Software Requirements Specification (SRS)

1. Introduction

1.1 Purpose

The purpose of this document is to provide a detailed description of the requirements for **EduSphere**, a Unified University Management & Student Support Platform. This SRS serves as a reference for developers, project guides, and evaluators to understand the system's functionality and constraints.

1.2 Scope

EduSphere is a web-based application designed to centralize academic management and student support services within a university. The system integrates attendance tracking, examination records, notifications, grievances, and mentoring into a single secure platform with role-based access.

1.3 Intended Audience

- Project Guide / Faculty Evaluators
- Development Team
- Academic Review Committee

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2. Overall Description

2.1 Product Perspective

EduSphere is a standalone web application developed using modern web technologies. It follows a client–server architecture with RESTful APIs and role-based dashboards.

2.2 User Classes

- **Students** – Access academic records, attendance, results, notifications, and submit grievances
- **Faculty** – Manage attendance, upload marks, mentor students, and respond to requests
- **Administrators** – Manage users, academic calendars, notices, and system workflows

2.3 Operating Environment

- Web browser (Chrome, Edge, Firefox)
- Backend server (Node.js/Django)
- Database server (MongoDB/PostgreSQL)

2.4 Constraints

- Academic project timeline (3 months)
- Limited team size and resources
- No mandatory paid services

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3. Functional Requirements

3.1 Student Module

- Secure login and authentication
- View and update profile
- View subject-wise and overall attendance
- View examination schedules and results
- Receive notifications and announcements
- Submit grievances and track their status
- Access mentorship and academic guidance

3.2 Faculty Module

- Secure faculty login
- Mark and manage attendance
- Upload internal marks and grades
- View student performance analytics
- Respond to student grievances and requests

3.3 Admin Module

- Secure admin authentication
- User and role management (RBAC)
- Manage academic calendar and notices
- Handle grievance workflows
- Generate reports on attendance and results

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4. Non-Functional Requirements

4.1 Security

- JWT-based authentication
- Role-Based Access Control (RBAC)
- Encrypted password storage

4.2 Performance

- Efficient response time for user requests
- Optimized database queries

4.3 Usability

- Simple, intuitive user interface
- Role-based dashboards
- Responsive design

4.4 Reliability

- Proper error handling
- Data consistency and integrity

5. System Requirements

5.1 Software Requirements

- Frontend: React.js
- Backend: Node.js with Express or Django
- Database: MongoDB or PostgreSQL
- Authentication: JWT
- Containerization: Docker

5.2 Hardware Requirements

- Minimum 8 GB RAM (development)
- Stable internet connection

6. Assumptions and Dependencies

- Users have basic digital literacy
- Internet access is available
- University policies allow digital data storage

7. Future Scope

- Mobile application support
- AI-based student performance prediction
- Chatbot for instant student assistance
- Integration with LMS and ERP systems

8. Conclusion

EduSphere aims to provide a centralized, secure, and efficient digital solution for university academic management. This SRS defines the foundation for development and evaluation of the project.