**Software Requirements Specification (SRS) for ClassHub**

**1. Introduction**

The ClassHub is a software application designed to facilitate efficient management and organization of classrooms, courses, students, and instructors. This system aims to streamline administrative tasks, enhance communication, and provide essential tools for educators and administrators to manage the teaching and learning process effectively.

**2. Scope**

The ClassHub will include the following features:

* User Authentication: Secure login and registration for administrators, instructors, and students.
* User Roles and Permissions: Distinct user roles (admin, instructor, student) with appropriate permissions.
* Course Management: Create, update, and delete courses; assign instructors; set schedules.
* Student Enrollment: Enroll students in courses and maintain enrollment records.
* Attendance Tracking: Record and manage student attendance for each session.
* Grading and Assessments: Record and manage student grades and assessments.
* Announcements: Post announcements and notifications for courses.
* Communication: Provide a platform for communication between instructors and students.
* Reports: Generate reports on attendance, grades, and enrollment.

**3. Functional Requirements**

**3.1 User Management**

* The system shall allow administrators to register new users and manage user roles.
* Users shall be categorized into administrators, instructors, and students.
* Administrators shall have full access and control over system functionality.
* Instructors shall be able to manage courses, attendance, and grading for their assigned courses.
* Students shall be able to view enrolled courses, attendance records, and grades.

**3.2 Course Management**

* + Administrators shall be able to create, update, and delete courses.
  + Each course shall have a unique identifier, course title, description, and assigned instructor.
  + Courses shall be associated with schedules, including start and end dates of subjects.

**3.3 Student Registration**

* + Administrators and instructors shall be able to enroll students in courses.
  + Students shall be able to request enrollment in available courses.
  + Enrollment requests shall require instructor or administrator approval.

**3.4 Attendance Tracking**

* + Instructors shall be able to record student attendance for each session.
  + Students' attendance status (present/absent) shall be recorded and stored.

**3.5 Grading and Assessments**

* Faculty shall be able to record student grades for assessments, assignments, and exams.
* Weightages for different assessments shall be configurable.
* Students shall be able to view their grades for each assessment.

**3.6 Announcements and Communication**

* Instructors shall be able to post announcements and notifications for their courses.
* Students shall be able to view course-related announcements.
* The system shall provide a platform for direct communication between instructors and students.

**3.7 Reporting**

* The system shall generate reports for attendance, grades, and enrollment data.
* Reports shall be exportable in commonly used formats (PDF, CSV).

**4. Non-Functional Requirements**

* Security: User authentication and data encryption shall ensure the security of user information and system data.
* Usability: The user interface shall be intuitive and user-friendly for easy navigation and interaction.
* Performance: The system shall handle concurrent users and data processing efficiently.
* Scalability: The system architecture shall support future expansion and increased user load.
* Reliability: The system shall have minimal downtime and ensure data integrity.
* Compatibility: The system shall be accessible across different devices and web browsers.
* Maintenance: The system shall be easily maintainable, allowing updates and bug fixes.

**6. Glossary**

- SRS: Software Requirements Specification

- Admin: Administrator

- Trainer: Course instructor

- Student: Enrolled participant in a course