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“School Management System”

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Project Guide

ABSTRACT

This project is a web-based School Management System for various schools. The project objective is to deliver the School Management System application into web platform. This project is an attempt to provide the advantages of new technologies to school administration. This system can be implemented for any school. This system can be used offline as well as online, when deployed it will be accessible from any device. This system have multi role features. And specific operation can be done only by particular user. This project will help the school to do their work digitally, this will reduce the time requirement and will eventually reduce the use of paper for the school database. This will make the information retrieval faster than the traditional way used in schools.

ACKNOWLEDGEMENT

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

School Management System is a large database which can be used for managing your school day to day activities. It allows users to store almost all of their school's information either online or offline depending on the software built, including student information, employees, properties and study materials etc. most importantly, this information can be shared with authorized users, records can be searched and reports can be easily generated. School management system is configurable and can be configured to meet certain individual school's needs. It could make the school staffs life easier than ever. Using this system, finding student's information's is just less than a minute which might have cost several minutes even more than a day. At the end of academic term form masters can easily prints student's statements.

School Management System helps headmasters to get the most accurate information to make more effective decisions. Teachers and headmasters gain time saving administrative tools, parents gain immediate access to their children's grades and students can track their own progress.

School Management System equipped features makes it possible to generate schedules and reports in minutes and to retrieve attendance records, grade checks, report cards, transcripts, and form letters in just a few clicks.

School Management Systems helps Teachers to complete grade book, track student's attendance, input class notes, create lesson plans and detailed reports, and communicate with other staff members, students, etc. It also helps Students to access assignments and tests, and view attendance records, grades, report cards. . School Management System (SMS) is a web enabled application developed in using (React, Html ,CSS) As Frontend and powerful Spring Boot as backend & MySQL as database.

To implement School application, schools do not need expensive hardware and software, they just need an internet connection and desktops. Our system works as a centralized database and application that schools can easily access the system from anywhere based on the login credentials.

This system saves the time of the student and of the administrator. It includes processes like registration of the student's details, assigning the department based on their course, and maintenance of the record. This system reduces the cost and workforce required for this job. As the system is online the information is globally present to everyone.

This makes the system easy to handle and feasible for finding the omission with updating at the same time. As for the existing system, they use to maintain their record manually which makes it vulnerable to security. If filed a query to search or update in a manual system, it will take a lot of time to process the query and make a report which is a tedious job.

As the system used in the institute is outdated as it requires paper, files, and binders, which will require the human workforce to maintain them. To get registered in the institute, a student in this system should come to the university. Get the forms from the counter while standing in the queue which consumes a lot of the student's time as well as of the management team.

As the number of the student increases in the institute manually managing the strength becomes a hectic job for the administrator. This computerized system stores all the data in the database which makes it easy to fetch and update whenever needed.

My School is a platform independent system that virtually any user can access from anywhere through a standard internet accessible system

We can also customize School Management System for individual school needs.

1.2 OBJECTIVES :-

- To build a website that manage the different school activities.
- To track student's grades.
- To facilitate distribution process of courses and classes for teachers.
- To facilitate grades entry process for students by teachers.
- To make a virtual community between the members of educational process.

1.3 SCOPE AND LIMITATION OF PROJECT :-

School management system (SMS) has been designed to provide an easy way for students to get their grades, and for their parents to be familiar with that grades and the academic achievement for their kids .

However, this project is facing some obstacles which is deny it from achievement it's goals, like : lack of acceptance these idea from some teachers and headmasters, because of their poor knowledge about using that technology or they find that using computers in their works instead of the paper works so hard and difficult.

And also, the same thing for some parents where they do not prefer that way for the same previous reasons.

CHAPTER 2

METHODOLOGY

2.1 INTRODUCTION

This chapter states the methodology used to reach the objectives of the project. The framework in which software is designed, developed, and maintained is known as the Software Development Life Cycle (SDLC).

