School Management System Documentation

1. Introduction

The **School Management System** is a software application that helps schools manage students, teachers, fees, payments, and staff salaries. It makes school administration easy and efficient by keeping records and automating tasks.

2. How It Works

The system allows school staff to:

- Register new students and teachers.
- Manage fee payments and track pending fees.
- Handle teacher transfers and salary payments.
- Manage school staff, including managers and employees.
- Generate reports for better decision-making.

3. Features

3.1 Student Registration

- Add new students to the system.
- Store student details like name, age, class, and contact information.
- Assign students to different classes and sections.

3.2 Fee Management

- Record fee payments made by students.
- Track pending and completed payments.
- Generate fee receipts for students.

3.3 Teacher Management

- Add and update teacher details.
- Assign teachers to classes and subjects.
- Track teacher transfers between schools.

3.4 Transfer Management

- Record teacher and student transfers.

- Store transfer details, including the reason and new school.
- Generate transfer reports.

3.5 Payment Management

- Record different types of payments, including fees and salaries.
- Track completed and pending payments.
- Generate payment reports.

3.6 Salary Management

- Calculate and process salaries for teachers and staff.
- Keep salary records for each employee.
- Generate salary payment receipts.

3.7 Manager Management

- Store details of school managers and administrators.
- Assign roles and responsibilities to managers.
- Generate reports on school management activities.

4. System Requirements

4.1 Software Requirements

- Windows 10 or later
- Microsoft SQL Server
- Visual Studio (C# .NET Framework/.NET Core)

4.2 Hardware Requirements

- Minimum 4GB RAM
- 500GB HDD
- Intel Core i3 or higher processor

5. Database Schema (SQL Server)

5.1 Tables

Registration Table

```
CREATE TABLE Registration (
   StudentID INT PRIMARY KEY IDENTITY(1,1),
   Name VARCHAR(100),
   Age INT,
   Class VARCHAR(50),
   Contact VARCHAR(15)
);
```

Fee Table

```
CREATE TABLE Fee (
    FeeID INT PRIMARY KEY IDENTITY(1,1),
    StudentID INT FOREIGN KEY REFERENCES Registration(StudentID),
    Amount DECIMAL(10,2),
    PaymentStatus VARCHAR(50),
    DueDate DATE
);
```

Teachers Table

```
CREATE TABLE Teachers (
    TeacherID INT PRIMARY KEY IDENTITY(1,1),
    Name VARCHAR(100),
    Subject VARCHAR(100),
    Contact VARCHAR(15)
);
```

Transfer Table

```
CREATE TABLE Transfer (
    TransferID INT PRIMARY KEY IDENTITY(1,1),
    PersonID INT,
    TransferType VARCHAR(50), -- Student or Teacher
    NewSchool VARCHAR(100),
    Reason TEXT
);
```

Payment Table

```
CREATE TABLE Payment (
    PaymentID INT PRIMARY KEY IDENTITY(1,1),
    PayerID INT,
    Amount DECIMAL(10,2),
    PaymentDate DATE,
    PaymentType VARCHAR(50) -- Fee or Salary
);
```

Salary Table

```
CREATE TABLE Salary (
    SalaryID INT PRIMARY KEY IDENTITY(1,1),
    TeacherID INT FOREIGN KEY REFERENCES Teachers(TeacherID),
    Amount DECIMAL(10,2),
    PaymentDate DATE
);
```

Manager Table

```
CREATE TABLE Manager (
   ManagerID INT PRIMARY KEY IDENTITY(1,1),
   Name VARCHAR(100),
   Role VARCHAR(100),
   Contact VARCHAR(15)
);
```

6. Application Modules

6.1 User Interface (C# Windows Forms/WPF)

- Login screen
- Dashboard for managing students, teachers, fees, and payments
- Forms for adding and updating records

6.2 Business Logic Layer

- Ensures proper validation of data
- Handles fee calculation and salary processing

6.3 Data Access Layer (SQL)

- Connects the application to the database
- Performs CRUD (Create, Read, Update, Delete) operations

7. Installation & Setup

1. Install SQL Server and create a database.
2. Run the provided SQL script to create tables.
3. Open the C# project in Visual Studio.
4. Configure the database connection in `app.config`.
5. Run the application.

8. Future Enhancements

- Add student and teacher performance tracking.
- Implement online fee payment options.
- Develop a mobile app for better access.

9. Conclusion

The **School Management System** is an easy-to-use application that helps schools manage students, teachers, fees, and salaries. It saves time, reduces errors, and makes school administration more efficient.