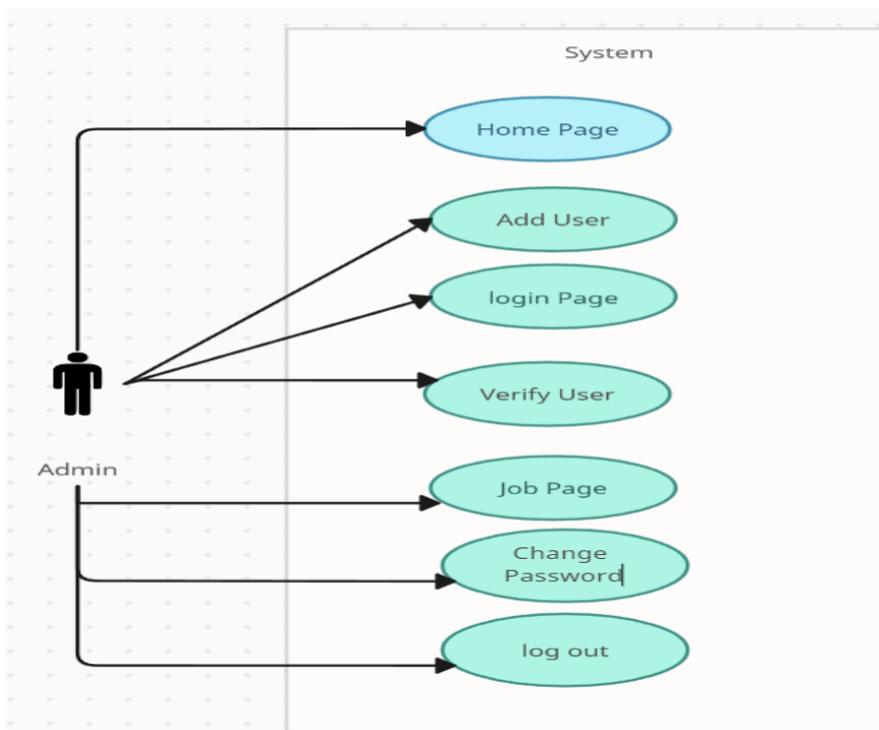
9.3. Sequence Diagram:

User
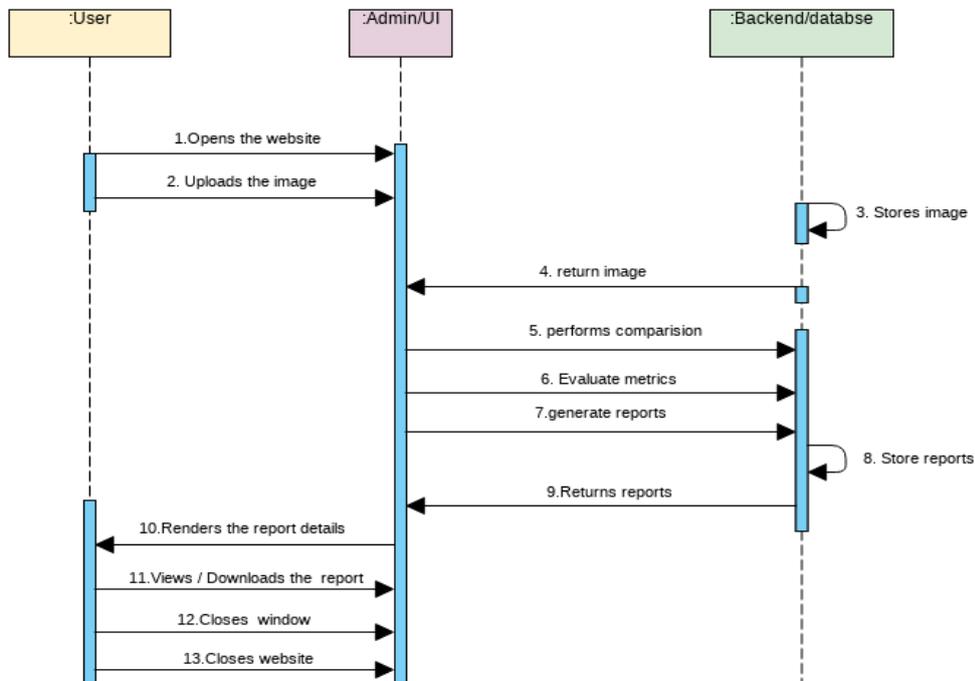
Admin
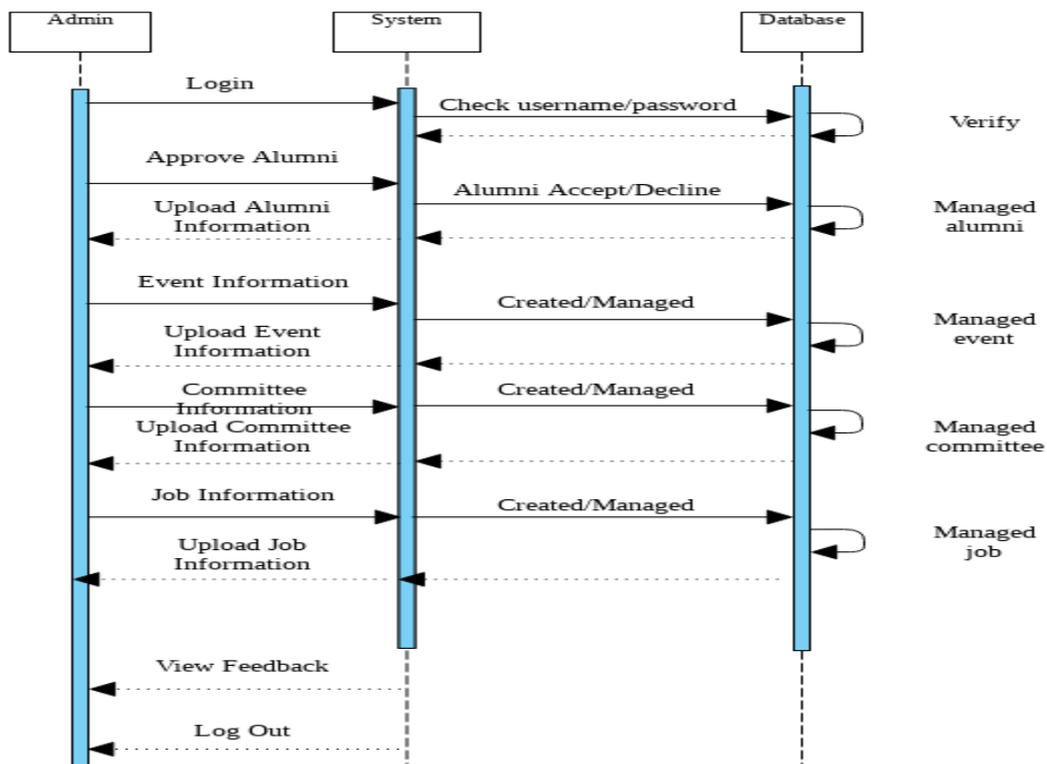
9.4. Data Flow Diagram:
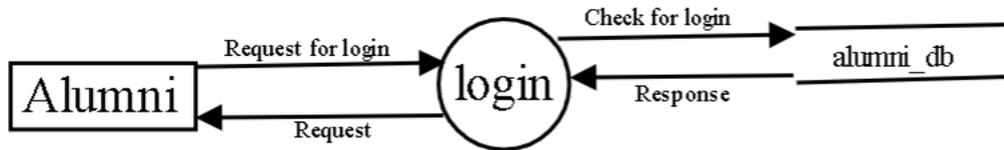
❖ Level 0 DFD for Alumni Side