It shows the steps, phases, milestones, and evolution of the software development process. There are many types of models used in software design and development. Among them are the spiral models, rapid development model, Evolutionary model, waterfall model, prototyping model, etc.

2.2 METHODOLOGY

Prototyping Model has been used to develop this application. The Prototyping model is a technique for quickly building a function but incomplete model of the information system. There are several kinds of prototypes but they all intend to reduce risk by building a quick and dirty replica or mockup of the intended system.

It can be used to demonstrate technical feasibility when the technical risk is high. It can also be used to better understand and elicit user requirements. In either case, the goal is to reduce risk and limit costs by increasing understanding of proposed solutions before committing more resources, as shown in figure 1.

2.3 PROTOTYPE MODEL

Advantages of Prototyping

- Reduces development time.
- Reduces development costs.
- Requires user involvement.
- Developers receive quantifiable user feedback.
- Facilitate system implementation since users know what to expect.
- Results in higher user satisfaction.
- Exposes developers to potential future system enhancements.

CHAPTER 3

REQUIREMENTS

3.1 INTRODUCTION

This chapter will provide a full description of the system and its users. Then it depicts the functional and non-functional requirements that have been collected using several methods like brainstorming, interview and e-surveys. After determining the most important requirements, requirement analysis was adopted using several tools such as use-case diagram, sequence diagram and activity diagram.

3.2 PROJECT DESCRIPTION

School Management System (SMS) is a web based system that serving Students, Teachers, Headmasters a the main idea of our system is to allow the students to be up to date with the school activities and with their grades, and the same thing for their parents in addition to be in touch permanently with the teachers and the headmaster for any complaint, recommendation or anything that related to their students. And for teachers it consider as an easy way to manage their job's day, to be in touch with students and to enter their grades or anything they want to send it or view it to the students. And for the headmasters, they have a full control of the system, and like the teachers, it will be a great tool to manage their days and plans for the school, also they will be in a permanent connection with all the other users which will be a wonderful virtual educational social community that definitely will improve the student's performance and education, and make the school for them really as they second's home.

3.3 USER DESCRIPTION

There are three main roles in the projects

1. Admin
2. Teacher
3. Student

Their respective functions are shown in table below.

ADMIN	Add Student/Teacher
	Edit own profile
	Add class
	Add Subject
	View Subject
	Add Schedule
	View Schedule
	Assign classes to students
	View marks of students
	View fees record
	Assign subject to Teacher
	Add/View/Remove Notice

TEACHER	Edit own profile
	Take attendance of students
	View Attendance of students
	Give marks to students
	View Marks of students
	View Salary
	View Schedule

STUDENT	Edit own Profile
	Pay fees
	View Attendance
	View Marks
	View Schedule

There are some common functionalities for all which are shown in table below.

COMMON	Register
	Login
	Change Password
	Logout

3.4 SYSTEM REQUIREMENT

▪ Hardware Interfaces

The SMS is expected to function on Intel PIII 900 MHz Processor equivalent or above, 2 GB RAM, 100MB HDD.

▪ Software Interfaces

The SMS shall work on MS Windows operating systems family (MS Windows 98, MS Windows NT Workstation, MS Windows 2000, MS Windows XP). It configures to work with Oracle database. This System works on Apache Tomcat server.

3.5 CONSTRAINT

School Management System shall be able to handle at least 1000 student's data at a time.

3.6 NON-FUNCTIONAL REQUIREMENTS

Security

Every user has his own account and only authorized users can access the system with username and password. The passwords and other validations like email have been made to ensure the security of the users

Performance

Easy tracking of records and updating can be done.

Availability

The system is available to users anytime, anywhere, just need a PC and Internet Connection. Also, the system work in multiple web browsers like (Chrome, Mozilla, Opera, and Internet Explorer).

User Friendly

The system has a friendly user interface and the system very interactive.

