

Software Requirement Specification For Student Record Management System

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1.Introduction

1.1 Purpose

This SRS document describes the requirements and functionalities of the Student Record Management System for Sri Lankan government schools. It serves as a guideline for developers and stakeholders throughout the software development lifecycle, ensuring that the system is built according to the defined specifications and meets the needs of its users.

1.2 Scope

Sri Lankan government schools traditionally manage student records through manual or semi-manual methods, often relying on paper-based files or basic spreadsheets. The proposed Student Record Management System (SRMS) will address these limitations by providing a web-based application that can efficiently manage student information, including personal details, parent or guardian information, and academic results (marks). This system will also feature tools for generating comprehensive student final reports with subject-wise results. By centralizing these functions, the SRMS will grant admin users control over system management, significantly enhancing the efficiency and reliability of student record-keeping processes.

1.3 Definition and Acronyms

SRMS: Student Record Management System

Admin: Authorized system administrator with control over the system

SRS: Software Requirement Specification

2. Overall Description

2.1 Product Perspective

SRMS is a stand-alone application specifically developed for government schools in Sri Lanka. It facilitates the management of student information and academic outcomes through integration with school databases.

2.2 Product Function

- **User Registration and Authentication:** The system allows administrators to create secure accounts with unique usernames and passwords for teachers, parents, and students to ensure controlled access to the system.
- **Student Data entry and Management:** The SRMS allows administrators to add, update, and delete student information (such as names, dates of birth, addresses, grade levels, and medical details), including parent/guardian details, providing a comprehensive platform for managing student data accurate recordkeeping.
- **Profile Creation and Management:** Permits administrators to create individual student profiles with unique identifiers, allowing for the organization of academic performance and other relevant information.
- **Document Management:** Enables the secure uploading and storage of key documents, such as birth certificates, medical reports, and parental consent forms, ensuring quick retrieval when needed.
- **Subject and Marks Management:** Administrators and teachers can manage subjects and record student marks, enabling the system to track academic performance for each student.
- **Search and Filter Functionality:** Offers robust search and filter options, enabling users to quickly locate student information based on various criteria, such as name, grade level, or other attributes.
- **Report Generation:** Generate final student reports with detailed subject-wise results, allowing teachers, parents and students to monitor student progress over time. And also, student and parent could print student reports from the SRMS
- **Admin Control:** Designated administrators have control over system management, with permissions to assign user roles, manage student data, and ensure the security of the system.

2.3 User Characteristics

- **Admin:** Users with administrative privileges for system management and responsible for entering students details into system.
- **Teachers:** Users responsible for entering student marks
- **Students and Parents:** Users can see and print student final report with detailed subject-wise results

3. Benefits and Outcomes:

- **Enhanced Efficiency:**

The SRMS streamlines record-keeping processes, reducing the time and effort required to manage student information. This efficiency allows school staff to focus more on educational activities rather than administrative tasks.

- **Improved Accuracy and Data Integrity:**

By replacing manual or semi-manual methods with a centralized digital system, the SRMS significantly reduces the risk of data entry errors. It ensures that student records are consistent and up-to-date, leading to more reliable information.

- **Easier Report Generation:**

The SRMS streamlines the process of generating comprehensive final reports, enabling teachers to quickly produce student progress reports with subject-wise results.

- **Scalability and Flexibility:**

The SRMS is designed to scale with the growing needs of Sri Lankan government schools. Its flexibility allows for future enhancements, such as integrating with other school systems or adding new functionalities.

- **Enhanced Accountability:**

The audit log feature provides a record of system login details, allowing administrators to track changes and ensure accountability. This promotes transparency and helps identify potential security issues.

- **Cost-Effectiveness:**

By reducing the need for manual record-keeping and streamlining administrative processes, the SRMS can lead to cost savings for schools.

4. Functional and Non-Functional Requirement

4.1 Functional Requirement

- **Student Information Management:**

The SRMS must allow administrators to add, update, and delete student information, including personal details (e.g., name, date of birth, address), parent/guardian information, and contact details.