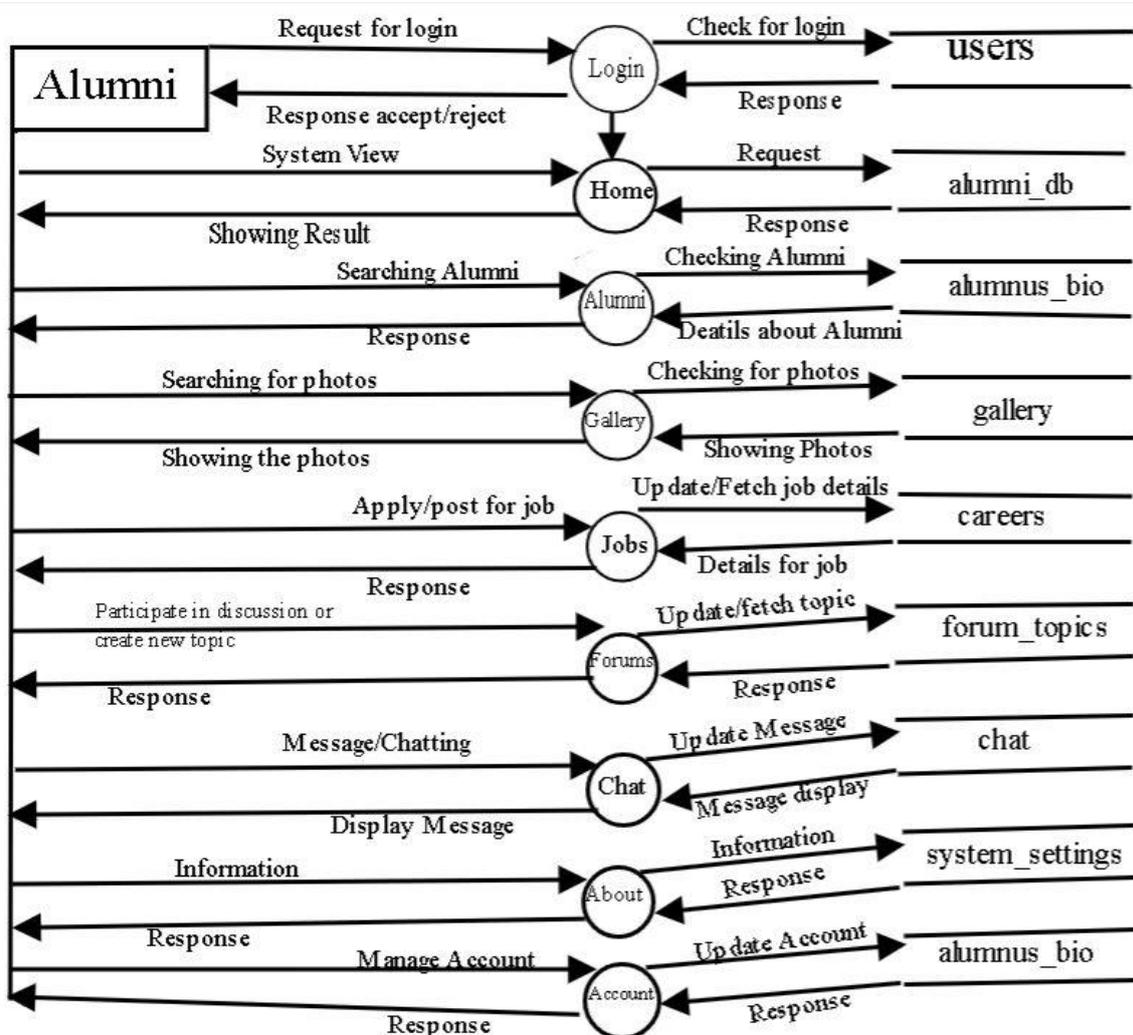
❖ Level 1 DFD for Alumni Side
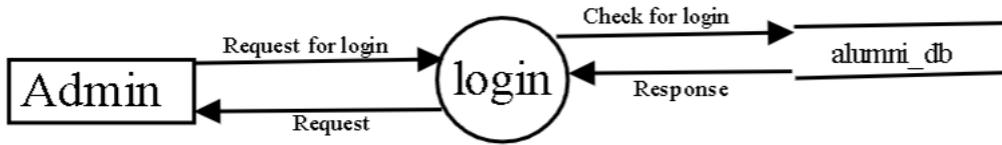
❖ Level 0 DFD for Admin Side
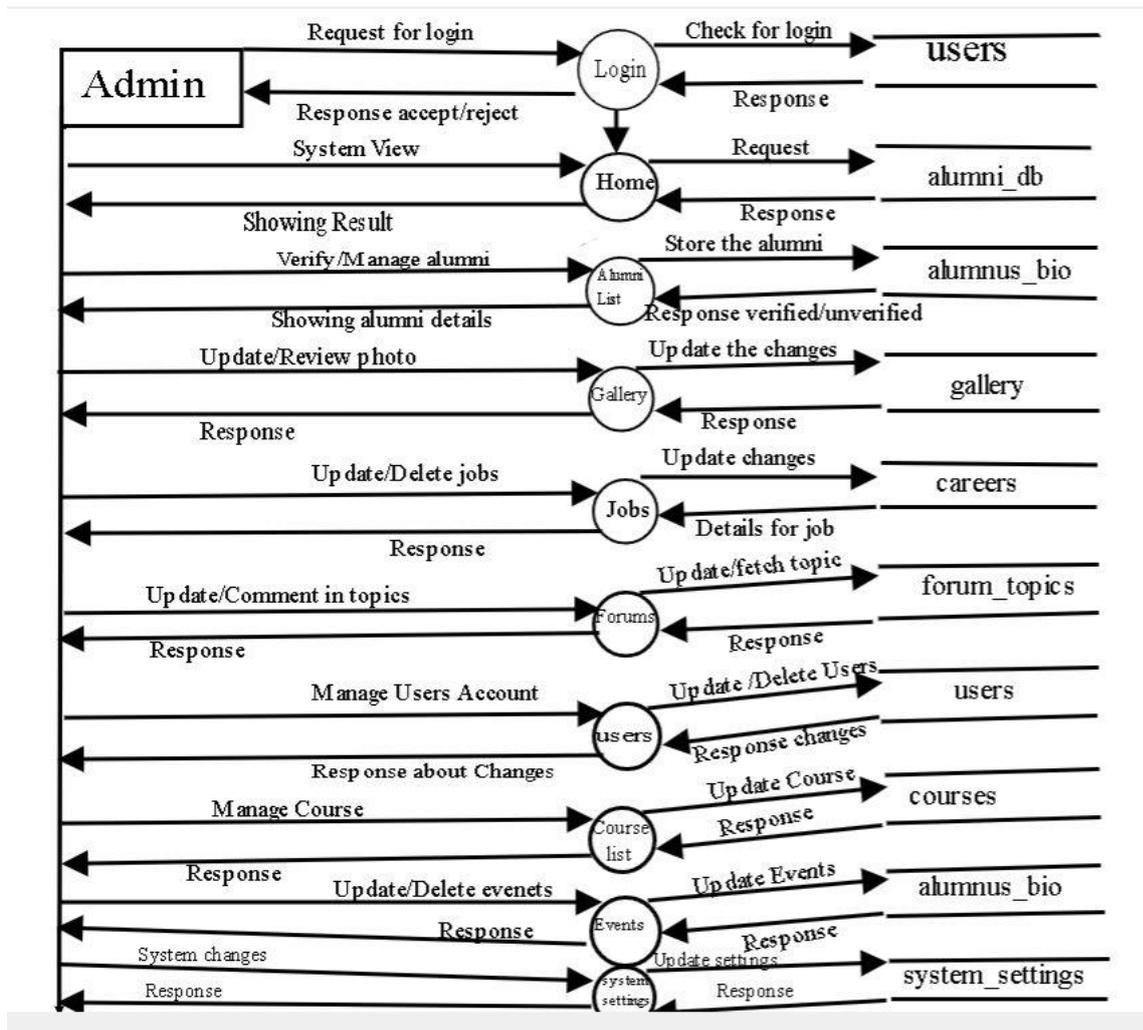
❖ Level 1 DFD for Admin Side

