****

**Software Requirements Specification (SRS)**

**School Management System**

**Version 1.0**

**Prepared by: W. M. L. D. Weerasinghe**

**Date: [2024/ 03/ 07]**

**Approved by: [Mr. Thanesh Kumar/ Lecturer]**

Contents

[1. Introduction 4](#_Toc194266275)

[1.1 Purpose 4](#_Toc194266276)

[1.2 Scope 4](#_Toc194266277)

[1.3 Definitions, Acronyms, and Abbreviations 4](#_Toc194266278)

[1.4 References 4](#_Toc194266279)

[2. Overall Description 5](#_Toc194266280)

[2.1 Product Perspective 5](#_Toc194266281)

[2.2 Product Functions 5](#_Toc194266282)

[2.3 User Characteristics 6](#_Toc194266283)

[2.4 Constraints 6](#_Toc194266284)

[3. Specific Requirements 7](#_Toc194266285)

[3.1 Functional Requirements 7](#_Toc194266286)

[3.2 Non-Functional Requirements 7](#_Toc194266287)

[3.3 External Interface Requirements 8](#_Toc194266288)

[4. SDLC Timeline 8](#_Toc194266289)

[5. Diagrams 9](#_Toc194266290)

[5.1 ER Diagram 9](#_Toc194266291)

[5.2 DFD Level 0 10](#_Toc194266292)

[5.3 DFD Level 1 11](#_Toc194266293)

[5.4 Use Case Diagram 12](#_Toc194266294)

[6. User Interfaces 13](#_Toc194266295)

[6.1 Loading 13](#_Toc194266296)

[6.2 Login 14](#_Toc194266297)

[6.3 Home 15](#_Toc194266298)

[6.4 Current Principle 16](#_Toc194266299)

[6.5 Edit Details in principle 17](#_Toc194266300)

[6.6 Principle Table 18](#_Toc194266301)

[6.7 teachers table 19](#_Toc194266302)

[6.8 Teachers Edit 20](#_Toc194266303)

[6.9 Student Table 21](#_Toc194266304)

[6.10 Student Edit 22](#_Toc194266305)

[6.11 Admin Registration 23](#_Toc194266306)

[7. Appendices 23](#_Toc194266307)

[8. Final Notes 24](#_Toc194266308)

# 1. Introduction

## 1.1 Purpose

This document defines the functional and non-functional requirements for the School Management System (SMS), a desktop-based application designed to streamline student records, teacher data and principles data management for school administrators.

## 1.2 Scope

The School Management System (SMS) is a standalone desktop application that enables administrators to:

* Manage student enrollment, and grades
* Maintain teacher records and schedules
* Generate reports
* Ensure secure access via role-based authentication (admin-only)

**Out of Scope:**

* Mobile or web access
* Parent/student/teacher self-service portals

## 1.3 Definitions, Acronyms, and Abbreviations

**Term Definition**

* SMS School Management System
* GUI Graphical User Interface
* DBMS Database Management System
* JRE Java Runtime Environment

## 1.4 References

* IEEE Standard for Software Requirements Specifications (IEEE Std 830-1998)
* Oracle Java SE Documentation
* MySQL Official Documentation

# 2. Overall Description

## 2.1 Product Perspective

**Type:**

* Standalone desktop application

**Tech Stack:**

* Frontend: Java Swing
* Backend: Java
* Database: MySQL
* IDE: NetBeans

**Deployment:**

* Windows & Linux

## 2.2 Product Functions

|  |  |
| --- | --- |
| Feature | Description |
| User Authentication | Secure login for administrators |
| Student Management | Add, update, delete, search student records |
| Teacher Management | Register, update, manage teacher data |
| Grade Management | Assign, store, and retrieve student grades |
| Reports & Logs | Export students/teachers/principles reports |

## 2.3 User Characteristics

**Primary Users:**

* School administrators

**Technical Skill:**

* Basic to moderate computer proficiency

**Access Control:**

* No access for students, teachers, or parents

## 2.4 Constraints

**Platform:**

* Windows & Linux only

**Database:**

* MySQL

**Scalability:**

* Single-school deployment (v1.0)