The system must enable administrators to assign unique student identifiers for record-keeping purposes.

- **Subject and Marks Management:**

The SRMS must enable administrators to create and manage subjects.

The system must allow admins/teacher to enter, update, and delete student marks, linking them to specific subjects.

- **Report Generation:**

The system must be able to generate final student reports with subject-wise results.

Reports should be exportable to common formats, such as PDF or Excel, to facilitate sharing with parents or school management.

- **Admin Control:**

Admin must have control over system settings, user management, and security features.

Admins must be able to create and assign user roles with varying levels of access.

- **User Registration and Authentication:**

The SRMS must allow the registration of users (e.g., teachers, parents, students), each with a unique username and password.

The system should support role-based access control to restrict access to sensitive information.

- **Document Management:**

The system must allow admin to upload, store, and retrieve essential documents, such as birth certificates, medical reports, and parental consent forms.

- **Search and Filter Functionality:**

The SRMS must provide search and filter options to quickly locate student information based on various criteria, such as name, grade level or gender.

4.2 Non-Functional Requirement

- **Security**

The SRMS must use secure authentication methods to ensure only authorized users can access the system. Sensitive data must be encrypted both in transit and at rest to protect against unauthorized access or data breaches.

- **Performance**

The system must be responsive, with low latency when accessing student information or generating reports. The SRMS should support multiple concurrent users without significant performance degradation.

- **Scalability**

The system must be designed to handle an increasing number of users, schools, and data records without requiring significant changes to the underlying architecture.

- **Reliability and Backup**

The SRMS must ensure high reliability, with minimal downtime for maintenance. A robust backup and recovery plan must be in place to prevent data loss in case of system failure.

- **Usability**

The system must have an intuitive and user-friendly interface, reducing the learning curve for new users. Comprehensive user documentation and support should be provided to ensure effective use of the system.

- **Compatibility**

The SRMS must be compatible with commonly used operating systems and web browsers to ensure broad accessibility. The system should support integration with other software systems or databases as needed.

