

Software Requirements Specification (SRS)

Student–Course Management Web Application

1. Introduction

1.1 Purpose

This document defines the software requirements for a TwoPage Web Application developed using **ASP.NET Core 8**.

The application manages Students, Courses, and Student–Course Mapping with support for:

1. CRUD operations
2. Search without page refresh
3. Soft delete functionality
4. Popupbased data entry

1.2 Scope

The application will:

- Manage student details with full CRUD and live search
- Manage course master data using a popup (modal)
- Map students to courses
- Display mappings in a scrollable grid
- Use soft delete instead of physical deletion

2. Overall Description

2.1 Product Perspective

The system is a standalone ASP.NET Core 8 MVC/Web API application consisting of two main UI pages:

1. Student Management Page
2. Course & Student Mapping Page

The backend will interact with a SQL Server database using:

1. Entity Framework Core
2. Stored Procedures for all database operations

Frontend interactions will use:

- JavaScript / jQuery
- AJAX for asynchronous operations

3. Functional Requirements

3.1 Page 1 – Student Management

3.1.1 Student Grid

Display all active students in a grid

Columns:

- Student Name
- Phone Number
- Email ID
- Actions (Edit / Delete)
- Deleted (inactive) records must not appear

3.1.2 Add Student

Input Fields:

1. Student Name (Required)
2. Phone Number (Required Numeric Exactly 10 digits)
3. Email ID (Required Valid email format)

Behavior:

- Save functionality with exception handling
- Success message displayed without page refresh
- Grid refreshes dynamically

3.1.3 Edit Student

- Edit button loads selected student data into input fields
- Update button saves changes
- Changes reflected in grid instantly

3.1.4 Delete Student (Soft Delete)

- Delete button marks record as Inactive
- Record is not physically deleted
- Student disappears from grid immediately
- Students mapped to courses cannot be deleted (validation)

3.1.5 Search Student (No Page Refresh)

Search by:

- Student Name
- Phone Number
- Email ID
- **Search filters grid dynamically without Page refresh**
- **No page reload allowed**

3.2 Page 2 – Course & Student Mapping

3.2.1 Course Master (Popup Modal)

Clicking “Add Course” opens a popup modal

Fields:

- Course Name (Required)
- Course Code (Required, Unique)

Save happens without Page refresh

On Success:

- Popup closes
- Success message shown
- Newly added course becomes immediately available in autocomplete

On Failure:

- Error message shown inside popup
- No page refresh

3.2.2 Student Autocomplete

- Autocomplete dropdown listing active students
- Data loaded dynamically from database

3.2.3 Course Autocomplete

- Autocomplete dropdown listing active courses
- Newly added courses must appear immediately
- No page refresh

3.2.4 Map Course to Student**Select:**

- Student
- Course
- ❖ Save mapping
- ❖ Duplicate mapping not allowed
- ❖ Success/error message displayed dynamically

3.2.5 Course Mapping Grid

Scrollable grid

Displays:

- Student Name
- Course Name
- Course Code
- Action (Delete)

Only active mappings displayed

3.2.6 Delete Mapping (Soft Delete)

- Delete button marks mapping as inactive
- No physical deletion
- Grid updates dynamically

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