

MINI PROJECT

AMU eConnect

**[Synopsis]**

MASTER OF  
COMPUTER APPLICATION

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## Contents

<b>Title of the Project .....</b>	<b>2</b>
<b>AMU eCONNECT .....</b>	<b>2</b>
<b>1. Introduction.....</b>	<b>2</b>
<b>2. Problem Statement.....</b>	<b>3</b>
<b>3. Study of the Existing System.....</b>	<b>3</b>
<b>5. Scope of the Project.....</b>	<b>4</b>
• <b>5.1 Inclusions .....</b>	<b>4</b>
• <b>5.2 Exclusions .....</b>	<b>4</b>
<b>6. Preliminary System Design .....</b>	<b>4</b>
<b>7. Feasibility Analysis .....</b>	<b>5</b>
<b>8. Tools and Technologies: .....</b>	<b>6</b>
<b>9. Expected Outcomes.....</b>	<b>7</b>
<b>10. Risks and Challenges .....</b>	<b>7</b>
<b>11. References.....</b>	<b>8</b>
1. <b>Harvard Online Alumni Website.....</b>	<b>8</b>
2. <b>IISc Online Alumni Website .....</b>	<b>8</b>
3. <b>DU Alumni Website .....</b>	<b>8</b>
<b>12. Appendices.....</b>	<b>8</b>

# Title of the Project

## AMU eCONNECT

### 1. Introduction

- **1.1 Background:** It is difficult to find a platform for connecting AMU students to its alumni. The existing social media platform provides rich facility for social interactions but they are quite complex and have not dedicated to a particular use. With AMU eConnect students of Aligarh Muslim University can help in doing so. AMU eConnect is a web - based application which provide its users whole details of an AMU alumni at one place at a glance. Connections and networking with people are good resources for career growth and support. AMU eConnect is an alumni connecting web - based application which helps students connects to their 'ALIG' fraternity.

A student who wants to connect to its AMU alumni can login and get the details of various past and current students of AMU. If he/she wishes to connect or see the details provided by the student can go through it. There is admin who manages the whole platform and is also a user of the system. Connecting AMU students with its vast alumni network is a crucial endeavor that often presents challenges. While traditional social media platforms provide avenues for social interactions, their complexity and lack of specific focus can hinder effective alumni engagement. AMU eConnect aims to address this gap by offering a dedicated web-based application designed exclusively for connecting AMU students with their alumni.

AMU eConnect offers a centralized platform where students can easily access comprehensive profiles of AMU alumni. This information includes details about their academic backgrounds, professional careers, and contact information. By facilitating connections and networking opportunities, AMU eConnect empowers students to leverage the valuable resources and support provided by their alumni community.

- **1.2 Objective:**

The primary objectives of this project are:

- **Create a dedicated platform for AMU alumni:** Provide a centralized space where AMU alumni can connect, share experiences, and offer guidance to current students.
- **Facilitate connections between AMU students and alumni:** Enable students to easily search for and connect with alumni based on various criteria, such as academic department or professional field.
- **Provide a comprehensive repository of alumni information:** Offer detailed profiles of AMU alumni, including their academic credentials, career paths, and contact information.
- **Foster a sense of community and belonging:** Create a virtual space where AMU students and alumni can strengthen their connection to the university and its traditions.

## 2. Problem Statement

- **2.1 Problem Description:** Aligarh Muslim University (AMU) is a renowned and historic central university in India. Every year, thousands of students graduate from AMU, embarking on diverse career paths. While social media platforms offer general avenues for connecting with people, there is a lack of a dedicated platform specifically designed to connect AMU students with their vast alumni network. This absence of a centralized space hinders the opportunities for students to benefit from the valuable insights, guidance, and support that alumni can provide.
- **2.2 Importance of the Problem:** Building connections and networking are essential components of career growth and personal development. Sharing success stories, experiences, and different ways of life can foster inspiration and learning. The absence of a dedicated platform to connect AMU students with their alumni poses a significant challenge. It impacts the lives of hundreds of students who could potentially benefit from the resources, mentorship, and opportunities offered by the alumni community.