- **Compliance**

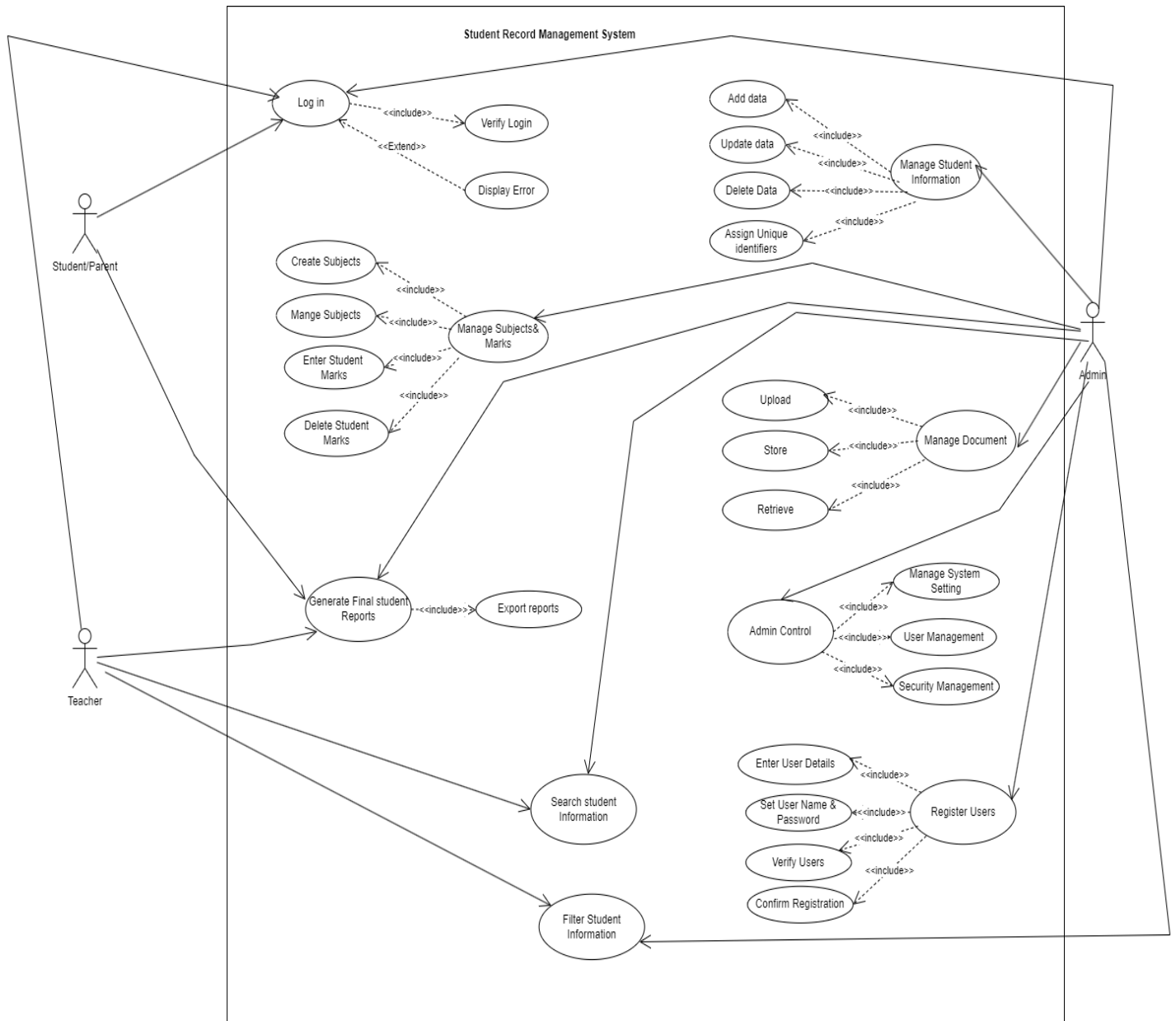
The system must comply with relevant data protection regulations and educational policies in Sri Lanka. The SRMS should ensure adherence to legal requirements for handling student information and academic records.