9.5. Entity Relationship Diagram:

Home
int HomeID
string Title
string Content

— contains → **Alumni**
int AlumniID
string FirstName
string MiddleName
string LastName
string gender
int course id
string Email
string Batch
string connected_to

— contains → **Gallery**
int GalleryID
string about
string created

— contains → **Jobs**
int JobID
string Title
string Description
string Requirements
string location
date created

— contains → **Forums**
int ForumID
string Title
string description
date CreatedDate

— contains → **Chat**
string Sender
string Message
date Timestamp

— contains → **About Page**
int PageID
string Title
string Content

9.6. Data Dictionary

Alumni Side Registration details:

Fields	Data Type	Description
id	int(30)	Auto generated serial number as index key.
firstname	varchar(200)	Alumni first name.
middlename	varchar(200)	Alumni middle name.
lastname	varchar(200)	Alumni last name.
gender	varchar(10)	Alumni age.
batch	year(4)	Alumni batch of passout.
course_id	int(30)	Alumni Course name.
email	varchar(250)	Alumni email id as primary key.
connected_to	text	Alumni connected to which field
avatar	text	Alumni profile picture or avatar.
status	tinyint(1)	Alumni account verified or not.
date_created	date	Date when alumni created their account.

10. Implementation:

The front pages are basically designed in HTML 5.0, style sheet, JavaScript and bootstrap and php for the server side development.

The login page layout is designed using HTML with input fields for username/email and password. Also other page layouts are created using HTML to display relevant job details, forums, events, chat messages.

CSS is implemented in page layouts to ensure a visually appealing and consistent design. It provides attractive and user friendly appearance in events, forum topics etc.

To implement search Implement client-side validation for input fields and handle form submission is done using JavaScript. Implement real-time messaging using JavaScript and Web Socket or a similar technology to enable instant communication between users. Some portions are also used to colour in primary, danger, info using bootstrap.

There is also PHP used to handle backend processing such as storing event data, to manage user authentication, server side validation, verifying user credentials against the database etc.

Source Code link of the project is given below:

https://docs.google.com/document/d/1rjkdpP0O7_dWKuacrX62AE8PGomu-SOd/edit?usp=sharing&ouid=117700077039554365159&rtpof=true&sd=true