## 3. Study of the Existing System

- **3.1 Overview of the Existing System:** Existing systems for connecting with alumni often present challenges for users, particularly students who may be unfamiliar with complex online platforms. These systems can be intimidating due to their intricate interfaces and extensive features.
- **3.2 Limitations of the Existing System:** The limitations of existing alumni connection systems include:
  - **Lack of one-to-one connections:** Many platforms struggle to facilitate direct and personal interactions between students and alumni.
  - **Complexity and user-unfriendliness:** The interfaces of these systems can be overly complicated, making them difficult to navigate and use effectively.
- **3.3 Comparative Analysis:** While most existing alumni connection systems share basic CRUD (Create, Read, Update, Delete) functionalities, they often vary in terms of their user experience and specific features. The system to be developed will prioritize user-friendliness, a lightweight interface, and responsiveness across different screen sizes.
- **Examples of online web-based alumni portals:**
  - **LinkedIn:** A popular professional networking platform that allows users to connect with alumni and explore career opportunities.
  - **Facebook:** A general social media platform that can be used to connect with alumni and join university-specific groups.
  - **Alumni Association Websites:** Many universities have dedicated alumni association websites that provide networking opportunities, event information, and resources for alumni.
  - **Specialized Alumni Platforms:** Some institutions have developed their own proprietary alumni platforms tailored to their specific needs and goals.

These existing systems can serve as references for understanding common features and functionalities, while also highlighting areas where improvements can be made.

## 4. Proposed Solution

- **4.1 Overview:** The proposed solution, AMU eConnect, is a web-based application designed to facilitate seamless connections between AMU students and its alumni. This platform aims to address the limitations of existing systems by providing a user-friendly, efficient, and dedicated space for alumni engagement.
- **4.2 Key Features**
  - **Login/Signup:** Users can create accounts and log in to the platform to access its features.
  - **Profile Creation and Management:** Users can create detailed profiles, including information about their academic background, professional experience, and contact details. They can also update their profiles as needed.
  - **Alumni Search:** Students can search for alumni based on various criteria, such as academic department, year of graduation, or professional field.

## 5. Scope of the Project

- **5.1 Inclusions**
  - **User Authentication:** The system will implement robust user authentication mechanisms to ensure the security and privacy of user data.
  - **Registration:** Users will be able to create accounts on the platform by providing necessary information.
  - **Profile Creation and Viewing:** Users can create detailed profiles and view the profiles of other users on the platform.
- **5.2 Exclusions**
  - **Real-time Communication:** The system will not include features such as WebRTC or sockets for real-time communication within the browser. While these technologies could potentially enhance the platform's capabilities, they may introduce additional complexity and development challenges.

## 6. Preliminary System Design

- **6.1 High-Level Architecture:** The high-level architecture of the system is shown by the below diagrams:
  - Data flow diagram
  - Use case diagram
  - Block Diagram
- **6.2 Major Components:** The followings are the major components of the system:
  - **Login Module:** Handles user authentication and authorization.
  - **Signup Module:** Allows new users to create accounts on the platform.
  - **Homepage Module:** Displays the main landing page with navigation options and information.
  - **User Modules:** Includes features for profile management, alumni search, connection requests, messaging, and event information.

- **Admin Modules:** Provides administrative functionalities for managing user accounts, content, and system settings.
- **Card Details Module:** Displays detailed information about alumni profiles in a card format.

## 7. Feasibility Analysis

Feasibility Study is a preliminary analysis to assess the practicality and viability of a proposed project or idea. It examines various aspects such as technical, economic, and operational feasibility to determine if the project is feasible to undertake. A feasibility study helps in making informed decisions about whether to proceed with the project or explore alternative options.

- **7.1 Technical Feasibility:**

Assesses whether the proposed project can be implemented given the available technology, resources, and expertise. It considers factors such as hardware, software, and infrastructure requirements.