5.Intended Technologies for SRMS

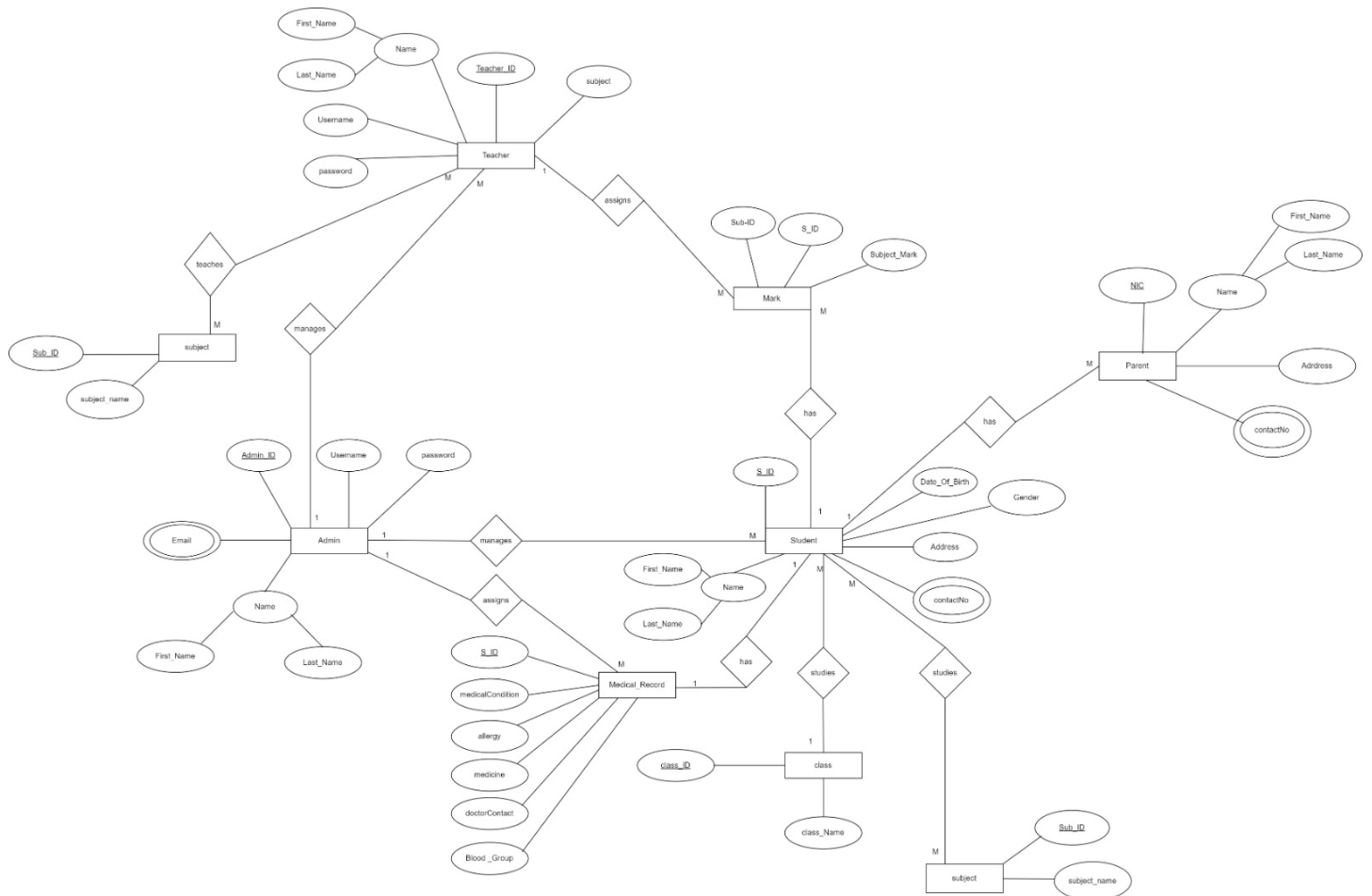
- **Front-End** – Bootstrap, CSS, JavaScript
- **Backend** - PHP
- **Databases** - MySql

