

Technical Story Card

Revision History

Version No.	Date	Prepared by / Modified by	Significant Changes
1	29 Aug 2022	Paveisha Shanthapriya Muzni Munas Kaveesha Dassanayake Tharupathi Vihasa Hiruni Jayawardena	Draft Version

Glossary

Abbreviation	Description
SMS	Student Management System

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1 Introduction

Student management system is a web-based application that allows schools and educational institutions to keep track of, analyse, and maintain the academic and personal details of all students.

With the Student management system, it is no longer necessary to manually record student details, thereby eliminating all inconveniences that may result from disorganization.

The owner or administrator has full control over the system. All system operations are performed from the admin panel through the use of CRUD features to add, view, edit, and delete students.

2 Scope of Change

There will be no changes accepted to this document, and whatever specifications mentioned are final.

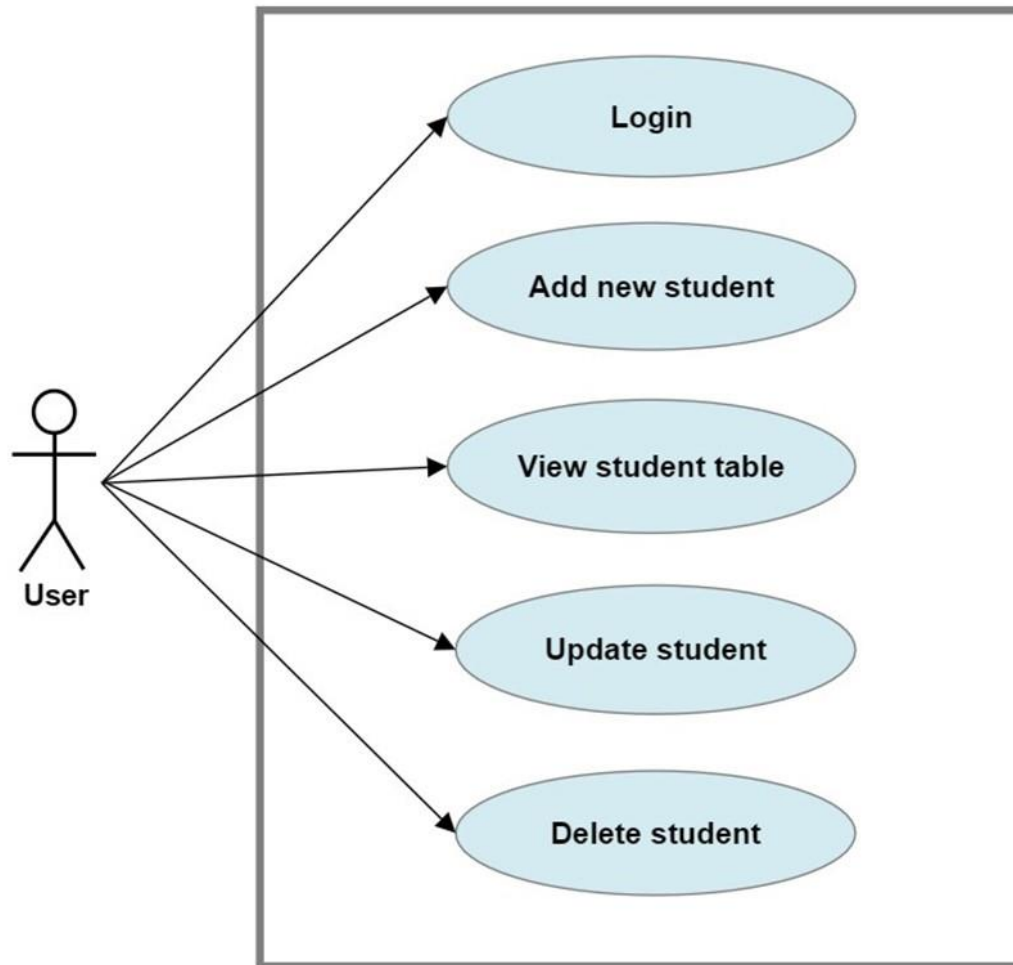
3 List of impacted modules

All the functional modules will be created from scratch.

