Software Requirements Specification (SRS)

For

HIMCS Alumni Portal

Course: MCA

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1. Introduction

1.1 Purpose

This SRS document describes the functional and non-functional requirements for the HIMCS Alumni Portal, a web-based platform designed to maintain and manage alumni data of HIMCS.
It is intended for developers, project supervisors, and administrators involved in the design, implementation, and maintenance of the system.

1.2 Scope

The HIMCS Alumni Portal enables alumni to register, update profiles, share professional achievements, and interact with other users. Admins can manage data, verify users, and post announcements.

1.3 Definitions, Acronyms, and Abbreviations

HIMCS - Hindustan Institute of Management & Computer Studies
SRS - Software Requirements Specification
DB – Database
Admin – Administrator
UI – User Interface
CRUD - Create, Read, Update, Delete

1.4 References

IEEE Standard 830-1998 for Software Requirements Specification
Django Documentation: https://docs.djangoproject.com/
MySQL Documentation: https://dev.mysql.com/doc/

1.5 Overview

This document outlines the system description, features, and implementation plan using HTML, CSS, JavaScript, Python (Django), and MySQL.

2. Overall Description

2.1 Feasibility Study

Feasibility Dimension	Assessment and Rationale (Example Content)
Technical Feasibility	**High.** The system uses well-established, open-source, and stable technologies: **Python (Django)**, **MySQL**, **HTML/CSS/JS**[2]. The team has the necessary skills (implied by the MCA course and the project's complexity). All components are readily available and integrate smoothly (e.g., Django ORM for MySQL).
Operational Feasibility	**High.** The system is designed to replace **manual tracking of alumni data** , which will streamline data management for the Administrator. It provides a user-friendly web interface for alumni, students, and faculty, making the transition easy. Internet connectivity is a necessary assumption.
Economic/Schedule Feasibility	**High.** Since this is an academic project, the economic cost is low (primarily time). The technology stack (Django, MySQL) is open-source (free). The timeline (implied by the project date of November 2025) is assumed to be manageable for the team members.
Legal/Ethical Feasibility	**High.** The system explicitly mandates compliance with **data privacy norms**. Secure authentication and encrypted passwords are required, which addresses basic legal and ethical requirements.

2.2 Product Perspective

The HIMCS Alumni Portal is a standalone system developed to replace manual tracking of alumni data. It will provide a structured database and a user-friendly web interface for both alumni and administrators and the web application designed to maintain alumni information, manage profiles, and facilitate communication.

2.3 Product Functions

Key functions include :

- Alumni registration and login.
- Profile management (personal, educational, and professional information).

- Admin dashboard for record verification and data management.
- Announcement and event posting by admins.
- Search and view alumni profiles.
- Secure communication among alumni, students, and faculty.

2.4 User Classes and Characteristics

- User Classes:
  - Alumni : Register, share updates, manage profiles
  - Administrator : Manage users, verify alumni, and oversee activities
  - Student/Faculty: View Alumni,apply for jobs

2.5 Operating Environment

Frontend: HTML, CSS, JavaScript
Backend: Python(Django Framework)
Database: MySQL
Browser Compatibility: Chrome, Firefox, Edge
Web Server:Django's development server

2.6 Design and Implementation Constraints

The system must comply with Django MVC architecture, secure authentication, normalized database structure and system must ensure compliance with data privacy norms.

2.7 Assumptions and Dependencies

- Internet connectivity is required.
- Users must have basic web navigation skills.
- Browser supports modern HTML5 and CSS3 features.

3. Specific Requirements

3.1 Functional Requirements

ID	Requirement Description
FR1	The system shall allow alumni to register with basic personal and professional details.
FR2	The system shall allow users to log in securely.
FR3	Alumni shall be able to update or delete their profiles.
FR4	The admin shall verify new alumni accounts before activation.
FR5	Admin shall manage and update alumni records.
FR6	The system shall allow the admin to post news, announcements, and event details.
FR7	Users shall be able to search for alumni by name, batch, or profession.
FR8	The system shall allow messaging or interaction among alumni and students (optional feature).
FR9	The system shall store and retrieve data from the MySQL database.

3.2 Non-Functional Requirements

Type	Requirement Description
Performance	The system should handle up to 500 simultaneous users without noticeable delay.
Security	User passwords must be encrypted. Admin-only features should be access-restricted.
Usability	The interface must be intuitive, with a clear navigation structure.
Reliability	The system should ensure 99% uptime and quick recovery from failures.
Scalability	The database should allow future expansion (more alumni data).
Maintainability	Code must follow Django's modular structure for easy updates.

3.3 External Interface Requirements

User Interface:

- Login/Signup Pages
- Alumni Dashboard
- Admin Dashboard
- Event/Announcement Page
- Search and Profile View Pages

Software Interfaces:

- Django ORM for database operations.
- MySQL database connectivity.

Hardware Interfaces:

- Works on standard computer or mobile device with browser access.

Communication Interfaces:

- HTTP/HTTPS protocol for client-server communication.
- SMTP for Email verification/password resets.

4. System Models

4.1 Data Flow Diagrams

Use Case Diagram (description):

- Actors: Alumni, Administrator, Student/Faculty
- Main Use Cases: Register, Login, Manage Profile, Manage Records, View Announcements, Search Alumni.

Data Flow Diagram (Level 0):

Data Flow Diagram (Level 1,2,3):

ER Diagram (Concept):
Entities: Alumni, Admin, Events, Achievements, Communication

5. Other Requirements

Backup and recovery options for database, compliance with privacy norms, and provision for future mobile or API integration.

6. Appendices

Sample user data, screenshots, and references to Django and MySQL documentation.

7. Conclusion

This Software Requirements Specification (SRS) successfully defines the necessary **functional and non-functional requirements** for the **HIMCS Alumni Portal**.

The document establishes that the system is **technically and operationally feasible** by leveraging a robust, open-source stack including Python (Django) and MySQL. The specifications ensure the portal will effectively replace manual data tracking, providing a structured database and a user-friendly interface for all stakeholders. Key functions, such as alumni registration, profile management, admin verification, and communication, have been detailed .

The finalized requirements, non-functional constraints (including 99% reliability and data privacy compliance), and system models (DFD and ER concept) now serve as the definitive **baseline** for the next phases of development. This SRS provides a clear and comprehensive roadmap for the **Design and Implementation** of the HIMCS Alumni Portal, leading to the creation of a valuable resource for the institution and its alumni community.