6. System Analysis

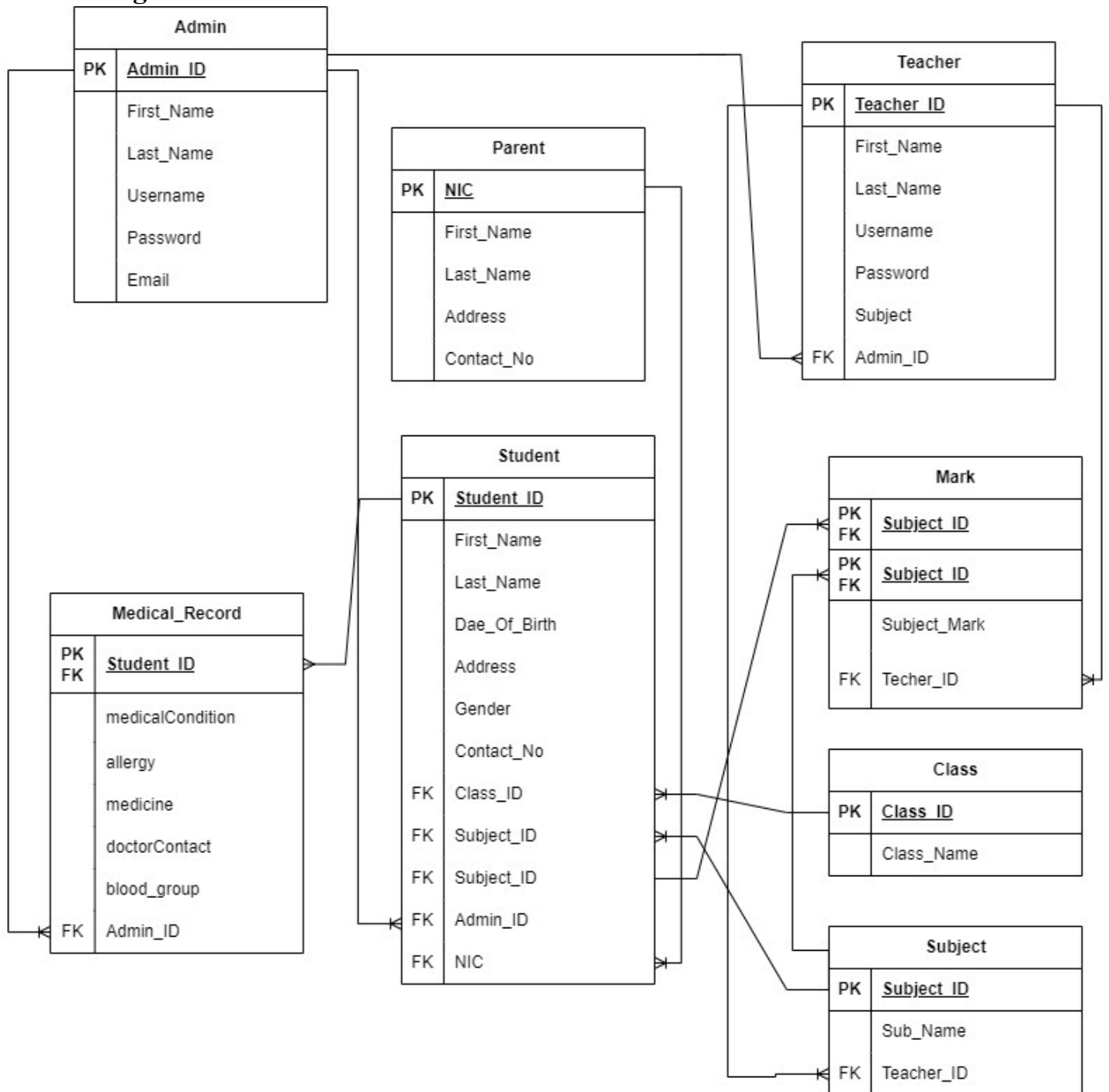
6.1 Use Case



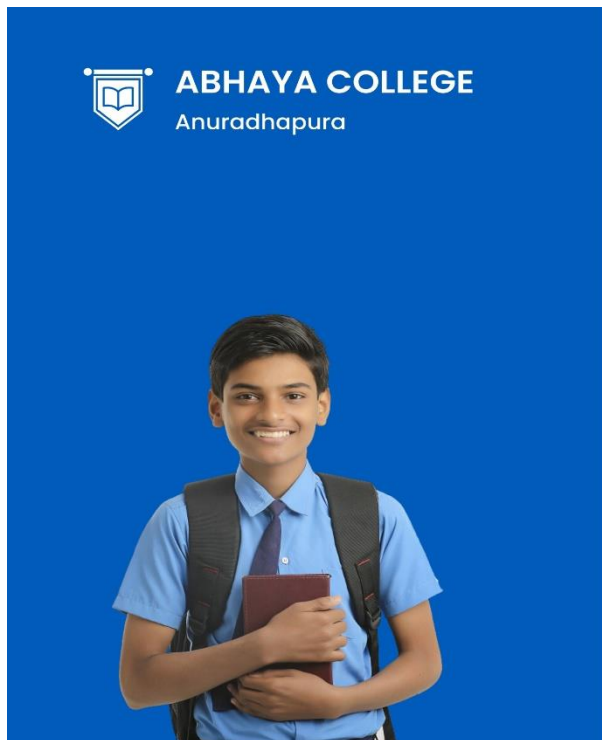
6.2 ER Diagram



6.3 DB Diagram



7. User Interface Design



WELCOME BACK !

Admin user

Student

Teacher



WELCOME BACK !

