**Software Requirements Specification**

**Project Topic:**STDC COURSE MANAGEMENT SYSTEM

1. **Introduction**

A course management system online portal is a web based online portal designed to simplify and automate the management of faculty-student-related information and activities within an educational institution. This portal is typically accessed by institute administrators, teachers and students to manage their academic, administrative, and communication needs.

* 1. **Purpose**

The purpose of a course management system is to provide an online environment that supports teaching and learning activities, streamlines administrative tasks, and enhances the overall learning experience. It is a user-friendly portal to interact, manage, access the information.

* 1. **Intended Audience**

The main system user roles are as follows:-

* Faculties (admin)
* Students
* Visiting Faculties (General Public)
  1. **Intended Use**

The system is developed for automating the course management activities with user interactions. The system allows registering, login, and performing the user role activities.

Student can see their class material will have access to online zoom link for attending classes, attendance report, assignment information and results.

Where, Faculties (admin) will have access to post the class material, upload result and assignment information, attendance report and view student information.

* 1. **Scope**

This system will be designed to maximize the administrative, academic and overall productivity and it will be a user-friendly portal to interact, manage, access the information as well as administration task. We can store student information and administrative record. This can also be use to provide a student a user friendly platform with all the access of academic information such course material, lecture video links, result, attendance report etc. Faculties (admin/visiting) will also have access to upload the academic related materials as well as check student results and other information at ease.

**Student  
Dashboard**

**Registration/Login**

**Student**

**Faculty  
Dashboard**

**Faculties (Admin/Visiting)**

* 1. **Definitions and Acronyms**

**Definitions:-**

1. **Admin/Faculty** stands for a registered user and administrator of the web application system.The person need to register with the system, providing the required data and gets some specific functionalities.
2. **Student** stands for a registered user of the system. The person needs to register with the system, providing the required data and can have access to manage their academic activities.
3. **VisitingFaculty**stands for a registered user of the system. The person needs to register with the system, providing the required data and can have access to upload course material etc.
4. **Guest(General public)** is any person, browsing the application
5. **Browser:** Software used to view hypertext documents. Internet Explorer and Chrome are examples of browsers.
6. **JavaScript:** is a high level, dynamic, untyped, and interpreted programming language.
7. **MySQL:** MySQL is an open-source relational database management system.
8. **Web Portal:** A web portal is most often one specially designed web page that brings information together from diverse sources in a uniform way.

**Acronyms:-**

1. **DBMS:** Database Management System
2. **HTML:** Hypertext Mark-up Language
3. **CSS:** Cascading Style Sheets
4. **GUI:** Graphical User Interface
5. **OS:** Operating System
6. **RAM:** Random Access System
7. **SDLC:** Software Development Life Cycle
8. **URL:** Universal Resource Locator
9. **Overall Description(Client acceptance + Development team)**

This is an online course management system that provides a user-friendly web portal for administrators, faculties, members, and students to efficiently manage various educational processes. The system simplifies and automates the management of faculty-student-related information and activities within the educational institution. The portal serves as a central hub for institute administrators, teachers, and students, allowing them to easily handle their academic, administrative, and communication requirements.

As a development team, we are tasked with creating an intuitive and comprehensive online course management system. This system will feature a user-friendly web portal designed to streamline the management of faculty-student-related information and activities in educational institutions. The development team aims to provide administrators, teachers, and students with a centralized platform that simplifies academic, administrative, and communication tasks. Through our expertise and dedication, we strive to deliver a robust and efficient solution that meets the unique needs of our clients.