3.8 FUNCTIONALITY

A) ADMIN (Principal)

- * Can add students/teachers and remove them
- * Can add subjects ,assign classes to students
- * Assign subject to student
- * Add/View Schedule
- * Assign Class teacher
- * View fees Record
- * Assign Subject to teacher

B) TEACHER

- * Give/view Student marks per Subject.
- * Mark/view attendance of students
- * Teacher can display the results for students
- * View Schedule
- * View Salary

C) STUDENTS

- * Can edit own profile
- * Can see own result
- * See own attendance
- * View Schedule

CHAPTER 4
DESIGN
AND DIAGRAMS

4.1 Database Design

The following table structures depict the database design

Table 1: user tbl

	Field	Type	Null	Key	Default	Extra
►	user_id	int	NO	PRI	NULL	auto_increment
	address_line	varchar(30)	YES		NULL	
	city	varchar(10)	YES		NULL	
	email	varchar(30)	YES		NULL	
	first_name	varchar(20)	YES		NULL	
	last_name	varchar(20)	YES		NULL	
	password	varchar(30)	YES		NULL	
	pincode	varchar(6)	YES		NULL	
	role	varchar(10)	YES		NULL	
	security_code	int	NO		NULL	

Table 2: subject tbl

	Field	Type	Null	Key	Default	Extra
►	subject_id	int	NO	PRI	NULL	auto_increment
	stud_mark	int	YES		NULL	
	subject_name	varchar(20)	YES		NULL	
	total_mark	int	YES		NULL	
	class_id	int	YES	MUL	NULL	
	teacher_id	int	YES	MUL	NULL	

Table 3: teacher tbl

	Field	Type	Null	Key	Default	Extra
►	teacher_id	int	NO	PRI	NULL	auto_increment
	designation	varchar(20)	YES		NULL	
	mon_salary	int	YES		NULL	
	user_id	int	YES	MUL	NULL	

Table 4: atten tbl

	Field	Type	Null	Key	Default	Extra
►	atten_id	int	NO	PRI	NULL	auto_increment
	status	varchar(20)	YES		NULL	
	date	date	YES		NULL	
	stud_id	int	YES	MUL	NULL	

Table 5: student tbl

	Field	Type	Null	Key	Default	Extra
▶	student_id	int	NO	PRI	NULL	auto_increment
	class_id	int	YES	MUL	NULL	
	user_id	int	YES	MUL	NULL	
	fees_paid	int	YES		NULL	

Table 6: class tbl

	Field	Type	Null	Key	Default	Extra
▶	class_id	int	NO	PRI	NULL	
	teachrep_id	int	YES	MUL	NULL	

Table 7: notice tbl

	Field	Type	Null	Key	Default	Extra
▶	notice_id	int	NO	PRI	NULL	auto_increment
	notice	varchar(50)	YES		NULL	

Table 8: schedule tbl

	Field	Type	Null	Key	Default	Extra
▶	schedule_id	int	NO	PRI	NULL	auto_increment
	day	varchar(20)	YES		NULL	
	endtime	int	NO		NULL	
	starttime	int	NO		NULL	
	subject_id	int	YES	MUL	NULL	