User Name

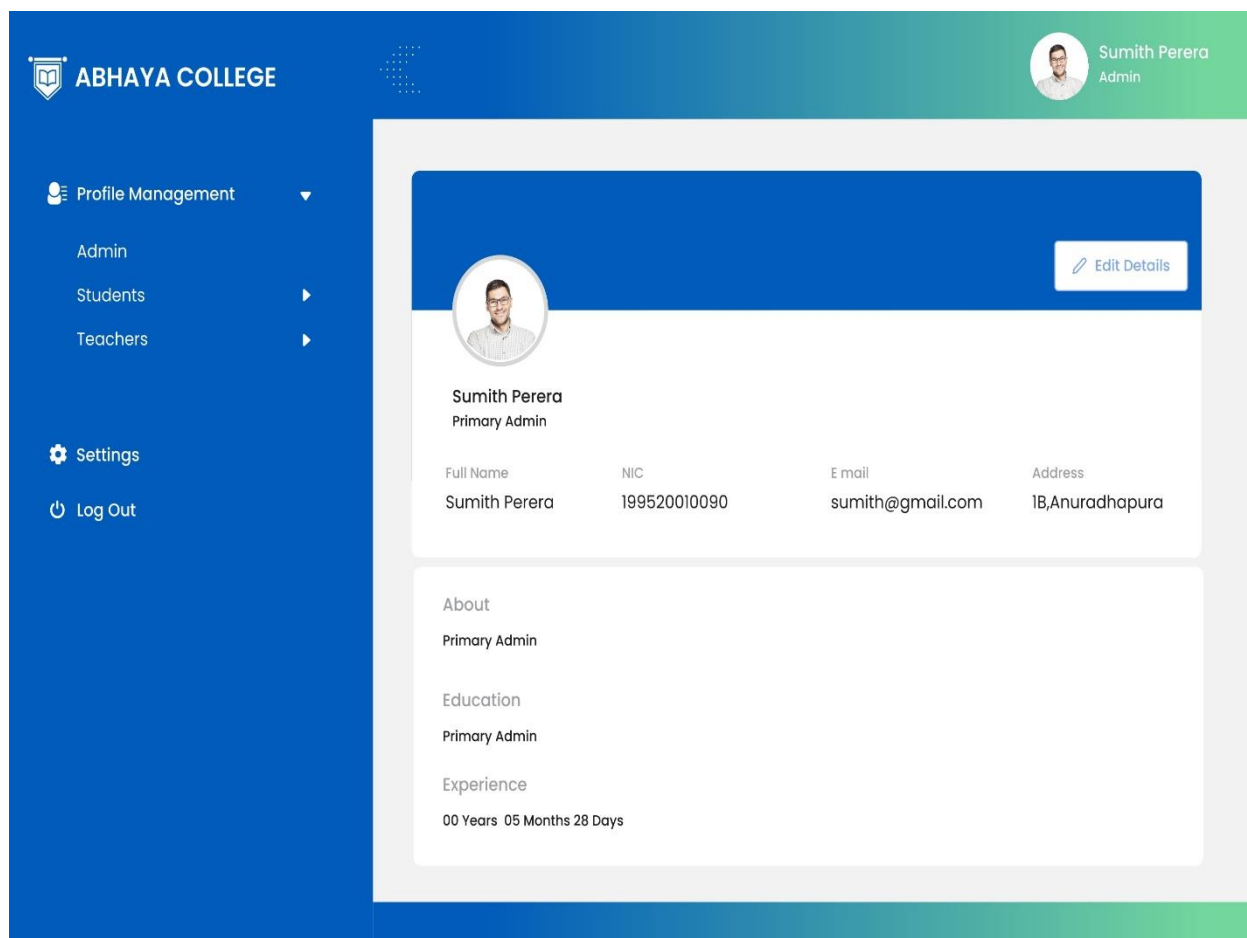
