CS266: Software Engineering

Software Requirements Specification

Version 1.0

Jan 19, 2025

Student Registration System

Abhi Trivedi (202311001)

Ankesh Mishra (202311010)

Annepu Adarsh (202311012)

Gadde Tejesh (202311031)

Pooja (202311063)

Rushika Katakam (202311074)

Saksham Sharma (202311075)

Harshavardhan K (202311091)

Version Details

Date	Version	Lab
19/01/2025	1.0	1

Table of Contents

1.0 Introduction

1.1 Purpose

This document outlines the functionality and system requirements for a student registration system. The primary objective of this system is to provide a seamless and user-friendly interface for students to efficiently complete their registration process. Additionally, the system serves as a centralized platform for faculty members to input and manage students' marks and grades. By streamlining these processes, the system aims to enhance operational efficiency and improve the overall experience for both students and faculty.

1.2 Scope of Project

This website will function as a portal designed to facilitate the registration of students into specific academic courses, eliminating the need for manually filling out forms and submitting them to the administration office. It will also provide faculty members of the respective courses with the capability to assign marks to students. Additionally, the system will automatically generate a grading structure based on predefined criteria, which faculty members can choose to adopt or override if they prefer to implement a custom grading system tailored to their requirements.

1.3 Glossary

s.no	***Terms***	***Definition***
1.	***Student Registration***	The process by which students enroll in courses for a particular academic term or program, often done online through the system
2.	***User Authentication***	The method of verifying the identity of users (students, administrators, faculty) to grant secure access to the system.
3.	***Course Management***	The process of creating, updating, and managing courses offered by the institution, including setting course prerequisites and enrolment limits.
4.	***Database Management***	The process of storing, organizing, and managing student information, course data, and registration records in a secure database
5.	***Grading Structure***	A predefined or customizable system for calculating and displaying students' grades based on their performance.

1.4. References

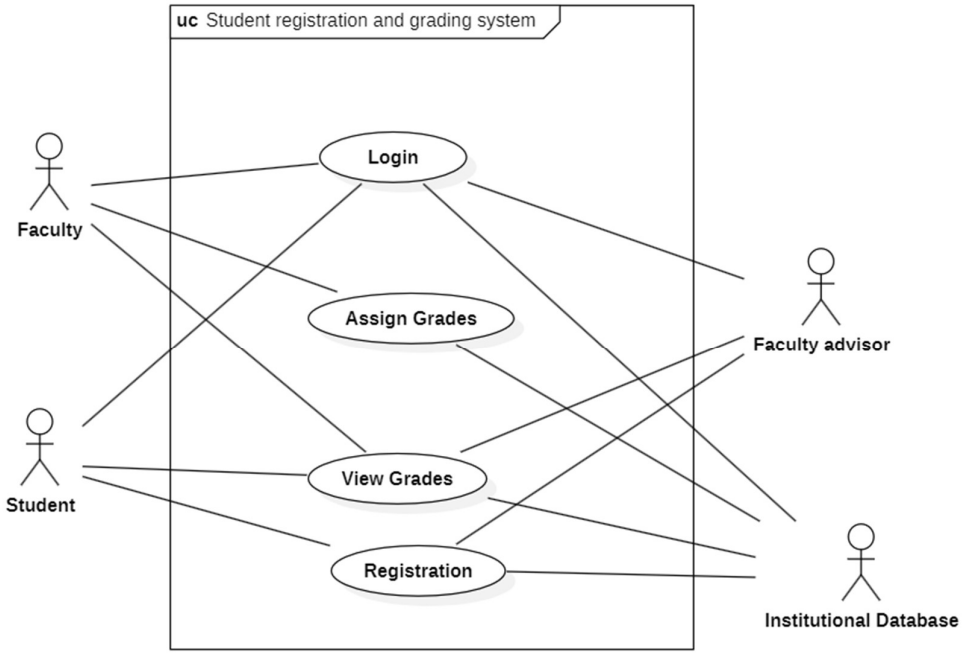
IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.

1.5. Overview of Document

The next chapter, the Overall Description section, provides an overview of the product's functionality. It outlines the informal requirements and serves to establish the context for the detailed technical requirements specification presented in the following chapter. The third chapter, the Requirements Specification section, is primarily aimed at developers and describes the product's functionality in technical terms.

2.0 Overall Description

2.1 System Environment



2.2 Functional Requirement Specifications

2.2.1 Student Use Case

Use Case: **Log in For Registration**

Diagram:

Brief Description

The student accesses the website and logs in with his/her account to complete his/her registration.

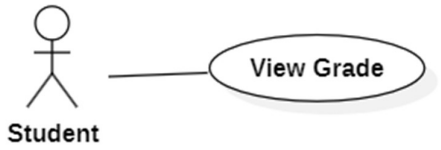
Initial Step-By-Step Description

Before this use case can be initiated, the student has already accessed the website.

1. The student selects to login as a student.
2. The system asks for the student ID and password.
3. The student enters the details.
4. The system verifies the details from the Institutional Database.
5. If student details are correct, the system presents a blank registration form.
6. The student fills the form and submits it.

Use Case: **View Grades**

Diagram:



Brief Description

The student is registered for various courses and can view the grades assigned to each course by the respective faculty member.