**Security:**

* Role-based access (admin-only)

# 3. Specific Requirements

## 3.1 Functional Requirements

|  |  |  |
| --- | --- | --- |
| ID | Requirement | Priority |
| FR1 | Secure admin login system | High |
| FR2 | CRUD operations for student records | High |
| FR3 | Attendance tracking (daily/monthly) | Medium |
| FR4 | Automated report generation (PDF/Excel) | Medium |

## 3.2 Non-Functional Requirements

|  |  |
| --- | --- |
| ID | Requirement |
| NFR1 | Supports 500+ concurrent users |
| NFR2 | Response time < 2 sec for key operations |
| NFR3 | Data encrypted in MySQL |

## 3.3 External Interface Requirements

**GUI:**

* Java Swing

**Database:**

* MySQL 8.0+

**Printing:**

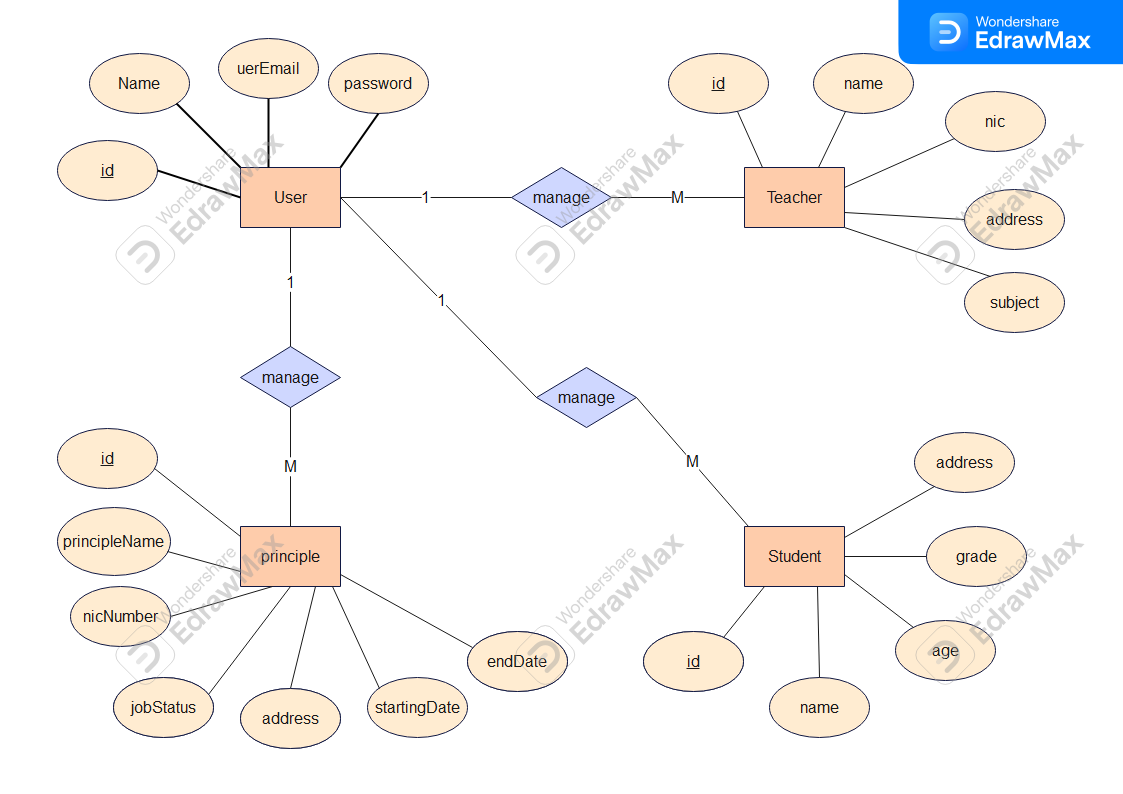
* JasperReports for PDF generation

# 4. SDLC Timeline

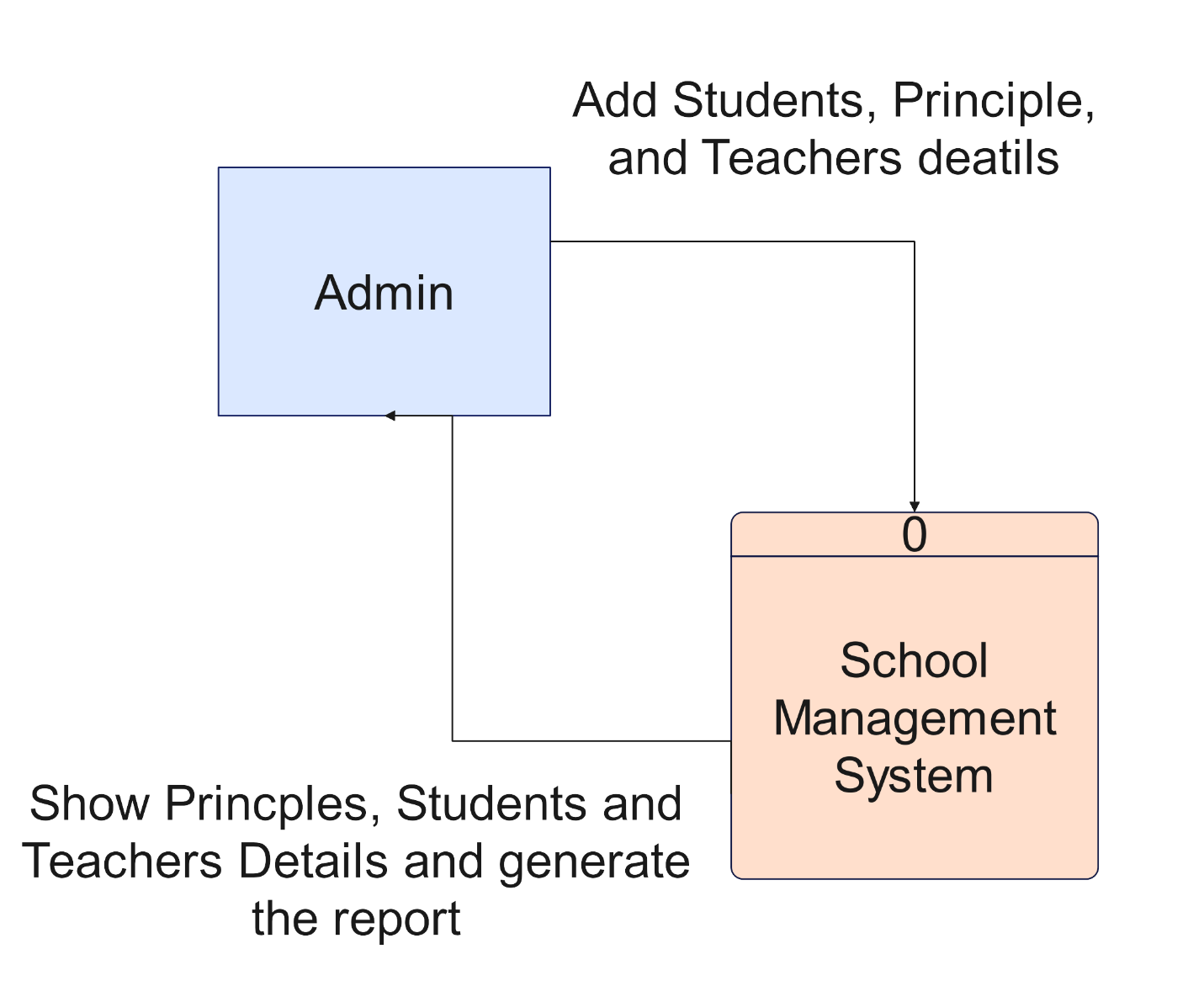
|  |  |  |
| --- | --- | --- |
| Phase | Duration | Deliverables |
| Requirement Analysis | **2 Weeks** | **SRS Document** |
| System Design | **3 Weeks** | **ER Diagrams, UI Mockups** |
| Implementation | **6 Weeks** | **Core System Development** |
| Testing | **3 Weeks** | **Unit & Integration Tests** |
| Deployment | **2 Weeks** | **Test Environment Setup** |
| Maintenance | **Ongoing** | **Bug Fixes & Updates** |