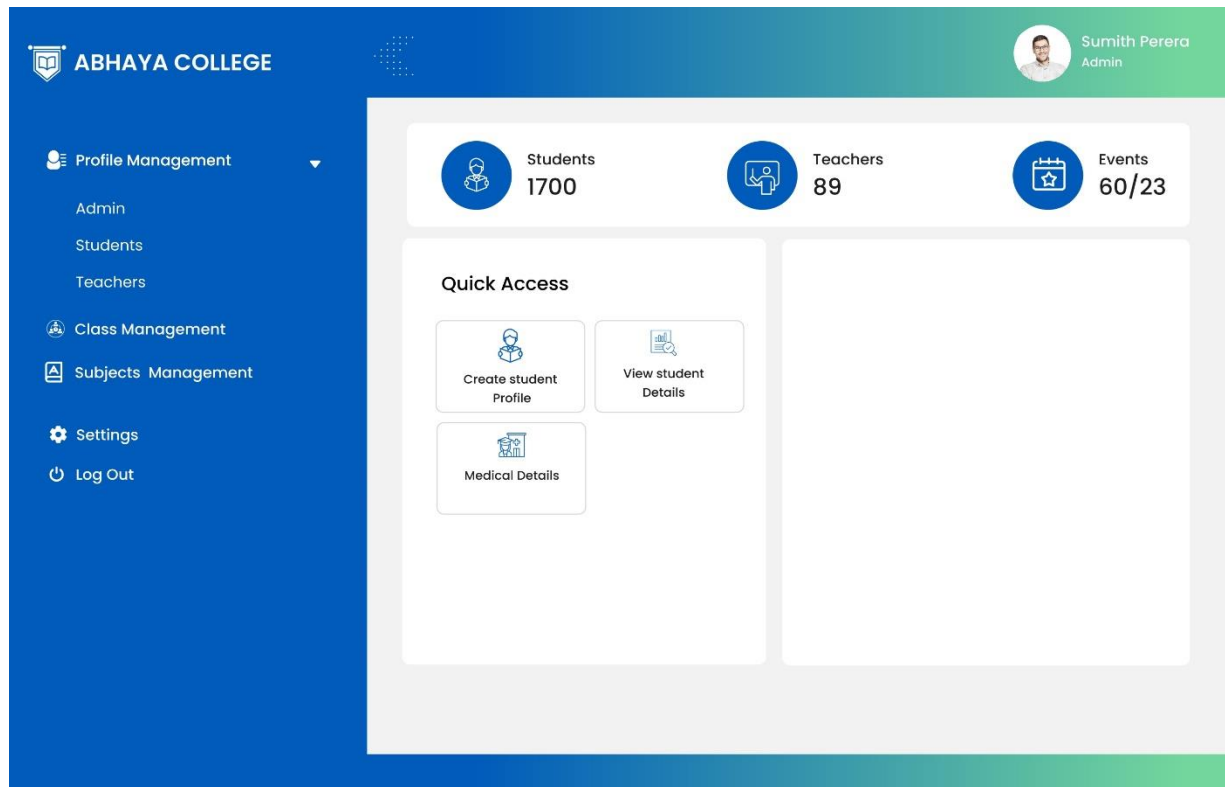
Enter User Name