4.2 USE CASE DIAGRAM

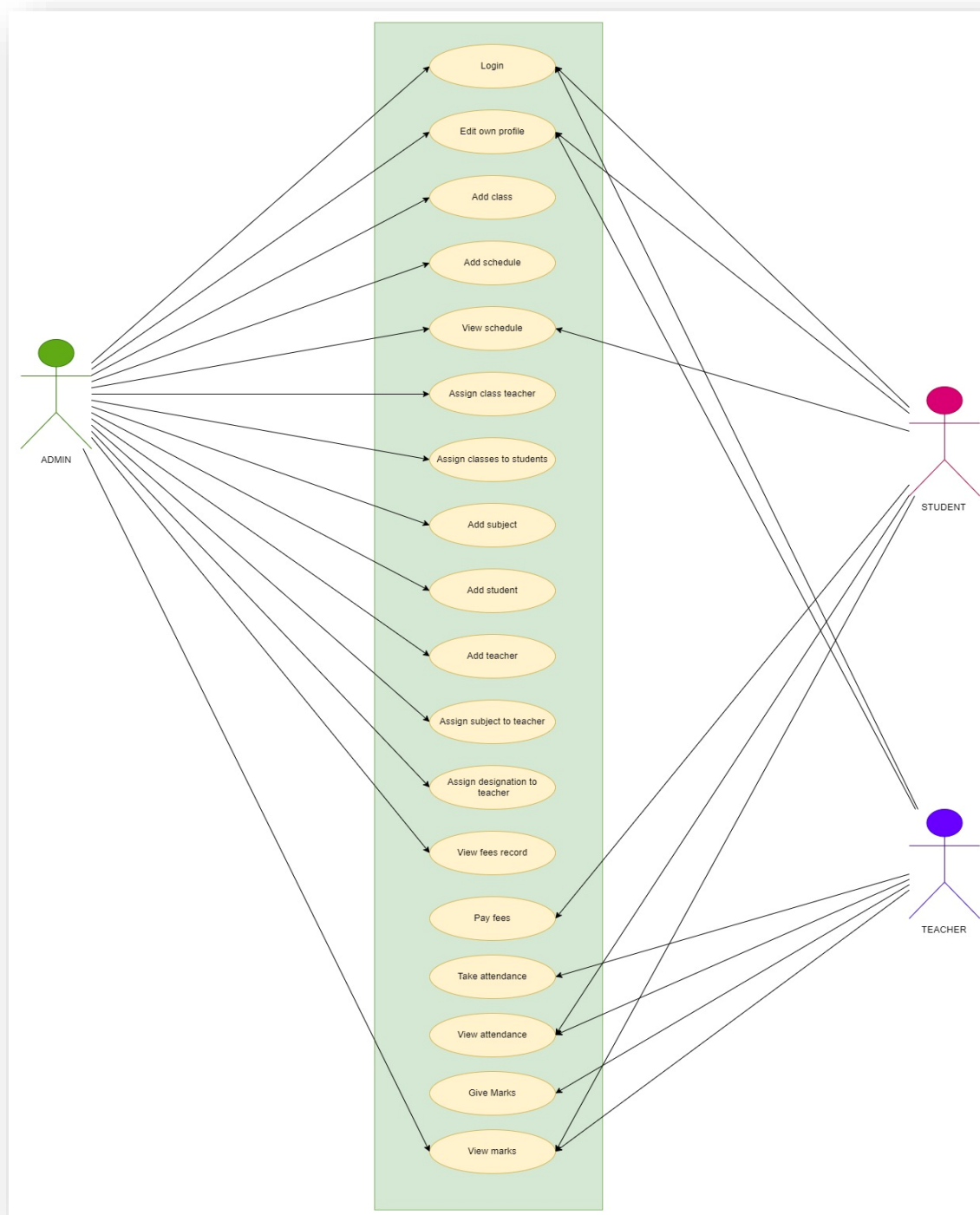


Fig. Use Case Diagram