### Technical aspects:

- **Web Development Technologies:** The project can be implemented using popular web development technologies such as HTML, CSS, JavaScript, and a suitable backend framework (e.g., Node.js, Python with Django).
- **Database Management System:** A relational database management system (RDBMS) like MySQL or PostgreSQL can be used to store user data, profiles, and connection information.
- **Cloud Hosting:** The application can be hosted on a cloud platform (e.g., Linode, AWS, GCP, Azure) to ensure scalability and accessibility.
- **Existing Infrastructure:** If the university has existing IT infrastructure, it can be leveraged to reduce costs and expedite development.

- **7.2 Economic Feasibility:**

Evaluates the financial viability of the project, including cost-benefit analysis, return on investment, and potential revenue streams. It helps determine if the project is financially sustainable.

### Cost implications:

- **Development Costs:** The costs associated with development, including personnel, hardware, software, and infrastructure, will need to be evaluated.
- **Maintenance Costs:** Ongoing costs for maintaining the platform, such as server fees, updates, and technical support, should be considered.
- **Potential Revenue:** While the primary goal of AMU eConnect may not be profit generation, it's important to assess potential revenue streams, such as advertising or premium features, that could offset costs or generate additional funds.
- **Cost-effectiveness:**

- The cost-effectiveness of the project will depend on various factors, including the scale of development, the chosen technologies, and the availability of internal resources. By carefully planning and managing costs, the project can be implemented in a cost-effective manner.
- **7.3 Operational Feasibility:**  
Examines whether the proposed solution can be effectively implemented and operated within the organization's existing processes, policies, and resources. It considers factors such as user acceptance, integration with existing systems, and potential challenges in day-to-day operations.

#### **Real-world effectiveness:**

- **User Adoption:** The success of AMU eConnect will depend on user adoption. The platform must be user-friendly, accessible, and provide value to both students and alumni.
- **Integration with Existing Systems:** If the platform needs to integrate with other university systems (e.g., student information systems, alumni databases), the feasibility of such integration should be assessed.
- **Scalability:** The platform should be designed to accommodate a growing user base and increasing data volumes.
- **Security:** Robust security measures must be implemented to protect user data and prevent unauthorized access.
- **Operational feasibility:**
- The operational feasibility of AMU eConnect will depend on factors such as user acceptance, integration with existing systems, scalability, and security. By addressing these considerations, the platform can be designed to operate effectively in the real world.

## **8. Tools and Technologies:**

The followings are the tools and technologies will be used to develop AMU eConnect:

- **8.1 Programming Languages**
  - **Python:** A versatile and popular programming language that is well-suited for web development, data analysis, and automation.
- **8.2 Development Tools**
  - **PyCharm:** A powerful integrated development environment (IDE) specifically designed for Python development, providing features like code editing, debugging, and version control.
  - **Flask:** A lightweight and flexible Python web framework that allows for rapid development of web applications.
  - **Jinja2:** A popular template engine for Python that enables the creation of dynamic HTML templates.
- **8.3 Database**
  - **SQLite3:** A lightweight and embedded SQL database that is ideal for smaller applications and can be easily integrated into Python projects.
- **Additional Tools and Technologies:**
  - **HTML:** The standard markup language for creating web pages.

- **CSS:** Used to style web pages and control the layout and appearance of elements.
  - **JavaScript:** A programming language used to add interactivity and dynamic features to web pages.
  - **Bootstrap:** A popular front-end framework that provides pre-built CSS components and JavaScript plugins to accelerate web development.
- By leveraging these tools and technologies, the development team can efficiently build and maintain the AMU eConnect platform.

## 9. Expected Outcomes

### • 10.1 Deliverables

- **AMU eConnect Web Application:** A fully functional web-based application that allows AMU students to connect with alumni.
- **User Manual:** A comprehensive user manual that guides users on how to use the platform effectively.
- **Technical Documentation:** Detailed documentation outlining the system architecture, design, and implementation.
- **Project Reports:** Reports summarizing the project's progress, challenges, and outcomes.