Password


Enter Password

[Forgot Password ?](#)

Log In




ABHAYA COLLEGE


Sumith Perera
Admin

Profile Management

Admin

Students

- Add a new student
- View Student Details
- Result management

Teachers

Class Management




Subjects Management

Settings


Log Out


Search here...

Add a New Student

#	S_ID	First Name	Last Name	Gender	Registration Date	Class	Action
1	1101	Kasun	Tharaka	Male	2008-04-22	five-A	  

Previous
1
Next


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Sumith Perera
Admin

Profile Management

Admin

Students

- Add a new student
- View Student Details
- Result management

Teachers


Class Management

Subjects Management

Settings

Log Out

Student details



Choose file

First Name *

Enter First Name

Last Name *

Enter Last Name

Date of Birth *

DD/MM/Year

Place of Birth *

Address *

Enter Address

Emergency contact person *

Enter Mobile Number

Gender *

Enter Gender

Student Id *

Enter Student Id

Birth Certificate *

Choose file


Parent details


Father's Name *

Enter Name


#	S_ID	First Name	Last Name	Class	Subjects	Action
1	1108	Kasun	Tharaka	sixth-B	3	




ABHAYA COLLEGE



Sumith Perera
 Admin



Profile Management


Admin


Students


• Add a new student
 • View Student Details
 • Result management




Teachers


Class Management


Subjects Management


Settings



Log Out


#	S_ID	Blood Group	Allergies	Vaccines	Class	Action
1	1101	O+	Penicillin	Fizer	five-A	  

Previous

1

 Next


ABHAYA COLLEGE


Sumith Perera
Admin

Profile Management

Admin

Students

- Add a new student
- View Student Details
- Result management

Teachers


Class Management

Subjects Management

Settings

Log Out

Student details



First name

Sumudu

Last name

Date of Birth

Place of Birth

Address

Emergency contact person

Emergency contact Number

Parent details

Father's Name


Premasiri


NIC No

299399444v

contact Number

0777755544


ABHAYA COLLEGE


Sumith Perera
Admin

Profile Management

Admin

Students


Teachers

- Add a New Teacher
- View Teacher Details


Settings

Log Out

Teacher details



Choose file



First Name *

Enter First Name

Last Name *

Enter Last Name

NIC *

Enter NIC

Address *

Enter Address

Contact No *

Enter Name

Subject *

Enter Subjects

Teacher Id *

Enter Teacher Id

Save

ABHAYA COLLEGE

Sumith Perera
Admin

Profile Management

Admin

Students

Teachers

- Add a New Teacher
- View Teacher Details

Settings

Log Out

#	Teacher_ID	First Name	Last Name	Contact Number	Class	Action
1	22003	priyanta	perera	+67676767	sixth-B	<input type="button" value="Edit"/> <input type="button" value="View"/> <input type="button" value="Delete"/>

ABHAYA COLLEGE

Sumith Perera
Admin

Profile Management

Admin

Students

- Add a new student
- View Student Details
- Result management

Teachers


Class Management


Subjects Management

Settings

Log Out

#	S_ID	First Name	Last Name	Subjects	Class	Action
1	1101	Kasun	Tharaka	3	five-A	<input type="button" value="Edit"/> <input type="button" value="View"/> <input type="button" value="Delete"/>




ABHAYA COLLEGE



- Profile Management
 - Admin
 - Students
 - Teachers
- Class Management
- Subjects Management
- Settings
- Log Out

Search here...

+ Add Subject

#	Subject_ID	Subject Name	Action
1	1108	Maths	 

Previous
1
Next

Result

Student ID : 10200

class: five-A

Student Name : NW Nipun

Subject ID	Subject	Mark
11211	English	88
2222	Maths	66
3333	Science	68
Average		170.66

Print

Close

- Profile Management
 - Students
 - Result management
- Settings
- Log Out

Search here...

+ Add marks

#	S_ID	First Name	Last Name	Subjects	Class	Action
1	1101	Kasun	Tharaka	3	five-A	

Previous
1
Next

- Profile Management
 - Admin
 - Students
 - Teachers
- Class Management
- Subjects Management
- Settings
- Log Out

Student

Subject
Marks

Please Select Subject

Add

Subject_ID	Subject Name	Marks	Action
1108	Maths	45	
1106	History	60	
Average		52.5	

Save

Cancel

7.1 Design System

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<div><div>White</div><div>#FFFFFF</div></div>	<ul style="list-style-type: none">Page backgroundsCard backgrounds	Primary 2
<div><div>Refreshing Green</div><div>#8AD7B3</div></div>	<ul style="list-style-type: none">CTAs (Buttons)LinksOutlinesHeader TextText EmphasisIconsIllustrationsBackgrounds	Secondary 1
<div><div>Grey Falls</div><div>#F2F2F2</div></div>	<ul style="list-style-type: none">Unselected linksUnselected TabsTextSub Headings	Secondary 2
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Heading

Heading 1

Heading 2

Heading 3

Subtitle

Body 1

BUTTON

Heading 1

Heading 2

Heading 3

Heading 4

Subtitle 1

Subtitle 2

Body 1

Body 2

BUTTON