**Software Requirement Specification Document**

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# ****Software Requirements Specification (SRS)****

**Project Title:** Online Course Enrollment System  
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## ****1. Introduction****

### 1.1 Purpose

The purpose of this document is to define the software requirements for an Online Course Enrollment System for students The system will enable students to register, create user profiles, browse available courses, enroll in courses, and manage their course enrollments online.

### 1.2 Scope

This system will support registration of new users, login functionality, management of course offerings for three semesters (spring, summer, fall), and enrollment and waitlisting capabilities. The system ensures data integrity by enforcing unique user IDs and managing course capacity dynamically.

### 1.3 Definitions, Acronyms, and Abbreviations

* **User:** A student who uses the system to register and enroll in courses
* **Waitlist:** A list of students waiting to enroll if a course is full

## ****2. Overall Description****

### 2.1 Product Perspective

The Online Course Enrollment System is a new, independent system to be developed from scratch.

### 2.2 Product Functions

* User registration and profile management
* Secure login/logout mechanism
* View available courses by semester
* Enroll in courses (subject to capacity)
* Waitlist handling for full courses
* Cancel enrollment and notify waitlisted users

### 2.3 User Classes and Characteristics

* **Student:** Registers, logs in, views courses, enrolls, cancels, or joins waitlists

## ****3. Specific Requirements****

### 3.1 User Registration

* The system should allow new users to register by creating an account.
* Each account must have a **unique user ID** and **password**.
* The system should prevent duplicate user IDs.
* The user must enter the following profile details:
  + Full Name
  + Phone Number
  + Email Address
  + Date of Birth

### 3.2 Login and Authentication

* The system should allow users to log in using their unique ID and password.
* The system should verify credentials and reject unauthorized login attempts.

### 3.3 Course Listings and Semesters

* The system should allow users to view a list of courses for each semester (Spring, Summer, Fall).
* Each course should include:
  + Course Name
  + Course Code
  + Semester Offered
  + Maximum Enrollment Capacity
  + Number of Current Enrollments

### 3.4 Course Enrollment

* A user should be able to enroll in any course that is not full.
* If the course is full, the user should be able to join a **waitlist**.
* A course's capacity may differ between courses.

### 3.5 Waitlist Management

* When a user drops from a full course, the system should notify the **first user on the waitlist** and allow them to enroll.
* The waitlist should operate on a **first-come, first-served** basis.

### 3.6 Enrollment Cancellation

* A user should be able to cancel enrollment in any course.
* Upon cancellation, the system should check the waitlist and notify the next eligible student.

## ****4. Non-Functional Requirements****

### 4.1 Security

* Passwords should be stored securely using encryption.
* The system should prevent brute-force login attempts.

### 4.2 Usability

* The interface should be user-friendly and accessible via web and mobile browsers.

### 4.3 Performance

* The system should support at least 1,000 concurrent users without performance degradation.

### 4.4 Availability

* The system should be available 99.5% of the time during each semester.

## ****References****

IEEE. (2011). IEEE Std 830-1998: IEEE Recommended Practice for Software Requirements Specifications. Institute of Electrical and Electronics Engineers. <https://doi.org/10.1109/IEEESTD.1998.88286>

Kim, J., & Lee, W. (2019). An effective design of online course registration systems using student behavior analytics. Journal of Educational Technology & Society, 22(3), 113–123.