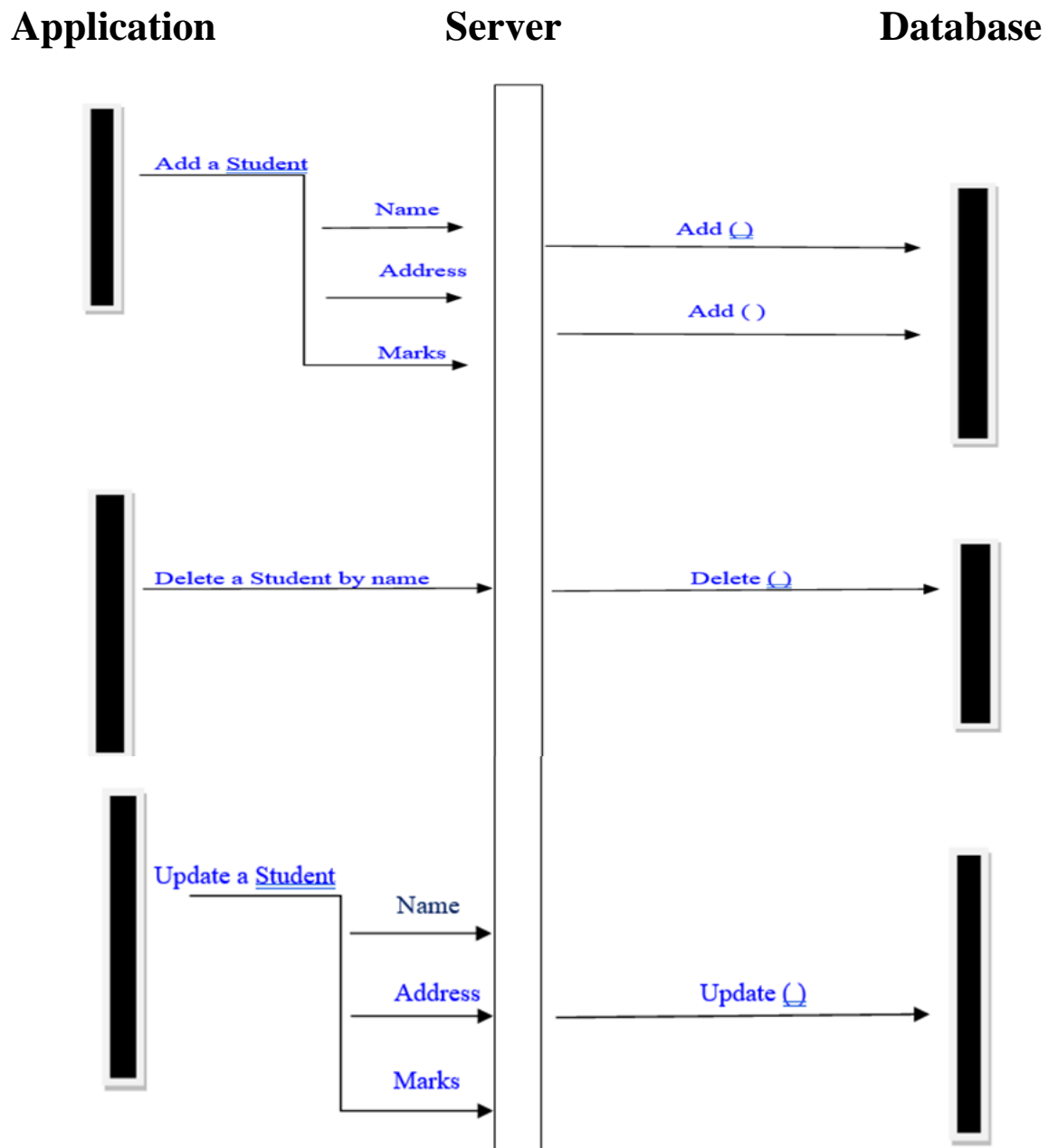
4 Design and Detailed technical updates

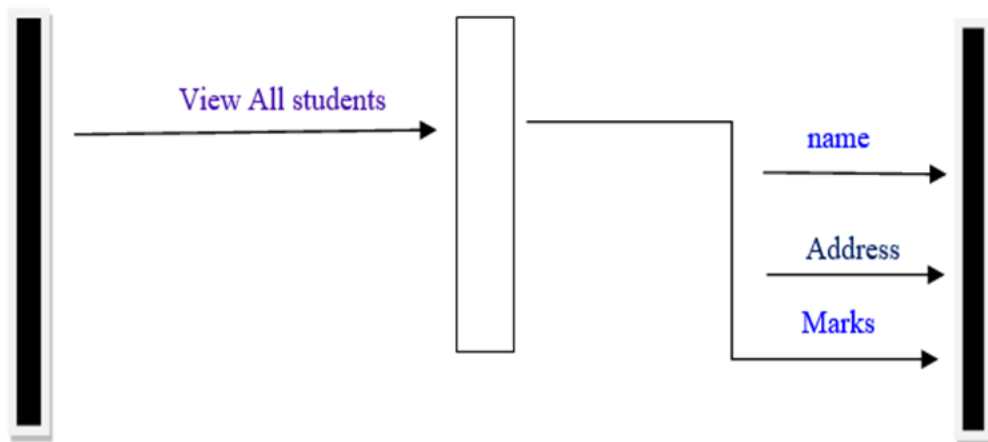
4.1 Process model

4.1.1 Use case Model

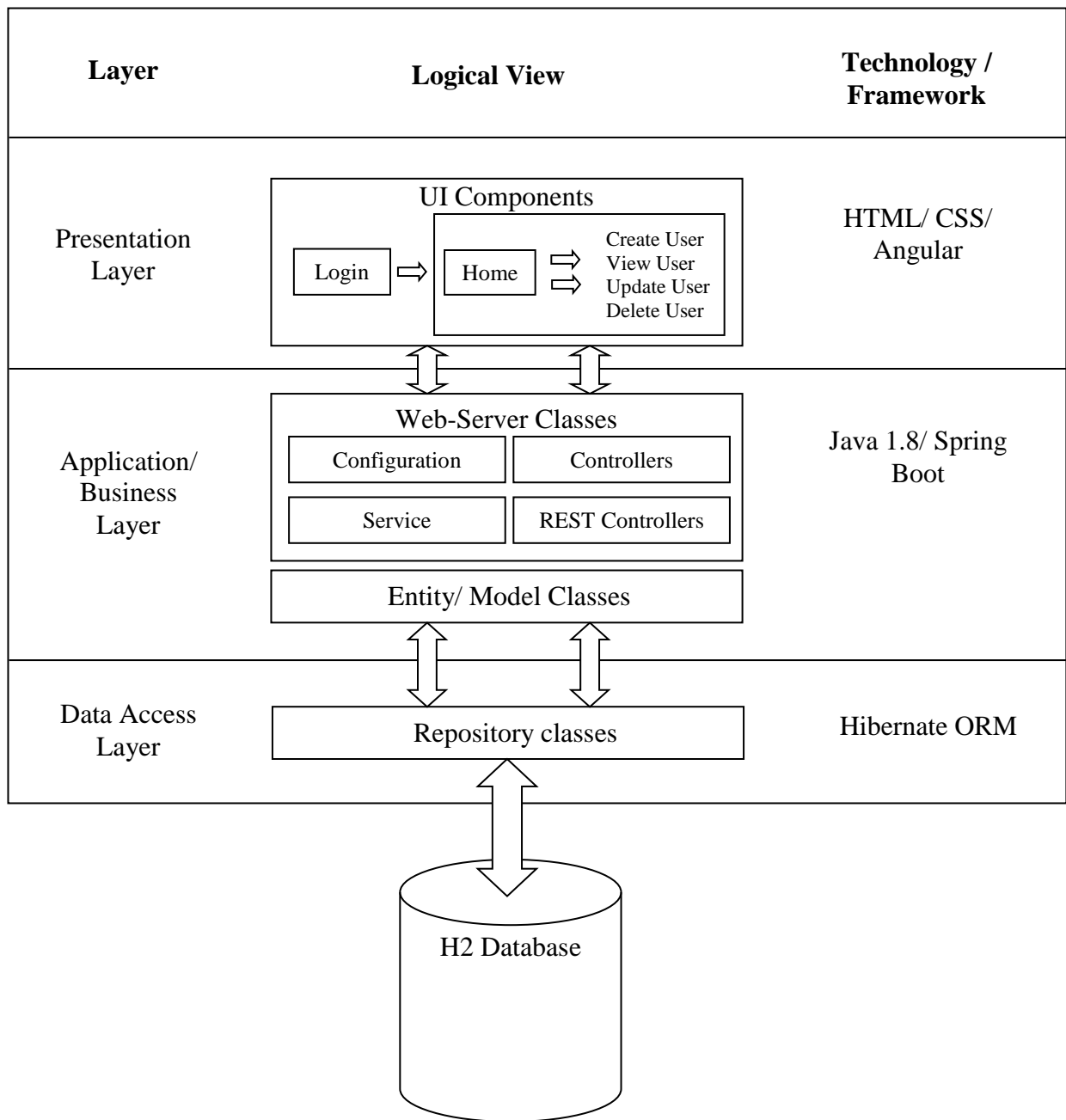


4.1.2 Sequence Diagram





4.1.3 Architecture Diagram



4.1.3.1 Presentation Layer

This layer consists of all UI components

- Login Component – Admin can use the login component to log in to the website.
- Home Component
 - From the home component, admin can create students, update students, retrieve students and delete students.

4.1.3.2 Application Layer

This layer comprises of all server and business classes.

- Configuration settings (XML or Class based) will define the application and server configuration.
- Spring Controllers defines the server classes, which are required to process the incoming http requests.
- Service classes are required to perform the required business services.
- REST Controllers to process the HTTP requests.
- Model classes are used to define the functions of the entities present in the system.