### • 10.2 Success Criteria

- The success of the AMU eConnect project will be measured by the following criteria:
- **User Satisfaction:** The platform meets the needs and expectations of both AMU students and alumni.
- **Engagement:** A significant number of students and alumni actively use the platform to connect and network.
- **Functionality:** The platform operates smoothly and provides all the intended features and functionalities.
- **Usability:** The platform is user-friendly and easy to navigate.
- **Security:** The platform ensures the security and privacy of user data.
- **Scalability:** The platform can accommodate a growing user base and increasing data volumes.

By meeting these criteria, AMU eConnect will successfully achieve its goal of connecting AMU students with their alumni and fostering a strong sense of community.

## 10. Risks and Challenges

### • 11.1 Potential Risks

- **Limited Resources:** Insufficient funding, personnel, or technical resources could hinder development progress.
- **Changing Requirements:** Evolving needs or priorities from AMU or its alumni may necessitate changes to the project scope.
- **Technical Challenges:** Unforeseen technical difficulties or compatibility issues with existing systems could arise.
- **Data Privacy and Security:** Ensuring the protection of user data and preventing unauthorized access is a critical concern.



- **User Adoption:** Lack of awareness or interest among AMU students and alumni could limit the platform's usage.
- **11.2 Mitigation Strategies**
  - **Resource Planning:** Carefully plan and allocate resources to ensure adequate support for the project.
  - **Agile Development:** Adopt an agile methodology to accommodate changing requirements and adapt to unforeseen challenges.
  - **Thorough Testing:** Conduct rigorous testing throughout the development process to identify and address technical issues.
  - **Security Measures:** Implement robust security measures, such as encryption, access controls, and regular security audits.
  - **Marketing and Outreach:** Develop a marketing and outreach plan to promote the platform to AMU students and alumni.
  - **User Feedback:** Gather feedback from users to identify areas for improvement and address any concerns.

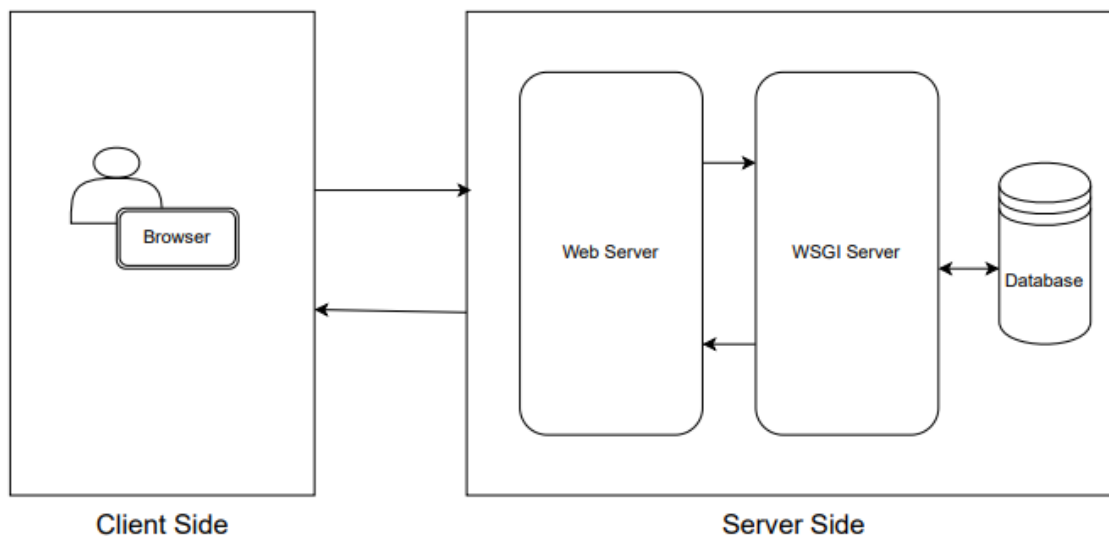
By proactively identifying and addressing potential risks, the development team can increase the likelihood of project success and minimize disruptions.