11. Results / Outputs:

❖ Alumni Panel

- Home Page
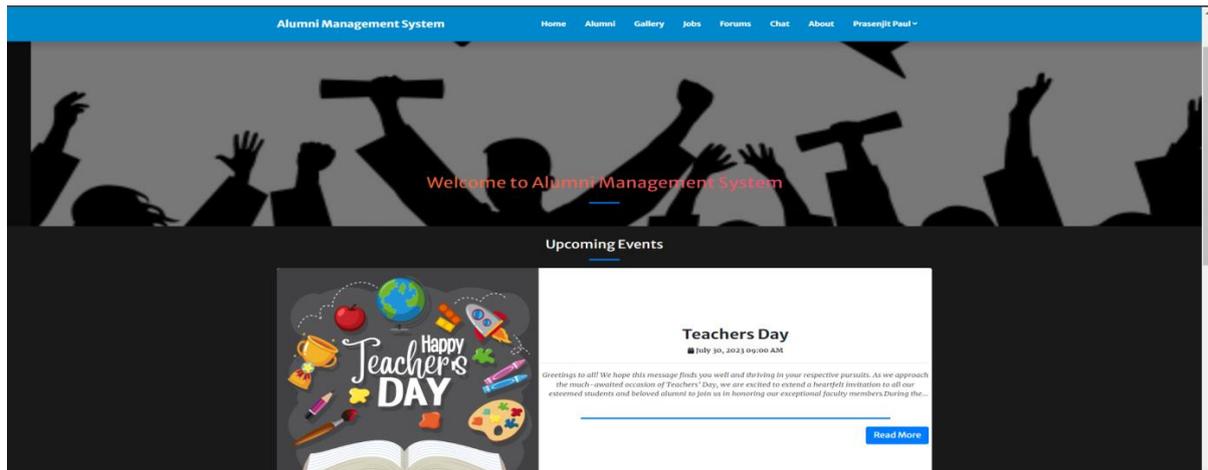
- Alumni Create New Account Page
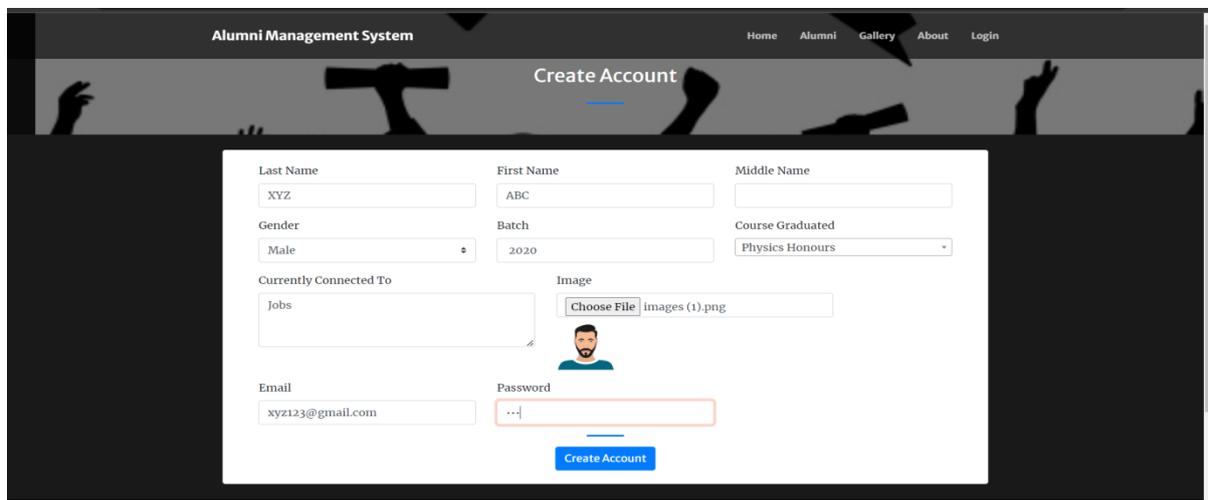
- Log in page