4.3 ENTITY RELATIONSHIP DIAGRAM

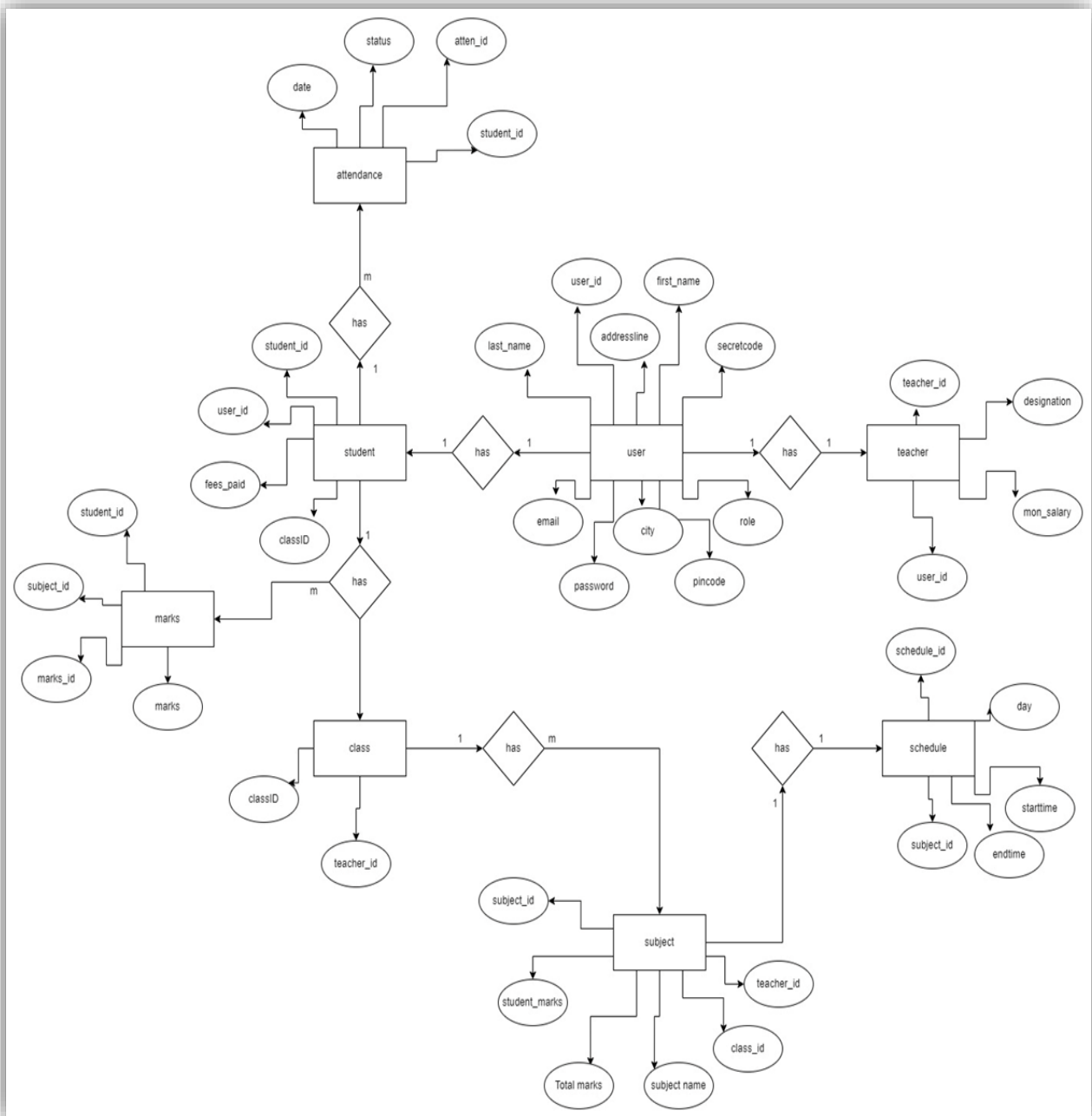


Fig. ER Diagram