# 5. Diagrams

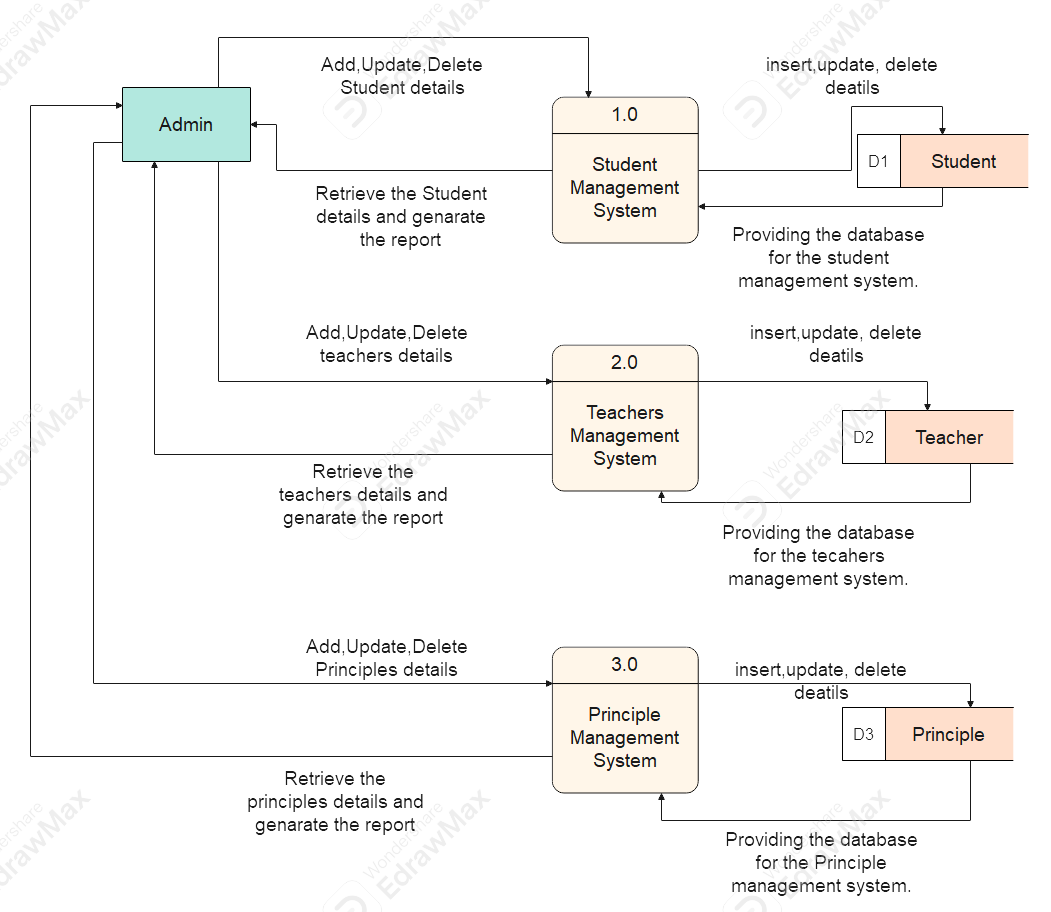
## 5.1 ER Diagram

****

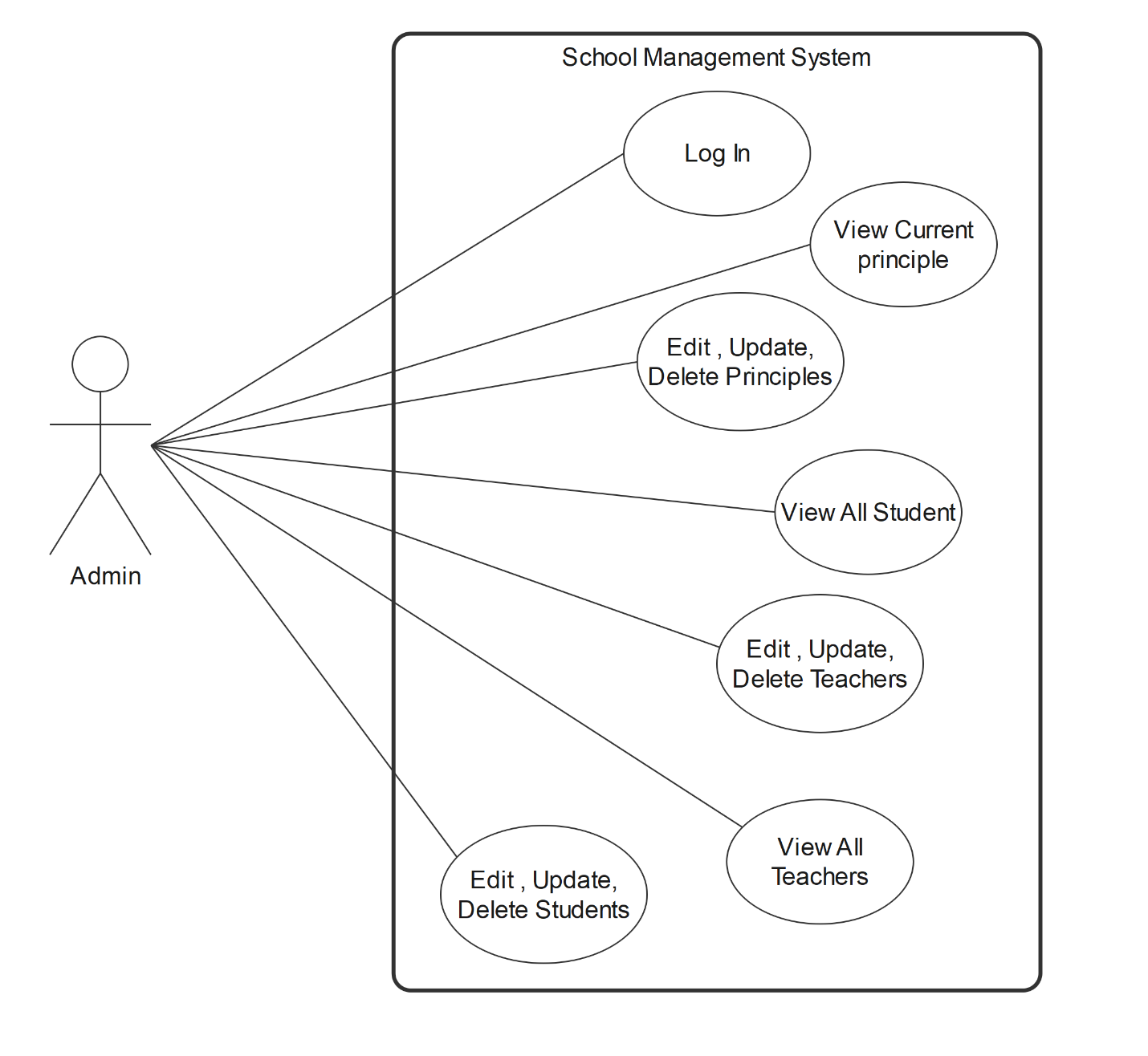
## 5.2 DFD Level 0

****

## 5.3 DFD Level 1

****

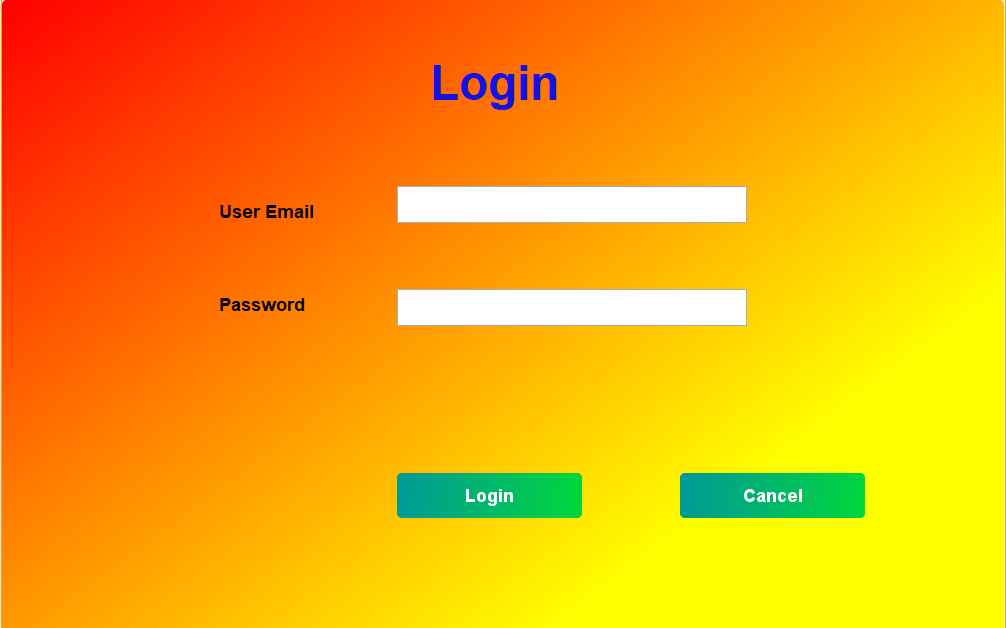
