

Software Requirements Specification for
AlumTrak: JHCSC BSIT Alumni Employment Tracking and Reminder System



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1. INTRODUCTION

1.1 Purpose

The purpose of the AlumTrak: JHCSC BSIT Alumni Employment Tracking and Reminder System is to provide a systematic and efficient means for the institution to monitor the employment status of its Bachelor of Science in Information Technology (BSIT) graduates. This system facilitates the collection, verification, and updating of alumni employment data through a centralized web-based platform. Alumni will be able to update their employment profiles and upload supporting documents such as Certificates of Employment (COE) or Business Certificates online.

The system will also include an automated reminder mechanism that sends periodic notifications to alumni who have not updated their records. Through this, the institution can ensure timely data collection, accurate reporting, and improved compliance with accreditation and government requirements. Ultimately, AlumTrak aims to strengthen the school's connection with its graduates and streamline the monitoring process for administrators.

1.2 Intended Audience

The intended audience of the system includes the following:

1. **JHCSC BSIT Graduates** – They will use the system to update their employment information and upload Certificates of Employment (COE) or Business Certificates.
2. **JHCSC BSIT Department** – They will manage alumni records, verify documents, monitor compliance, and generate employment-related reports.

1.3 Product Scope

The system will be a web-based platform accessible to both alumni and administrators.

It will include:

1. **Alumni Portal** - Alumni can register, update job details, and upload COE or Business Certificates.
2. **Automated Notification System** - Sends reminders via email to alumni who haven't complied.
3. **Administrator Dashboard** - Lets admins track alumni compliance.

The system will not function as a job recruitment portal, payroll system, or offline data collection tool. Its main focus is alumni employment tracking and reminders.

1.4 Definition of Terms, Acronyms, and Abbreviations

1. **Alumni/Graduate** – A former student who has successfully completed a degree or program from the institution.
2. **AlumTrak** - The proposed system designed to monitor, record, and remind alumni of employment and compliance updates.
3. **Bachelor of Science in Information Technology (BSIT)** - A degree program offered by JHCSC that focuses on the study and application of computing, programming, and information systems. The graduates of this program are the primary users and beneficiaries of the AlumTrak system.
4. **Business Certificate** – An official document verifying that an alumni has established or is operating a business.
5. **Certificate of Employment (COE)** – An official document issued by an employer verifying a person's current or past employment.
6. **Compliance** – Fulfillment of system or institutional requirements by the alumni.

7. **Josefina H. Cerilles State College (JHCSC)** – An academic institution where the AlumTrak system will be deployed and utilized for monitoring and supporting its IT alumni.
8. **Reminder System** - A built-in feature of AlumTrak that notifies alumni about deadlines, updates, or required submissions.
9. **Tracking** - The process of monitoring and updating the employment status and career details of IT alumni.

2. OVERALL DESCRIPTION

2.1 User Characteristics

1. **Alumni/Graduates (BSIT Students)** - Users are graduates from the Bachelor of Science in Information Technology (IT) department. They are expected to have basic computer literacy, familiarity with online platforms, and the ability to fill out digital forms, upload documents, and navigate a web-based portal.
2. **School Administrators (BSIT Department)** - Administrators consist of the BSIT department staff who will manage alumni records. They are expected to have intermediate technical skills.

2.2 Constraints

The development and implementation of the AlumTrak: JHCSC BSIT Alumni Employment Tracking and Reminder System are subject to the following limitations:

- **Hardware Constraints:** The system requires access to computers or mobile devices with stable internet connectivity to ensure smooth usage of the portal and notification services.

- **Software Constraints:** The portal will operate on modern web browsers. Compatibility with outdated browsers or unsupported operating systems may be limited.
- **Regulatory Constraints:** Data collection and storage must comply with institutional policies and data privacy regulations.
- **Standards Constraints:** The system must follow data privacy, security, and usability standards set by the institution.

2.3 Assumptions and Dependencies

The design and functionality of the system are based on the following:

- **Assumptions:**
 - Alumni will actively register and update their employment information on the portal.
 - School administrators will consistently monitor, validate, and manage alumni data.
 - Alumni have access to devices (PCs, laptops, or smartphones) and internet connection to use the portal.
- **Dependencies:**
 - The automated notification system depends on the availability of external services such as email servers.
 - Continued system functionality depends on compliance with institutional policies and data security standards.