**2.1 User Needs**

**Student Needs:**

1. Enrollment: Ability to register for courses, view course catalogs, and select classes.

2. Attendance: Tracking attendance records for individual students.

3. Grades: Access to grades, GPA calculation, and progress tracking.

4. Timetable: Viewing class schedules and managing conflicts.

5. Communication: Tools for interacting with faculty, staff, and other students.

6. Course Materials: Access to digital resources such as lecture notes, assignments, and textbooks.

7. Exam Management: Scheduling and notification of exams, viewing exam results.

10. Personal Information Management: Updating personal details, emergency contacts, and privacy settings.

**Faculty (admin/visiting) Needs:**

1. Course Management: Creating and updating course information, syllabi, and grading policies.

2. Attendance Management: Tracking and recording student attendance.

3. Grade Management: Entering and submitting grades for assignments, quizzes, and exams.

4. Communication: Ability to send announcements, messages, and facilitate discussions.

5. Resource Sharing: Sharing course materials, lecture slides, and readings.

6. Timetable Management: Scheduling and managing class sessions, office hours, and meetings.

7. Advising: Monitoring student progress, providing guidance, and feedback.

9. Reporting: Generating reports on student performance, attendance, and overall course statistics.

10. Collaboration: Coordinating with other faculty members, departments, and administrative staff.

* 1. **Assumptions and Dependencies (Design/Development team)**

1. To use the web based platform/system activities, a user should be registered first.
2. Different types of login categories are available with the system, which are been maintained by the admin. The functionalities for each type are also different.
3. Assumption that the necessary stakeholders, including administrators, teachers, and students, actively participate in the design and development process, providing feedback and clarifications.
4. The required student and faculty data, such as personal information, academic records, and course details, are accessible and can be integrated into the web-based application.
5. The necessary technical infrastructure, including servers, databases, and network connectivity, is available and capable of supporting the web-based application's requirements.
6. there are established security measures and protocols to protect sensitive student and faculty information, ensuring data privacy and compliance with applicable regulations.

**3. System Features and Requirements**

* 1. **Functional Requirement**

The complete functional modules of the application includes the following:-

* + 1. Functional Requirement 1 – Admin Module

Sub Functional requirements

* Admin/Faculty (Enrolment/login)
* Manage students
* Manage faculty
* Manage Profile
* Manage students profile
* Manage post course material(resources)
* Upload assignments:
* Conduct exams
* Exam results
* Manage students report:
* Manage daily attendance:
* Feedback
  + 1. Functional Requirement 2 – Student Module

Sub Functional requirements

* Students profile(Enrolment/login)
* Accessing resources
* Accessing assessments:
* Accessing assignments:
* Exam results:
* Accessing attendance
* Documentation
* Feedback
  + 1. Functional Requirement 3 – Visiting faculty Module

Sub Functional requirements

* Visiting profile(Enrolment/login)
* Upload course material
* Feedback

**Functional requirements in detail**

* **Functional Requirement 1 – Admin Module**

**Sub Functionaldetail**

* **Admin/Faculty (Enrolment/login)**
  + 1. Sign up as:
    2. Centre:
    3. Course:
    4. Faculty ID:
    5. Full Name:
    6. Email Id:
    7. Mobile No:
    8. Password:
    9. Confirm Password

Admin is a person whose responsibility is to maintain the database that contains each and every data regarding the all the student. Admin can add student details into the database, can be able to delete student details and can update the student fee details.

Admin has some other responsibilities they are• Admin is can maintain the Academic details of each and every student.• Admin can generate the reports of the students and• Admin can export the details to excel.