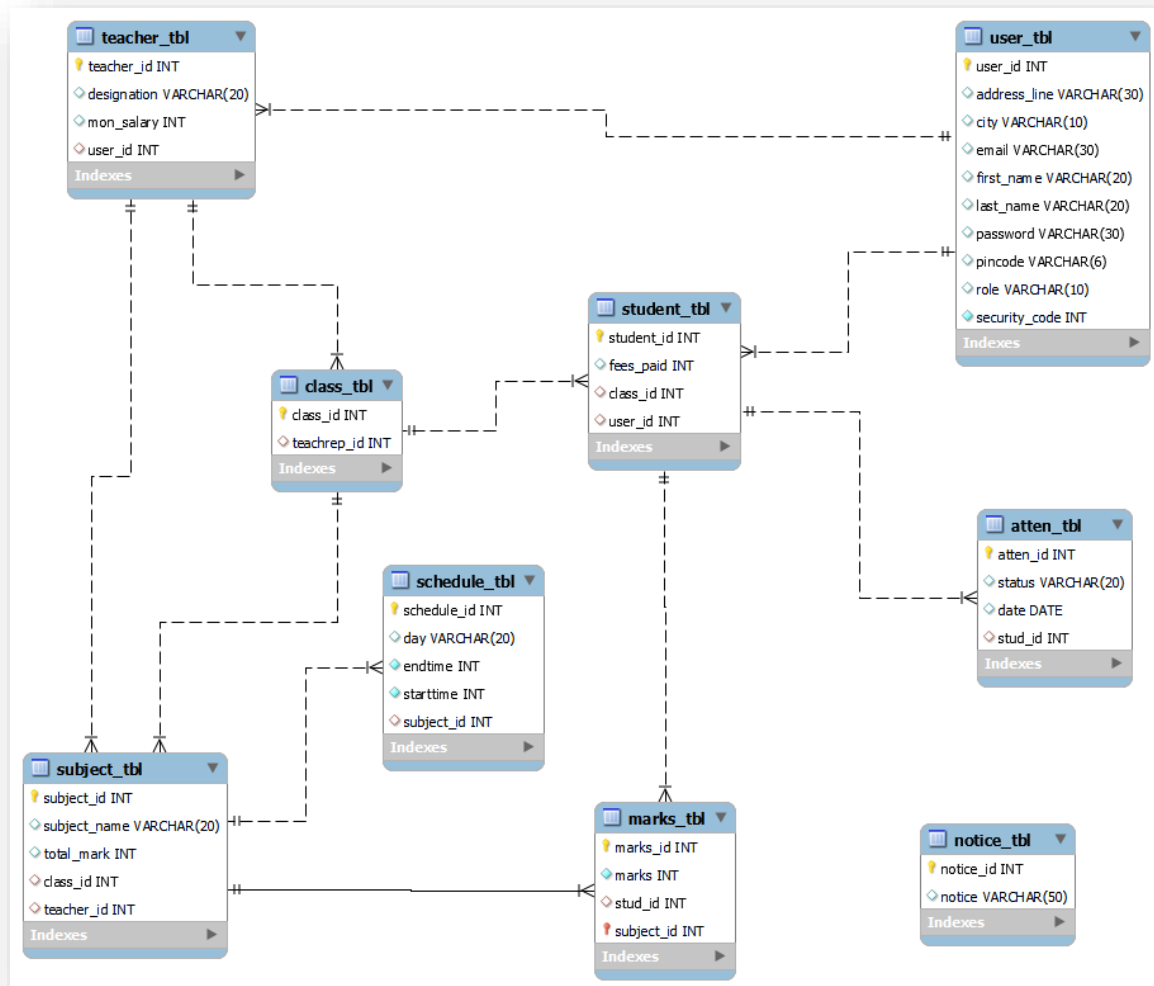


Fig. ER Diagram

4.4 DATA FLOW DIAGRAMS:

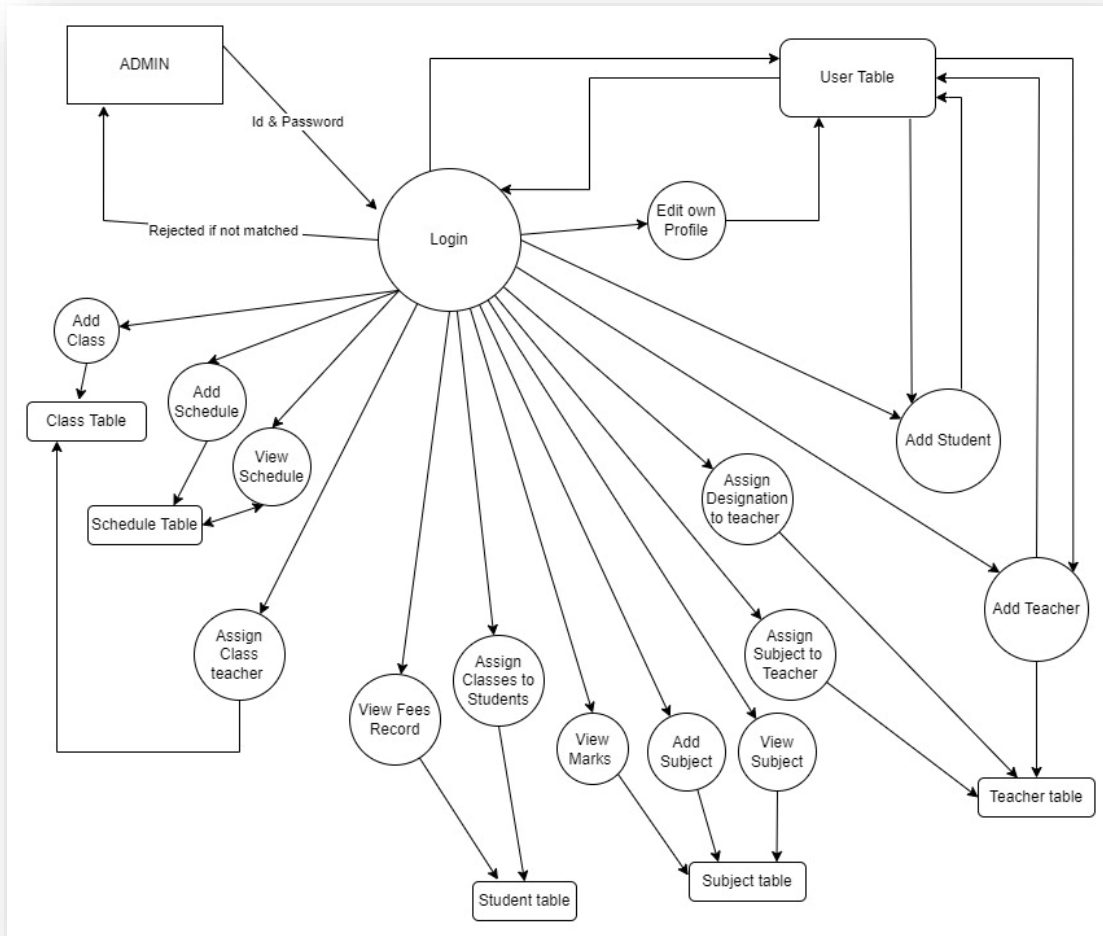


Fig. DFD for Admin

