**SRS Document Development**

**Manuel Madrid**

**GEN499 Capstone for Computer Software Technology**

**Professor Joseph Rangitsch**

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**Software Requirements Specification (SRS)**

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**Software Requirements Specification (SRS)**

**1. Introduction**

**1.1 Purpose**

The purpose of this document is to specify software requirements for an online course registration and enrollment system. The purpose of the system is to support user registration, logging in, course listing, and enrollment functionalities. The purpose of this document is to address the ongoing issues students have with enrolling in online courses.

**1.2 Scope**

This system will allow students to register and manage their course enrollments across any semester needed (spring/summer/fall). Included in the system is user account management, course management, and enrollment tracking. User specific identifications, secure logins, and handling of enrollment limits and waitlists will be appropriate features.

**1.3 Definitions, Acronyms, and Abbreviations**

* **SRS**: Software Requirements Specification
* **UI**: User Interface
* **ID**: Unique Identifier

**2. Overall Description**

**2.1 Product Perspective**

This system is a standalone web application and is accessible via modern web browsers. The application will include interfaces for students as well as administrators.

**2.2 Product Functionality**

* User registration and profile creation
* User login/logout
* Course listing with filtering by semester
* Course enrollment and cancellation
* Waitlist management

**2.3 Users and Characteristics**

* **Student**: Can register, login, enroll/cancel courses, and view available courses.
* **Admin**: Manages course offerings and caps in enrollment.

**2.4 Operating Environment**

* Web based (HTML/CSS/JS frontend, database integration backend)
* Supported browsers : Chrome, Firefox, Safari, Edge

**3. Specific Requirements**

**3.1 User Registration**

* This system will allow new users to register with unique ID and password.
* The system will prevent duplicate ID’s.
* The system will capture the following users profile information:
  + Full name
  + Phone number
  + Email address

**3.2 Authentication**

* The system will allow users to log in using their ID and password.
* The system will validate credentials against stored user data.

**3.3 Course Management**

* The system will display a list of courses offered per semester (Spring/Summer/Fall).
* Each course will have a unique ID, name, and a maximum enrollment cap.
* The system will allow users to view course details (Name, description, capacity, current enrollment).

**3.4 Enrollment Functionality**

* Users can enroll in any course with available openings.
* If a course is full, users can join a waitlist.
* If a user cancels enrollment, the system will notify the next waitlisted user that a spot is available.

**3.5 Waitlist Management**

* The system will maintain an ordered waitlist for each course.
* When a user cancels, the first waitlisted student will be notified (email or a system alert).

**3.6 System Constraints**

* Data must be stored securely.
* Passwords should be encrypted.
* The system must support concurrent access without data inconsistency.

**4. Other Nonfunctional Requirements**

**4.1 User Interface**

* Responsive web interface for mobile and desktop
* Forms for registration and login
* Dashboard to manage profile and enrollments

**4.2 Hardware Interface**

* No specific hardware required

**4.3 Software Interface**

* Backend: RESTful API/GraphQL/gRPC or server-based application
* Database: Relational (e.g., MySQL, PostgreSQL)

**References**

Tsui, F., Karam, O., & Bernal, B. (2018). [*Essentials of software engineering*](https://uagc.instructure.com/courses/144760/modules/items/7385229)(4th ed.). Jones & Bartlett Learning.

* Chapter 6: Requirements Engineering
* Appendix B: Essential Software Requirements Specification (SRS)

Burak, A., & Burak, A. (2025, January 30). Your 2025 guide to writing a Software Requirements Specification – SRS document. *Relevant Software*. <https://relevant.software/blog/software-requirements-specification-srs-document/>

Garbar, D. (2025, April 3). Custom SRS document  (International Standard). *Belitsoft*. <https://belitsoft.com/custom-application-development-services/software-requirements-specification-document-example-international-standard>