Initial Step-By-Step Description

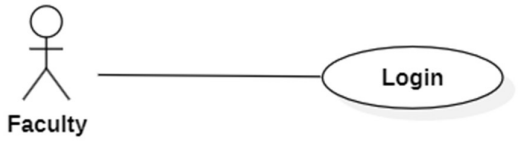
Before this use case can be initiated, the student has already logged in.

1. The student selects to view grades.
2. The system presents the grade sheet.

2.2.2 Faculty Use Case

Use Case: **Login**

Diagram:



Brief Description:

The faculty member logs in with his/her registered account.

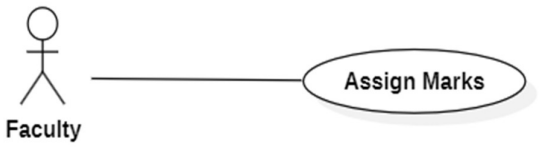
Initial Step-By-Step Description

Before this use case can be initiated, the faculty has already accessed the website.

1. The faculty selects to login as a faculty.
2. The system asks for the faculty ID and password.
3. The faculty enters the details.
4. The system verifies the details from the Institutional Database.
5. If faculty details are correct, the system allows a successful login.

Use Case: **Assign Marks**

Diagram:



Brief Description

The faculty member accesses the website with his logged in profile and assigns the marks to the registered students in the enrolled courses.

Initial Step-By-Step Description

Before this use case can be initiated, the faculty has already accessed the website and logged in.

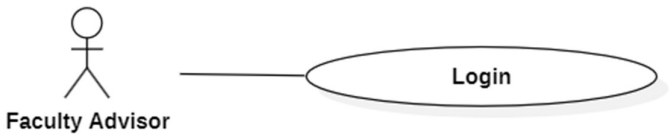
1. The faculty chooses to assign marks to students.

2. The system shows the list of registered students in the particular course of the faculty.
3. The faculty selects the student profile.
4. The faculty enters the marks.

2.2.3 Faculty Advisor Use Case

Use Case: **Login**

Diagram:



Brief Description:

The faculty advisor logs in with his/her registered account.

Initial Step-By-Step Description

Before this use case can be initiated, the faculty advisor has already accessed the website.

1. The faculty advisor selects to login as a faculty advisor.
2. The system asks for the faculty advisor ID and password.
3. The faculty advisor enters the details.
4. The system verifies the details from the Institutional Database.
5. If faculty advisor details are correct, the system allows a successful login.

Use Case: **Review Registration Forms**

Diagram:

Brief Description

The faculty advisor accesses the website and reviews the information of the students' profiles who have logged in to confirm and allow their registration.

Initial Step-By-Step Description

Before this use case can be initiated, the faculty advisor has already accessed the website and logged in.

1. The faculty advisor selects to verify registration forms.
2. The system shows the list of submitted forms.
3. The faculty advisor selects a form.
4. The faculty advisor accepts the registration.

2.3 User Characteristics

Students are expected to have basic computer literacy and have access to the internet.

Faculty members and advisor are expected to be familiar with the grading structure and course management. They are also expected to have access to the internet and have basic computer literacy.

2.4 Non-functional Requirements

2.4.1 Performance Requirements

The system should handle simultaneous logins by many users simultaneously.

2.4.2 Usability Requirements

The interface should be user friendly and easy to use.

2.4.3 Scalability Requirements

The system should be able to accommodate the addition of new courses and users.

3.0 Requirements Specifications

3.1 External Interface Requirements

The institutional database is the only external system for verifying the details of the students, faculty and the faculty advisor. The fields of interest in the database are namely the student/faculty ID and the password.

3.2 Functional Requirements

3.2.1 Login

Use Case Name	***Login***
Trigger	The student / faculty/ faculty advisor selects the login option on the homepage.
Precondition	The student/faculty/faculty advisor has registered an account with the system.
Basic Path	• The system presents a login screen where the user can enter their credentials (Student / Faculty ID and password). • The student or faculty enters their ID and password. • The system verifies the credentials by checking them against the institutional database. • If the credentials are correct, the system redirects the student or faculty to their respective dashboard (Student Dashboard or Faculty Dashboard). • If the credentials are incorrect, the system displays an error message and prompts the user to try again.

3.2.2 View Grades

Use Case Name	***View Grades***
Trigger	The student selects the "View Academic Profile" option from their dashboard.
Precondition	The student has logged into the system.
Basic Path	• The system presents the student's academic profile screen, displaying key academic details such as grades, subjects. • The student selects to view grades. • The system presents the grades.

3.2.3 Assign Grades

Use Case Name	***Assign Grades***
Trigger	The faculty member accesses the grade entry module from the faculty dashboard.
Precondition	The faculty member is logged into the system with appropriate privileges and the courses they teach are linked to their profile.
Basic Path	• The faculty member accesses the grade entry module. • The faculty member enters marks and submits them. • The system automatically generates grades based on entered grades. • Faculty is also provided with an option to custom decide grade boundaries. • The system saves the data.

3.2.4 Registration

Use Case Name	***Registration***
Trigger	The student selects the "Registration" option from their dashboard.
Precondition	The student has logged into the system.
Basic Path	• The system displays a list of available courses for the semester with details. • The student selects courses. • The system verifies eligibility, confirms the registration.