* **Manage students**
* View the students submitted documents
* Edit students detail
* **Manage faculty**
* Add/remove (visiting)faculty
* View faculty details
* **Manage Profile**
* Signup/Login for Admin
* Forgot Password for Admin
* Edit Profile for Admin/student
* **Manage students profile**
* Edit the Existing profiles
* View Profile of the students
* Listing of all students Requests
* **Manage post course material(resources)**
* Adding session link(theory)
* Adding session link(lab)
* Adding recorded videos (theory session)
* Adding recorded videos (lab session)
* Adding lecture notes
* Adding reference material
* **Upload assignments:**
* Uploading assignments
* View the status of assignments (ex. due date)
* Upload project assignment
* View project status
* **Conduct exams**
* Adding daily review test (link)
* Adding weekly review test (link)
* Adding module end theory test (link)
* Adding module end lab test (link)
* Listing of all Tests
* **Exam results**
* Upload tests wise marks
* View the results of tests
* **Manage students report:**
* View module wise performance for students
* View overall performance for students
* **Manage daily attendance:**
* Adding / editing
* Accessing student’s daily attendance
* **Feedback**
* Feedback to student
* Feedback to class
* Read Feedback from students
* Module wise feedback questionnaire.
* **Functional Requirement 2 – Student Module**
* **Students profile(Enrolment/login)**
  + 1. Sign up as:
    2. Centre:
    3. Course:
    4. Student ID:
    5. Full Name:
    6. Email Id:
    7. Mobile No:
    8. Password:
    9. Confirm Password:

Here the user means the student. The responsibility of the student is to login into the site and can view his/her fee details and can able update his/her personal details if there is any wrong details are present. Whenever the student will register his/her name then the student will be given by one individual username and password. When the student will type the correct username and password then the will enter into another page. In that page, the student can select two options that are updated details and view details. A student can able to update his/her personal details and can be able to view the fee details but cannot update the fee details.

* **Accessing resources**
  + Accessing lecture notes shared by faculty
  + Accessing recorded theory session video
  + Accessing recorded lab session video
  + Accessing module wise reference material
* **Accessing assessments:**
  + Accessing Daily review test
  + Accessing weekly review test
  + Accessing module end theory test
  + Accessing module end lab test
  + Accessing project related assessment
* **Accessing assignments:**
  + Accessing received (due) assignments
  + View due assignments
  + Uploading completed assignments solutions (pdf documents)
* **Exam results:**
  + Accessing module wise results (ex. Daily / weekly/module end test)
  + Accessing assignment wise score
  + Accessing project assessment results
* **Accessing attendance** 
  + Accessing attendance information
* **Documentation**
  + Uploading the required academics documents (pdf)
  + Uploading the passport size photo and signature(jpeg)
  + Uploading the identity proof(jpeg)
* **Feedback** 
  + Submitting the module wise feedback based on questionnaire
  + Send feedback
* **Functional Requirement 3 – Visiting faculty Module**
* **Visiting profile(Enrolment/login)**
  + Post lecture notes
  + Post reference material

Visiting faculty is a person whose responsibility is to post Lecture notes, Post reference material.

* **Upload course material** 
  + Post lecture notes
  + Post reference material
* **Feedback**
  + Feedback to student
  + Feedback from student
  1. **External Interface Requirements**
* **Hardware Interfaces**

We require LAN connection for interacting with the database and local computers for any help or any other requirement. We use TCP/IP protocol for communicating with local hosts. We also need a system with P4 processor; 1GB RAM and database memory.

* **Software Interfaces**

Google Chrome particular version and above / latest version

Microsoft edge or Mozilla Firefox

* **Communications Interfaces**The communications functions required by this product are LAN connection within the whole college so that the admin, student, and visiting faculty can interact with each other. We use TCP/IP protocol.
  1. **System Features**

In order to maintain reliability, system will be able to handle a high volume of users accessing it at the same time without experiencing any performance issue and it should be able to respond to requests in most reliable way. It will be easy to use and users will easily learn how to use and navigate and will be user-friendly.

By meeting these performance requirements, a college website can provide a positive user experience that helps to attract and retain students, faculty, and staff, as well as other stakeholders and partners.

* 1. **Nonfunctional Requirements**

Following Non-Functional Requirements will be there in the insurance to the internet:

* Secure access to students/faculty’s/admin confidential data.
* 24X7 availability.
* Better component design to get better performance at peak time.
* Access to database for managing students and faculty’s profile
* Flexible service-based architecture will be highly desirable for futureextension.

Various other Non-Functional Requirements are:

* Security
* Reliability
* Maintainability
* Centralize operations
* Extensibility
* Reusability
* Compatibility
* Resource Utilization