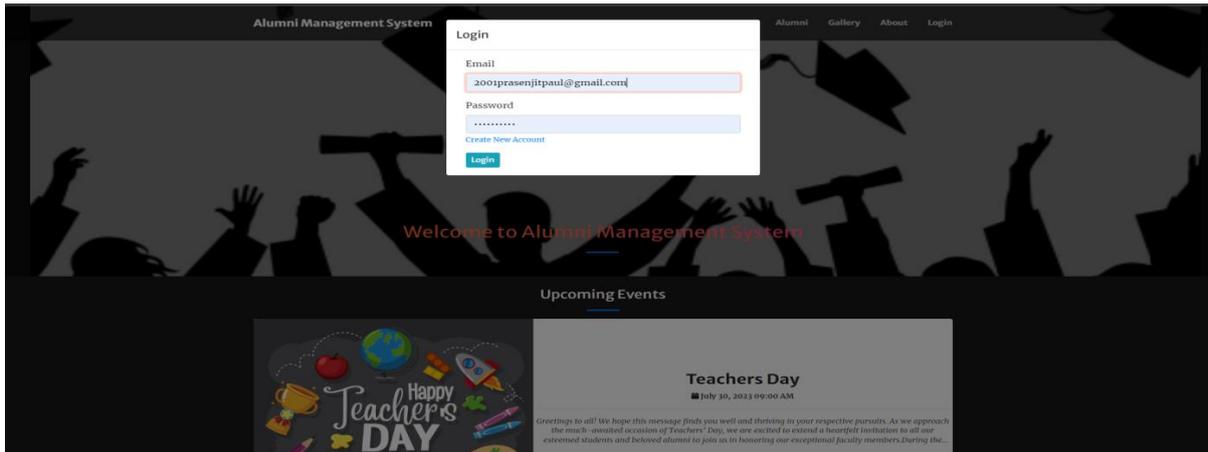
- Alumni Page
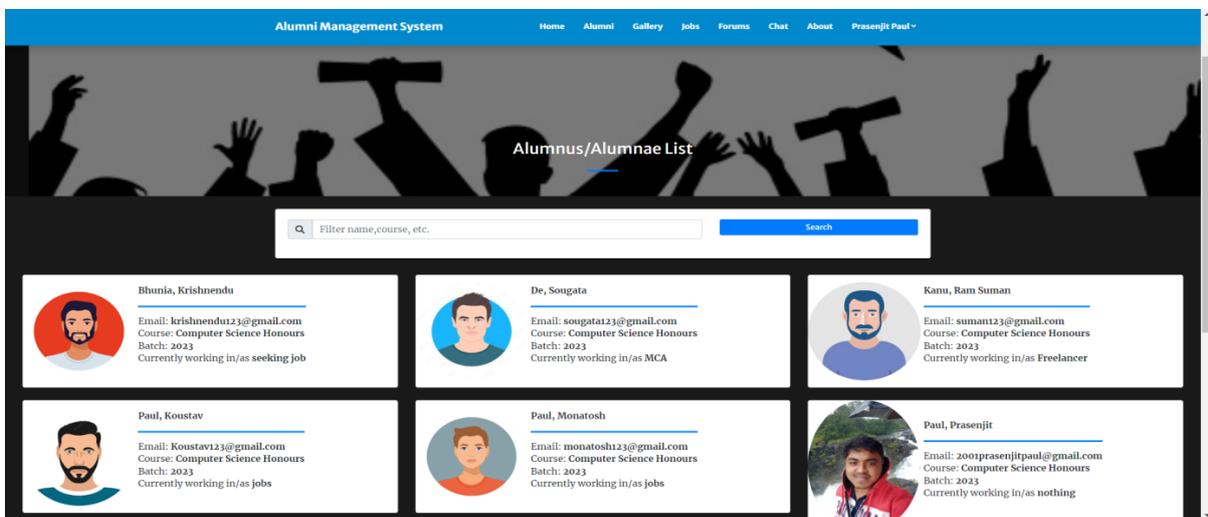
- Gallery List
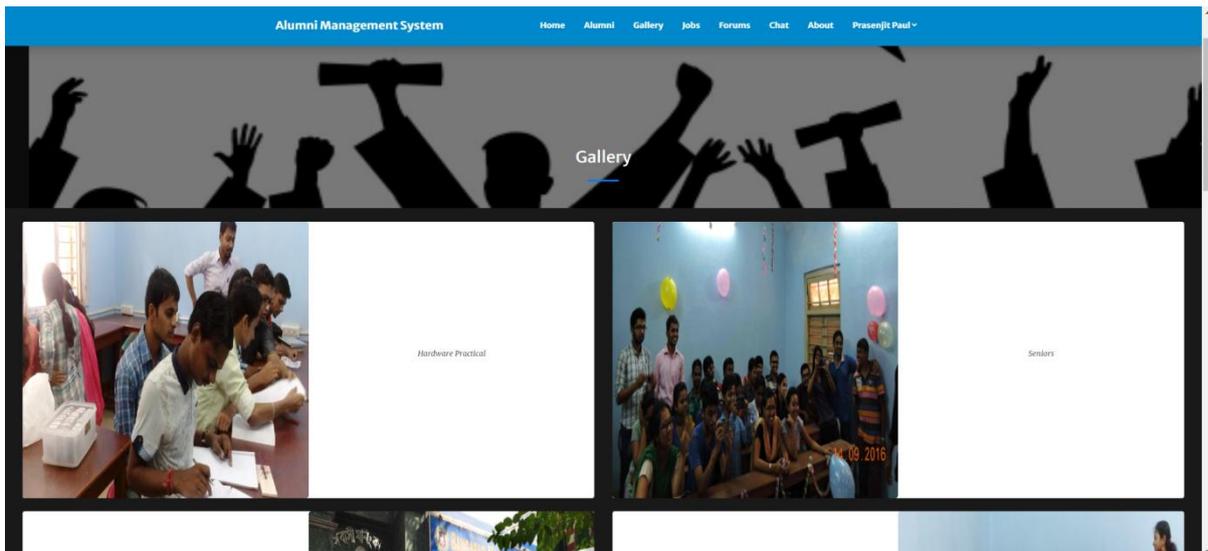
- Posted Jobs
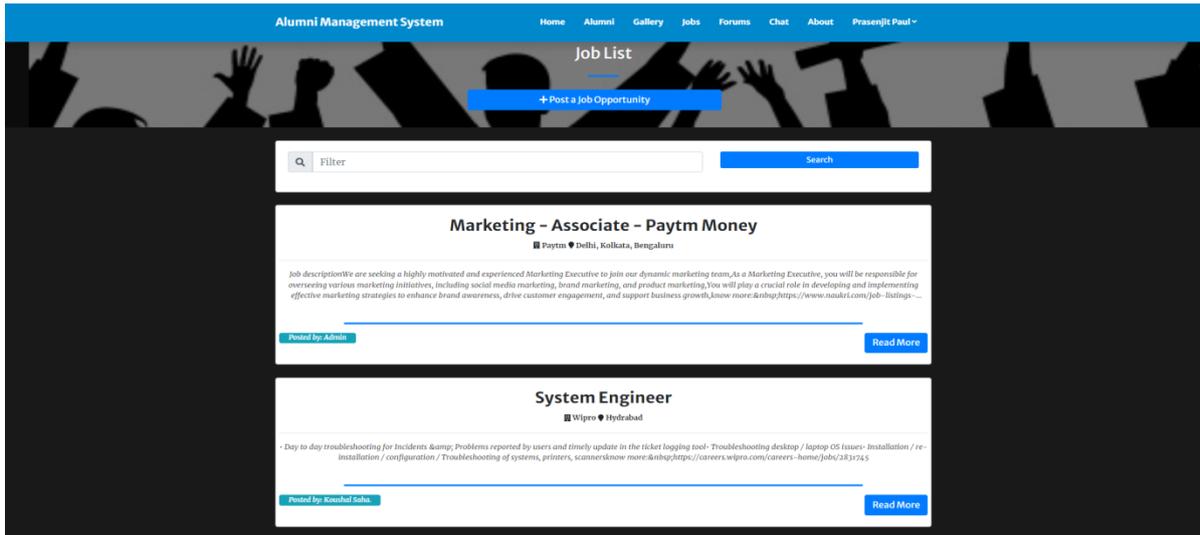