## 5.4 Use Case Diagram

****

# 6. User Interfaces

## 6.1 Loading

## 6.2 Login

****

## 6.3 Home

## 6.4 Current Principle

## 6.5 Edit Details in principle

****

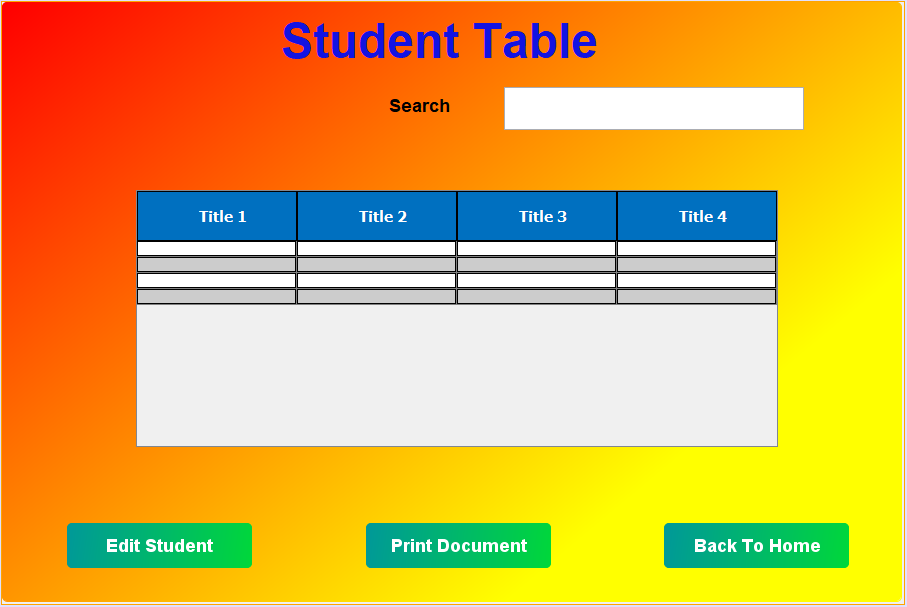
## 6.6 Principle Table

## 6.7 teachers table

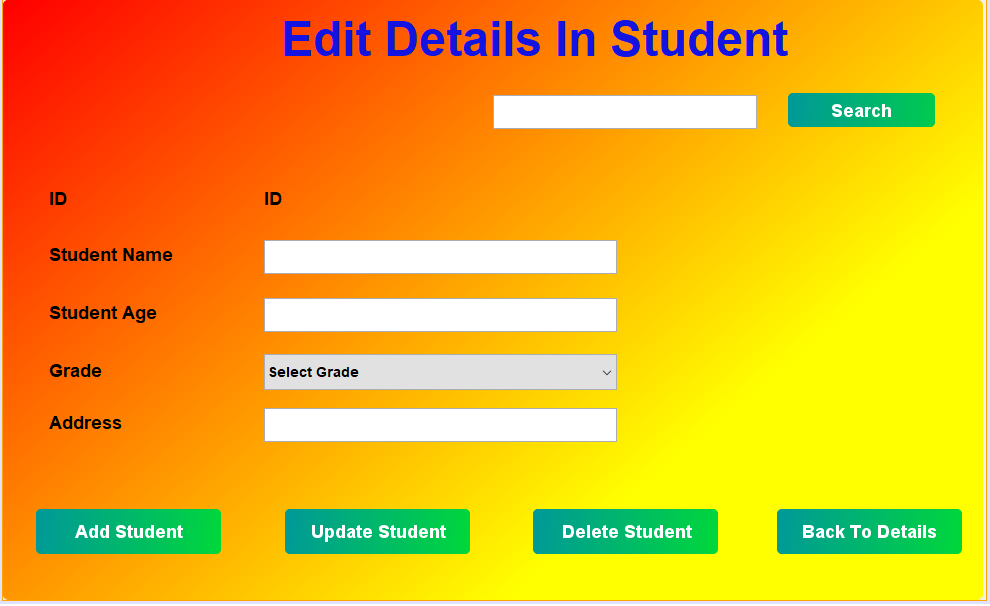