## 11. References

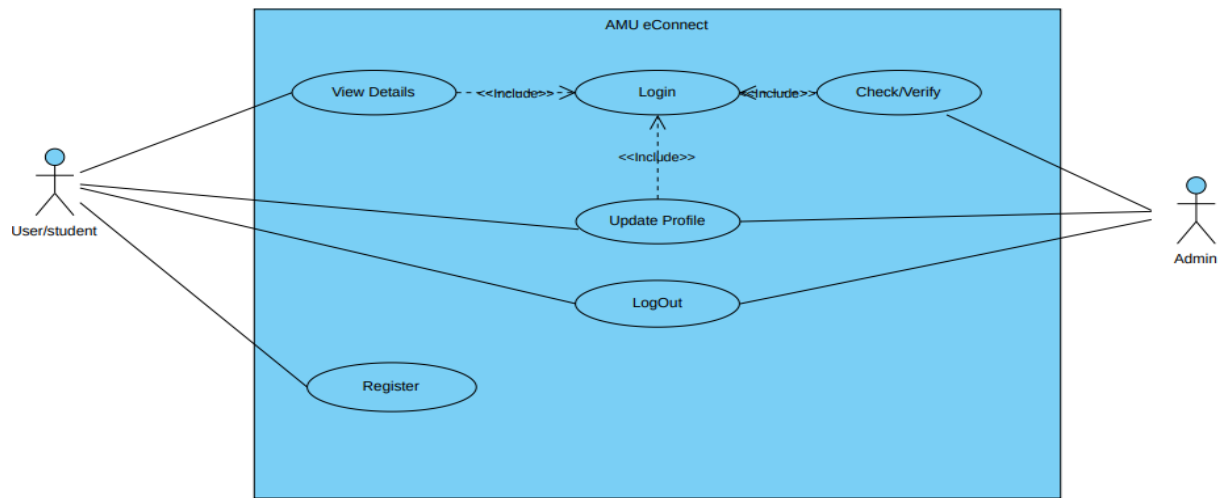
1. **Harvard Online Alumni Website:** <https://alumni.harvard.edu/>
2. **IISc Online Alumni Website:** <https://www.iiscalumni.com/>
3. **DU Alumni Website:** <https://alumni.du.ac.in/>

## 12. Appendices

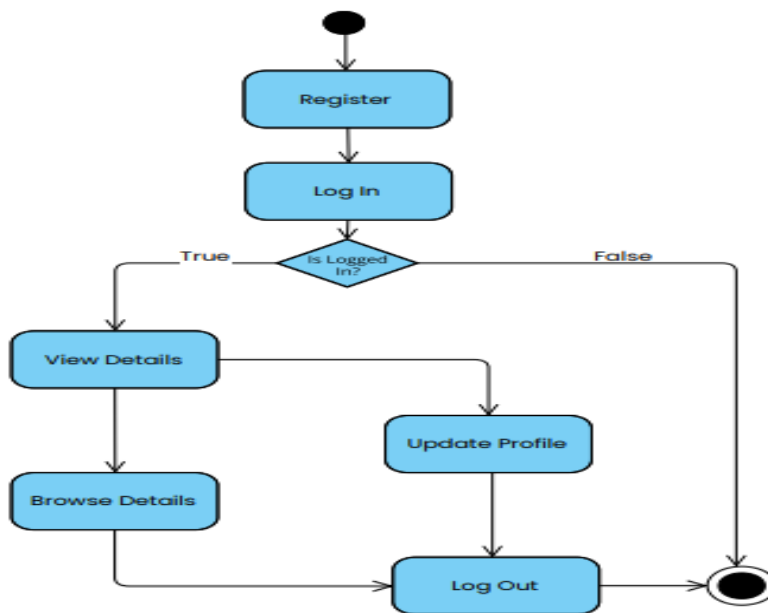
### 12.1 High Level Architecture



## 12.2 Use Case Diagram



## 12.3 Activity Diagram



## 12.3 DFD (Context Level Diagram)