3. REQUIREMENTS SPECIFICATIONS

3.1 Functional Requirements

The functional requirements outline the specific functions and features the system must support:

1. **User Registration and Authentication:** The system shall allow users to register using a valid email address and secure password. The system shall authenticate users through login credentials before access is granted.
2. **Profile Management:** Alumni shall be able to update their personal information, including job title, company name, and employment status. Alumni shall be able to upload necessary documents in PDF or image formats.
3. **Document Upload and Verification:** Alumni shall upload required employment verification documents (COE or Business Certificate). The system shall record document status (approved, pending, rejected) and store rejection reasons if applicable.
4. **Employment and Education Information:** The system shall allow alumni to input employment details such as company name, job title, and salary range. Educational background including school name, degree, and year graduated shall also be recorded.
5. **Administrator Dashboard:** Administrators shall be able to view alumni profiles, document statuses, and compliance.
6. **Automated Notification System:** The system shall automatically send email reminders to alumni who have not updated their records.
7. **Audit and Logging:** Every update or modification within the system shall be logged, identifying the user, affected record, and time of modification.

3.2 Non-Functional Requirements

Non-functional requirements define the quality attributes and constraints of the system:

1. **Performance:** The system shall support at least 50 concurrent users without performance degradation.
2. **Security:** The system shall implement encryption for sensitive data, including user passwords and personal information. Access to the administrator dashboard shall be restricted to authorized personnel only.
3. **Usability:** The system shall have an intuitive user interface that allows users to navigate easily and perform tasks without extensive training.
4. **Compatibility:** The system shall be compatible with modern web browsers on desktop and mobile devices. The system shall be responsive to different screen sizes and orientations.
5. **Availability:** The system shall be operational 24/7, with minimal downtime during maintenance.

3.3 External Interface Requirements

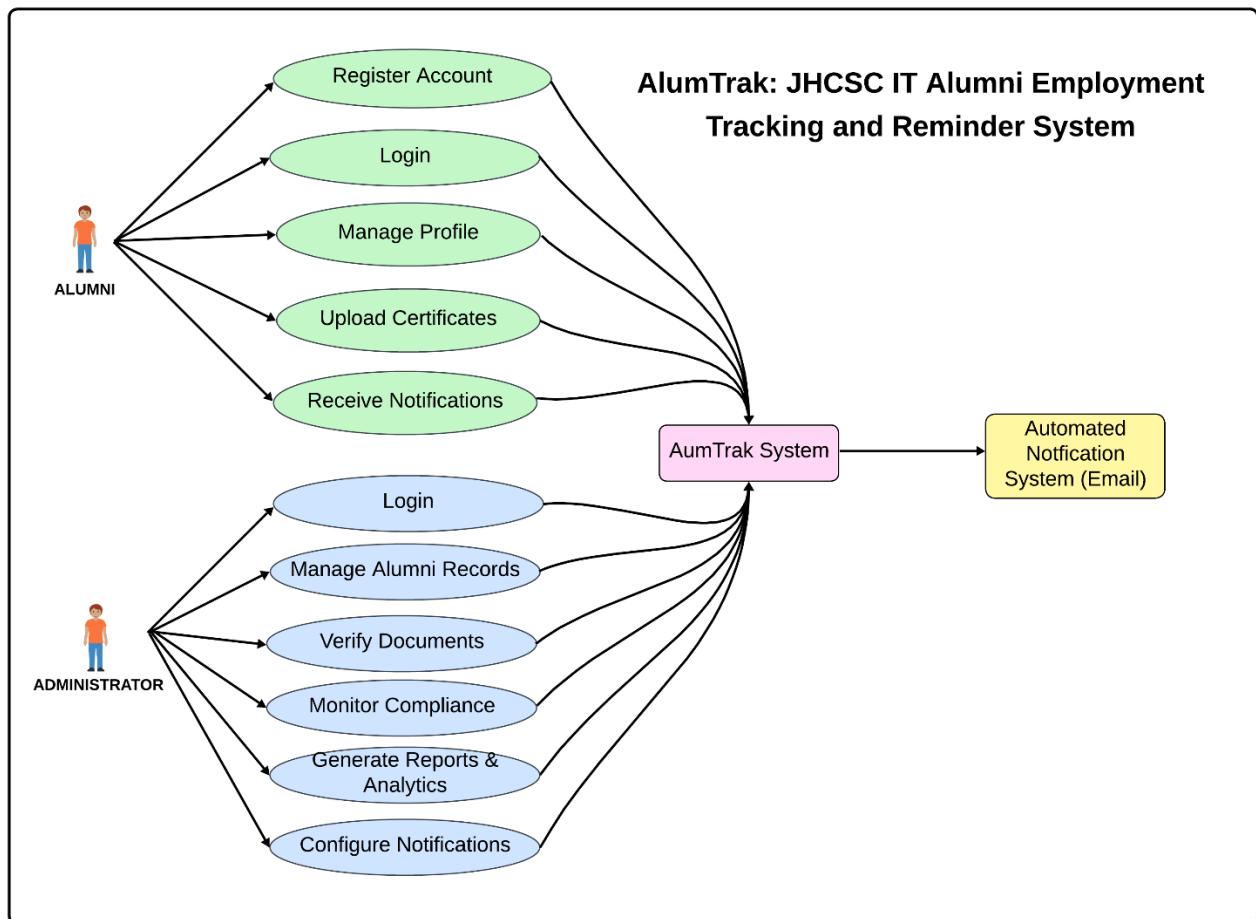
External interface requirements specify how the system interacts with external systems or services:

1. **Email Notification Services:** The system shall integrate with external email gateway services to send notifications to alumni. The integration shall be secure and comply with data privacy regulations.
2. **Database Management System:** The system shall utilize a relational database for storing user data and employment records.

3. User Interface: The user interface shall be developed using web technologies (HTML, CSS, JavaScript, & PHP) and shall comply with accessibility standards. APIs shall be utilized for email services.

3.4 System Models

3.4.1 Use Case Diagram



The use case diagram illustrates the major functions of the AlumTrak system, showing interactions between actors and the system:

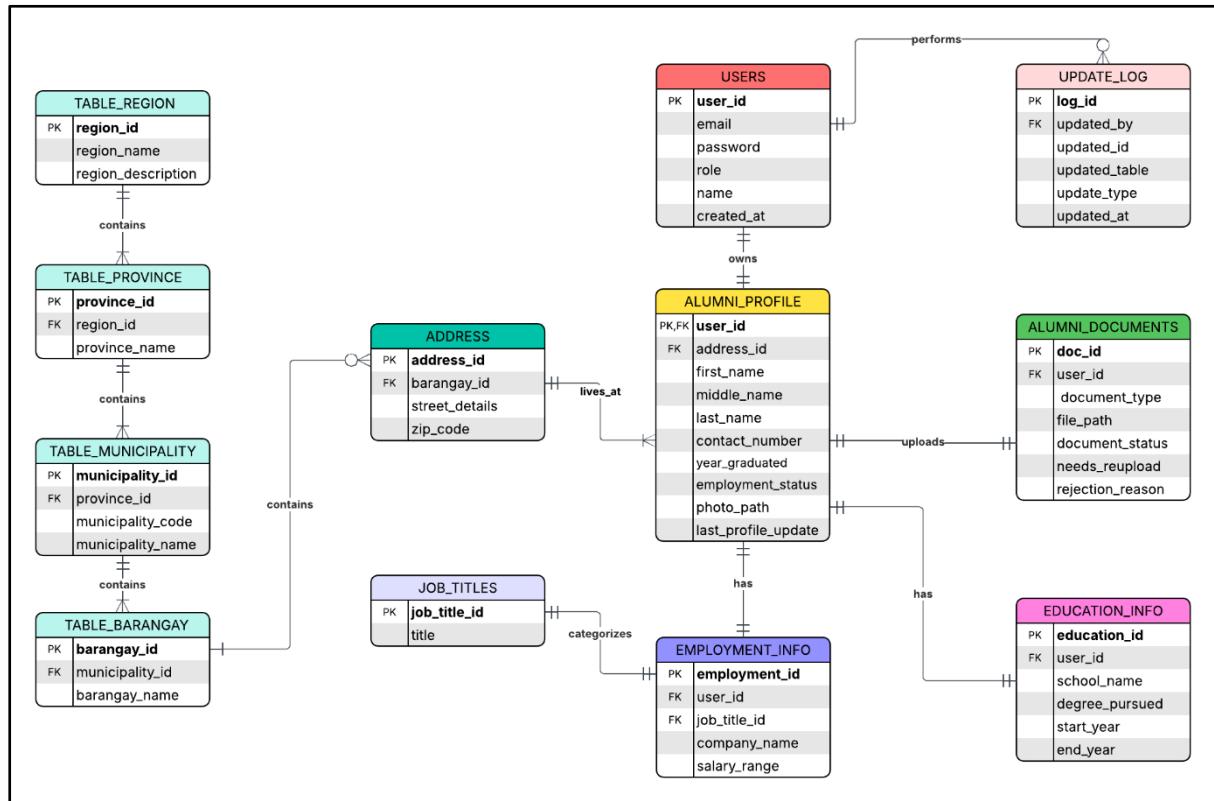
1. Alumni – Can register, log in, manage profiles, upload certificates, and receive notifications. These features ensure alumni can easily update employment information and comply with institutional requirements.