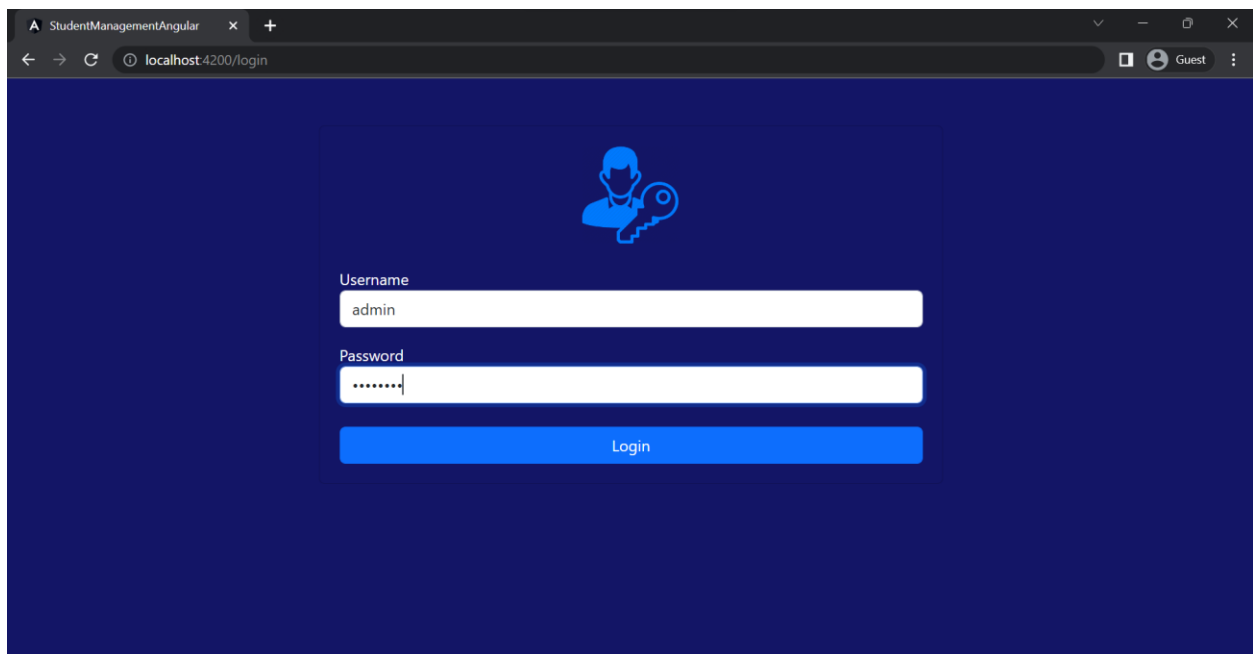
4.1.3.3 Data Layer

The data layer contains the repository classes, which provides interface to the table.

4.2 Proposed user Interface design

4.2.1 Login

Brief Description	Login
Basic Flow	This user case describes how to login to the system 1. Users can enter the email and a valid password to login to the system
Alternate Flow	The system will validate the information provided. If incorrect username or password is entered, an error message will be displayed
Validation	1. Valid username 2. Valid password
Pre-Conditions	Users should have network access.
Post-Conditions	Add student page should be displayed



4.2.2 Add Students

Brief Description	Add Student
Basic Flow	<p>This use case describes how to add a new student to the system.</p> <ol style="list-style-type: none">1. The user can add a new student by entering the student's name, address and marks.2. After entering the above information, a new student will be added to the database.
Alternate Flow	<p>The system will validate the information provided. User cannot enter invalid information Ex: User cannot enter numeric values for the name or string values for marks.</p>
Validation	<ol style="list-style-type: none">1. Name can be of string type2. Address can be of string or integer type3. Marks should be of integer type4. Roll number will be automatically generated
Pre-Conditions	Users should have network access.
Post-Conditions	The added information will be shown below using a table view.

The screenshot shows a web browser window with the title 'StudentManagementAngular'. The address bar shows 'localhost:4200/home'. The page has a dark blue background. In the top right corner, there is a 'Log Out' button. The main heading is 'Student Management System'. Below the heading, there are three input fields: 'Student Name' with placeholder text 'Enter Name', 'Student Address' with placeholder text 'Enter Address', and 'Student Marks' with placeholder text 'Enter Marks'. Each input field has a red border. Below these fields is a blue button labeled 'Add Student'.

4.2.3 View Students


Brief Description	View Student Table
Basic Flow	<p>This use case displays the table with entered information by the user.</p> <p>Following details will be displayed</p> <ol style="list-style-type: none">1. Roll number (auto generated)2. Name3. Address4. Marks5. Update and Delete options for the user
Alternate Flow	Not applicable
Validation	Not applicable
Pre-Conditions	Users should have network access.
Post-Conditions	The added information will be shown using a table view.

Roll Number	Name	Address	Marks	Edit	Delete
1	Andy Perera	Colombo, Sri Lanka	90	<button>Update</button>	<button>Delete</button>
2	Beth Bond	Paris, France	95	<button>Update</button>	<button>Delete</button>
3	Cindy Sally	Los Angeles, California	80	<button>Update</button>	<button>Delete</button>
4	Dirk Peiris	Galle, Sri Lanka	70	<button>Update</button>	<button>Delete</button>

4.2.4 Update Students

Brief Description	Update Student
Basic Flow	<p>This user case displays how to update an existing student record</p> <p>Following details can be updated</p> <ol style="list-style-type: none">1. Name2. Address3. Marks
Alternate Flow	<p>The system will validate the information provided. User cannot enter invalid information Ex: user cannot enter string values instead of numbers for marks</p>
Validation	<ol style="list-style-type: none">1. Name can be of string type2. Address can be of string or integer type3. Marks should be of integer type
Pre-Conditions	Users should have network access.
Post-Conditions	The information will be updated and displayed in the table.