## 6.8 Teachers Edit

****

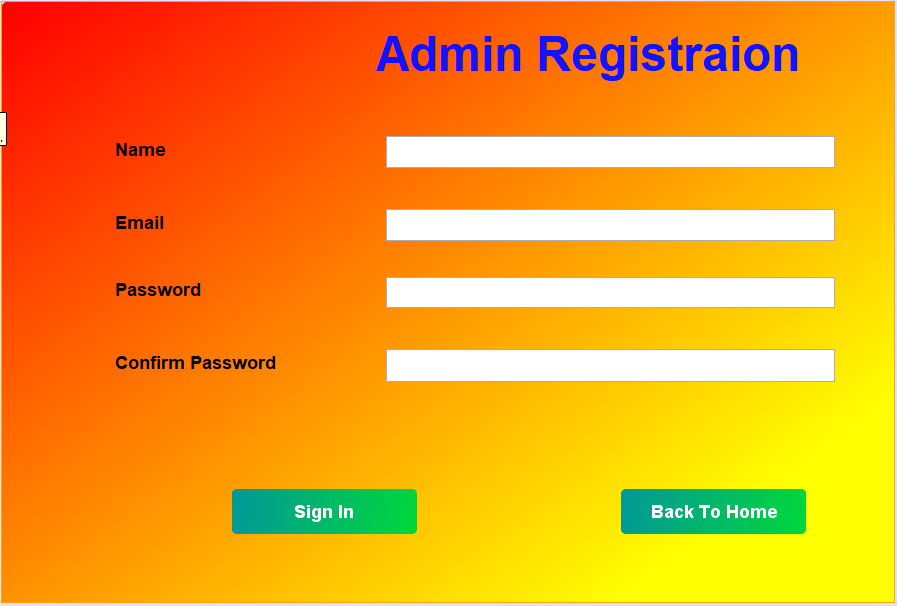
## 6.9 Student Table

****

## 6.10 Student Edit

****

## 6.11 Admin Registration

****

# 7. Appendices

* Glossary
* Abbreviations
* Version History

# 8. Final Notes

**This document serves as the single source of truth for the School Management System development. Any modifications must be reviewed and version-controlled.**

**Prepared by:**

**[W. M. L. D. Weerasinghe]**

**[Developer]**

**[0742449003]**