2. Administrator – Has access to more advanced functions such as managing alumni records, verifying documents, monitoring compliance, and configuring notifications. This ensures proper data management and compliance monitoring.

3. Automated Notification System – An external system integrated with AlumTrak that sends reminders to alumni, ensuring they remain updated and responsive.

3.5 Database Design

3.5.1 Entity Relationship Diagram



The database design of the AlumTrak: JHCSC BSIT Alumni Employment Tracking and Reminder System is developed using a relational database model to ensure data consistency, integrity, and efficient management of alumni information. The database is normalized to eliminate redundancy and maintain logical data relationships across multiple interconnected entities. This design enables both scalability and data reliability, supporting the system's core

functions such as alumni registration, employment tracking, document management, and automated notifications.

3.6 Implementation

The *AlumTrak* system was developed with a user-centered Graphical User Interface (GUI) to promote simplicity, accessibility, and functionality. The interface was designed to ensure intuitive navigation for both administrators and alumni users while maintaining a professional and visually coherent layout. The design followed the principles of consistency, readability, and responsiveness to guarantee usability across different devices and screen resolutions.

The main interface components include:

1. **Login Interface:** Provides a secure entry point for both administrators and alumni. Users are required to input valid credentials before gaining access to their respective dashboards.
2. **Alumni Dashboard:** Displays essential information such as employment status, uploaded documents, and notifications. From this interface, alumni can update their profile and submit necessary documents.
3. **Administrator Dashboard:** Serves as the control panel for managing alumni records. It includes data verification tools and compliance monitoring.
4. **Document Upload Interface:** Enables alumni to attach and submit required files for employment verification. The interface supports PDF and image formats.

3.6.2 System Modules and Functional Implementation

The system architecture of AlumTrak was divided into modular components to facilitate maintainability and scalability. Each module corresponds to a functional requirement outlined

in the earlier sections of this document and operates in coordination with the database for data retrieval and manipulation. The following modules were implemented:

1. **User Authentication Module:** Handles registration, login, and session management. It validates user credentials and ensures secure access to authorized features based on user roles (administrator or alumni).
2. **Profile Management Module:** Allows alumni to update personal, academic, and contact information. It synchronizes input data with the database, ensuring that records remain accurate and up to date.
3. **Employment Tracking Module:** Records employment-related data such as company name, position, employment type, and salary range. Administrators can monitor alumni employment trends through this module.
4. **Document Management Module:** Facilitates uploading, storing, and verifying employment verification documents. Administrators can approve, reject, or request revisions for submitted documents.
5. **Notification Module:** Implements the system's automated email reminder feature. This module sends notifications to alumni who have not submitted or updated their employment details within the given period.

Each module is interconnected through the database, enabling consistent data flow across the system. Modularization ensures that updates or modifications to one component do not disrupt the functionality of others, enhancing the system's reliability.