- Forums Discussed
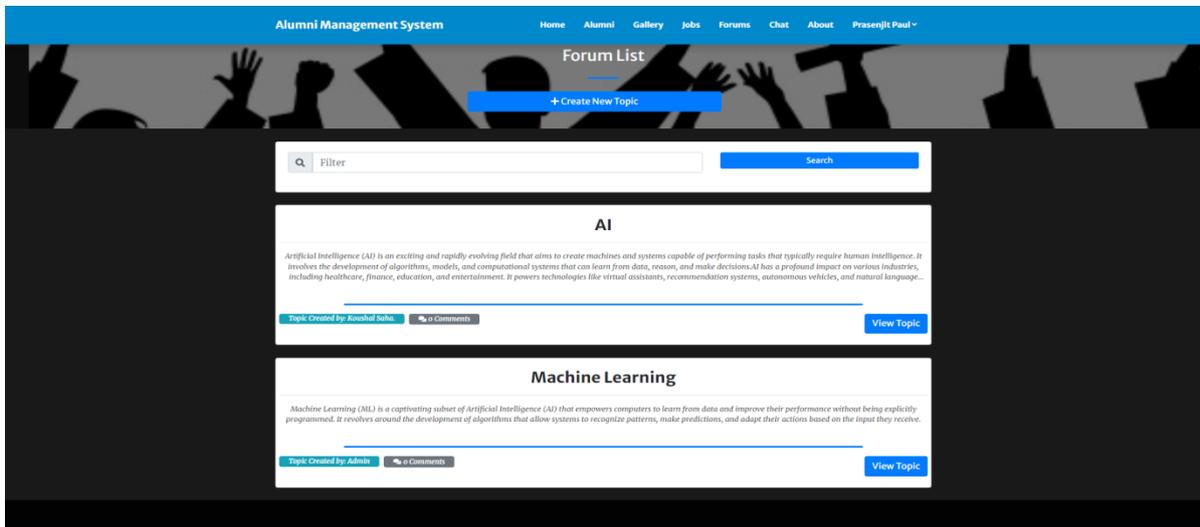
- Add Comments on Forum Tpics
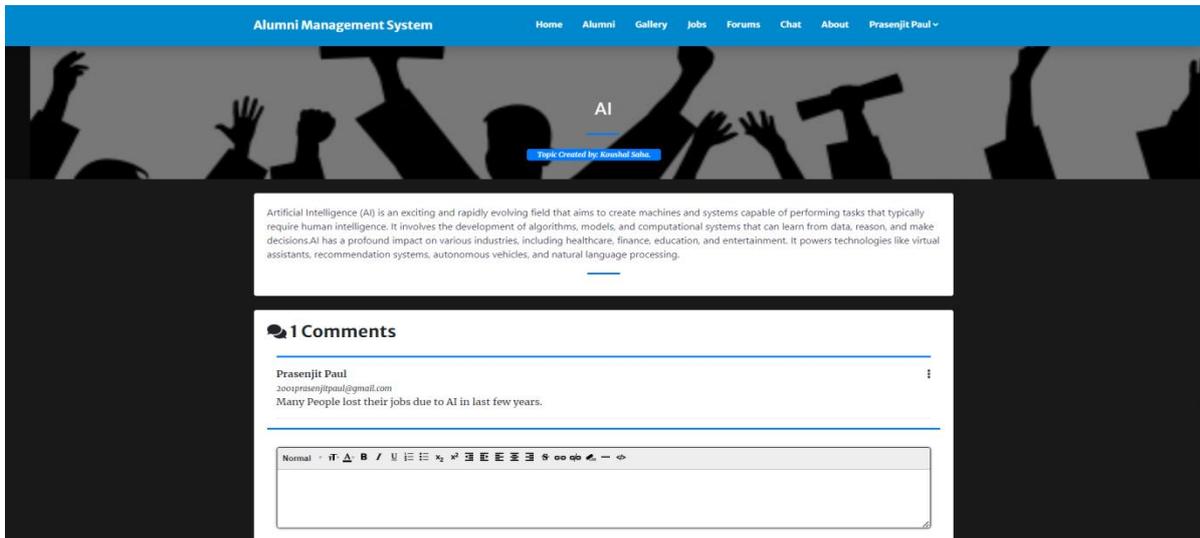
- About
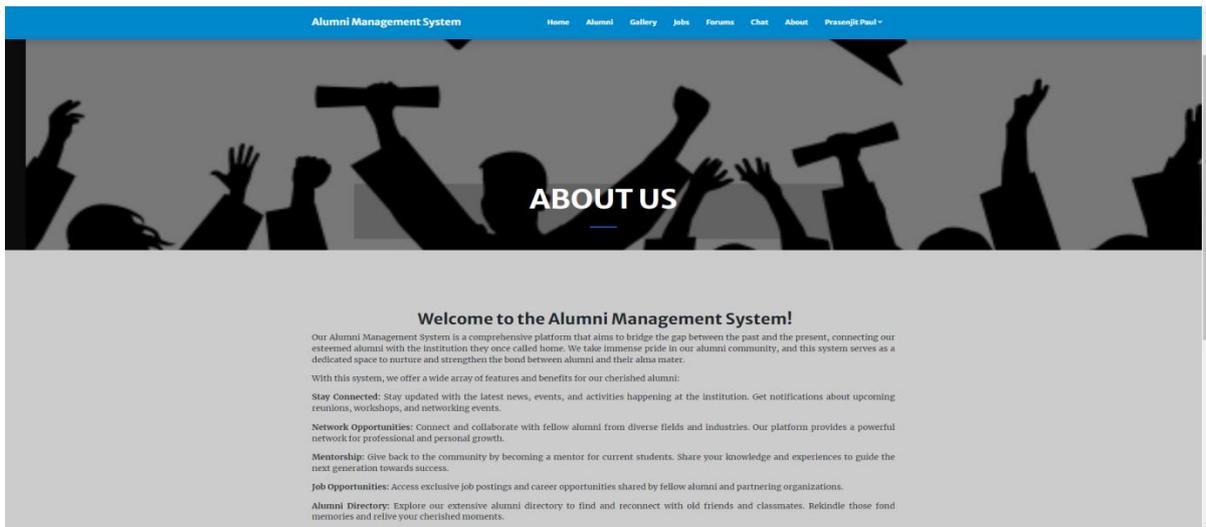
- Chat Implementation