Update Student



Student Name


Andy Perera

Student Address

Colombo, Sri Lanka

Student Marks

100



Update

4.2.5 Delete Student

Brief Description	Delete Student
Basic Flow	This user case displays how to delete a student from the database
Alternate Flow	Not applicable
Validation	Not applicable
Pre-Conditions	Users should have network access.
Post-Conditions	The information will be deleted, and the rest of the information will be displayed in the table.

Delete Student

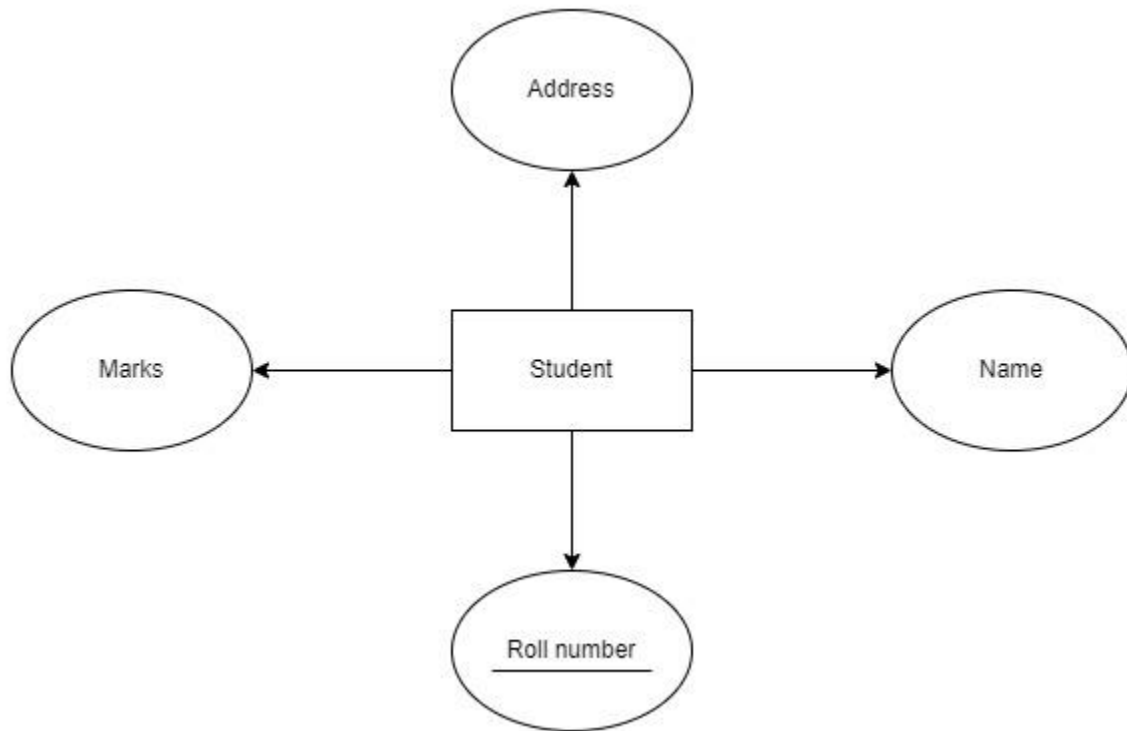


Are you sure you want to delete this student?

Confirm

4.3 Database design changes

4.3.1 ER Diagram



5 References

- LMS Content
- <https://stackoverflow.com/>
- Bootstrap - <https://getbootstrap.com/docs/5.2/getting-started/introduction/>