- Anyone Can go to Home Just Clicking On the "Go to Homepage" Button

❖ Admin Panel:

- Admin login Page

- Home Page

- Gallery Page

- Adding Image in Gallery Page

- Course List

- Alumni List

- Verifying Alumni Accounts

- Jobs

- Managing Job Post

- Upcoming Events

- Adding Events

- Forums

- Editing Forums

- Users

- System Settings

12. Future Scopes:

It would be very useful if the members of the alumni web site which are former student of college could directly contact the alumni officer through the web site. It is easy to find the email address of the alumni officer because it will be placed on the home page of the online community. The contact alumni officer functionality could be easily implemented using asp, which is also used in order to implement the broadcast email functionality that the alumni web site offers. That is why it would be useful to be able to set some information, such as contact details as private or public. This could be done very easy with the use of radio buttons. Right now, alumni website offer only inserting details, later it can

be modified to update information. The alumni web site is used to maintain data of alumni and to provide platform where alumni can see the progress of an institute and also participate in improving institution condition with the help of donation.

Looking ahead, the future scope of the project is promising, with possibilities for mobile application development, alumni mentoring programs, advanced analytics, social media integration, and more. As the platform continues to evolve and adapt to the changing needs of the alumni community, it is poised to become an even more valuable resource for lifelong connections, knowledge sharing, and mutual support.

13. Discussion on Drawbacks:

● We have not implemented several analysis reports such as : The system does not send email or in-app notifications to inform alumni about relevant updates, events, job opportunities, forum activities, and many more.

● The system doesn't provide a platform for alumni to contribute donations to the college or specific causes. Alumni should receive information on fundraising campaigns and initiatives.

● A video calling portal among the alumni can be implemented in the future for more convenience for the students.

● This system is basically run on localhost only, it needs deployment.

14. CONCLUSION:

The Alumni Management System is a valuable tool for educational institutions to maintain strong connections with their alumni network. This Alumni Management System project is a resounding success, transforming the way the college community engages with its alumni. The system provides a seamless platform for graduates to reconnect, share their achievements, and actively participate in the college's ongoing growth and development.

With the alumni gallery, graduates can proudly showcase their accomplishments, inspiring current students and fostering a sense of pride within the college community. The forum and chat functionalities have facilitated lively discussions and valuable knowledge sharing, promoting mentorship and networking opportunities among alumni.

The comprehensive course list and job portal have empowered alumni to continue their learning journey and explore exciting career opportunities within the alumni network. The events page has become a central hub for alumni reunions and gatherings, fostering a strong sense of belonging and camaraderie among graduates.

The system's user-friendly interface, supported by HTML, CSS, JavaScript, and PHP technologies, has been instrumental in providing a seamless user experience across various modules. Its robust architecture and implementation have ensured secure data handling and reliable performance.

15. References:

The following websites have helped us for developing the web application:

- https://www.javatpoint.com/php-tutorial
- https://www.w3schools.com/php/
- https://www.w3schools.com/howto/default_page5.asp
- https://www.geeksforgeeks.org/php-tutorial/
- https://www.youtube.com/watch?v=at19OmH2Bg4&list=PLu0W_9lII9ai kXkRE0WxDt1vozo3hnmtR
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