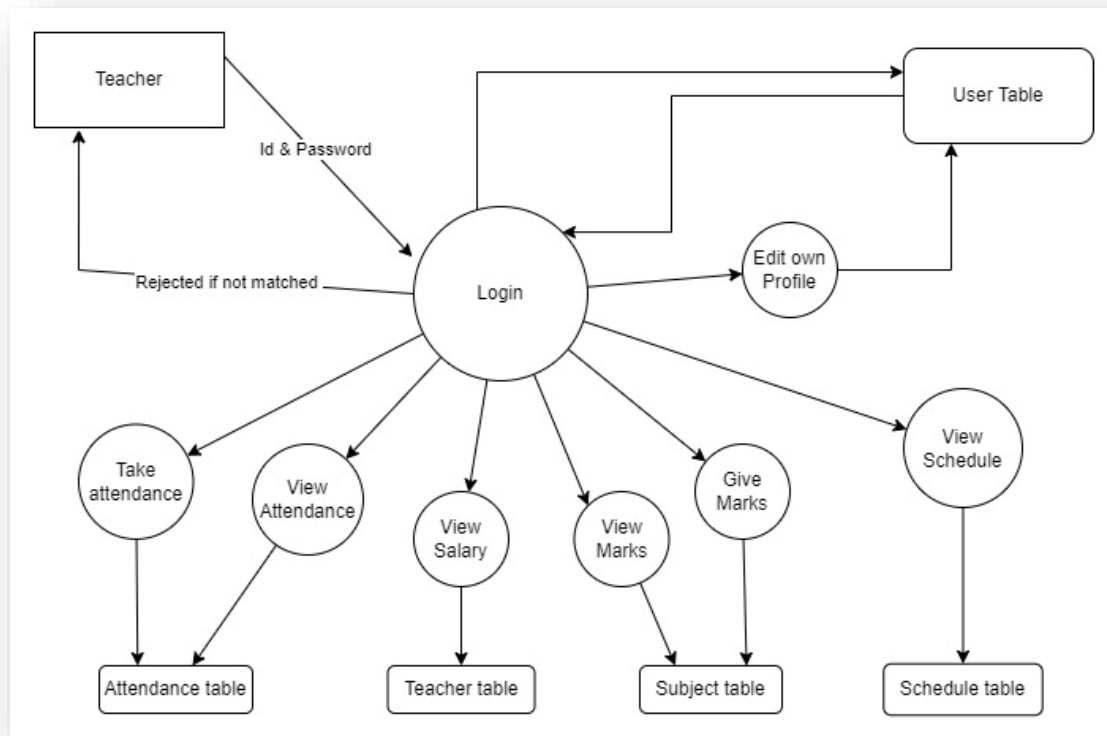


Fig. DFD for Teacher

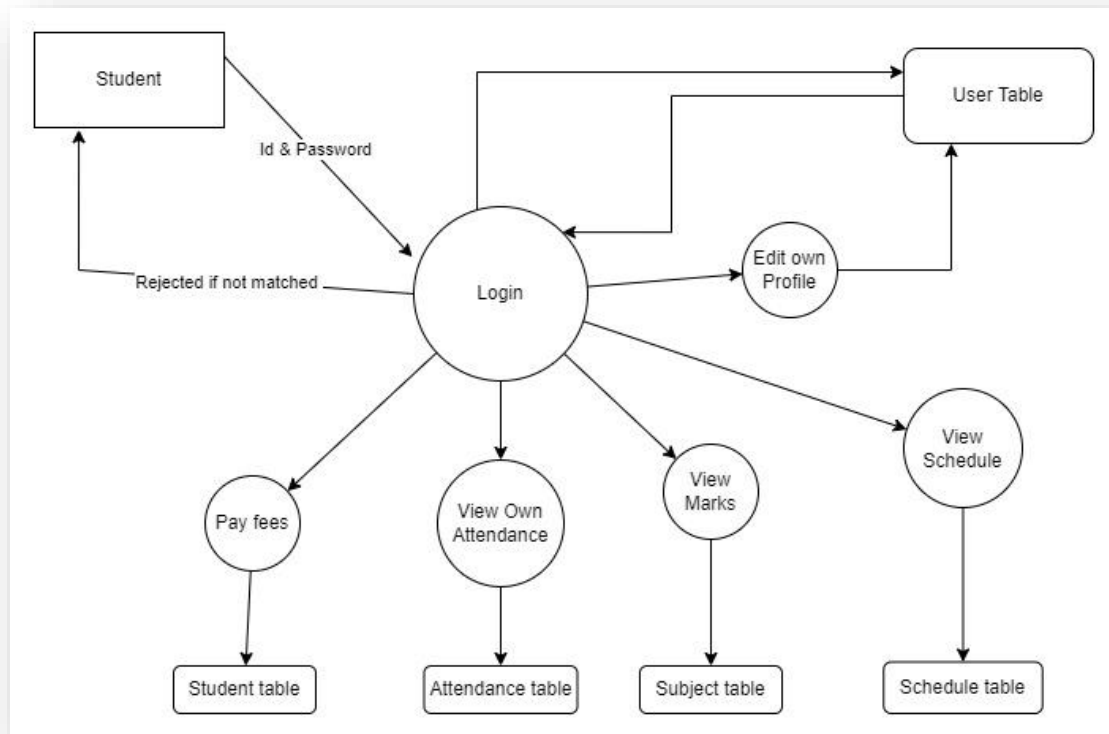
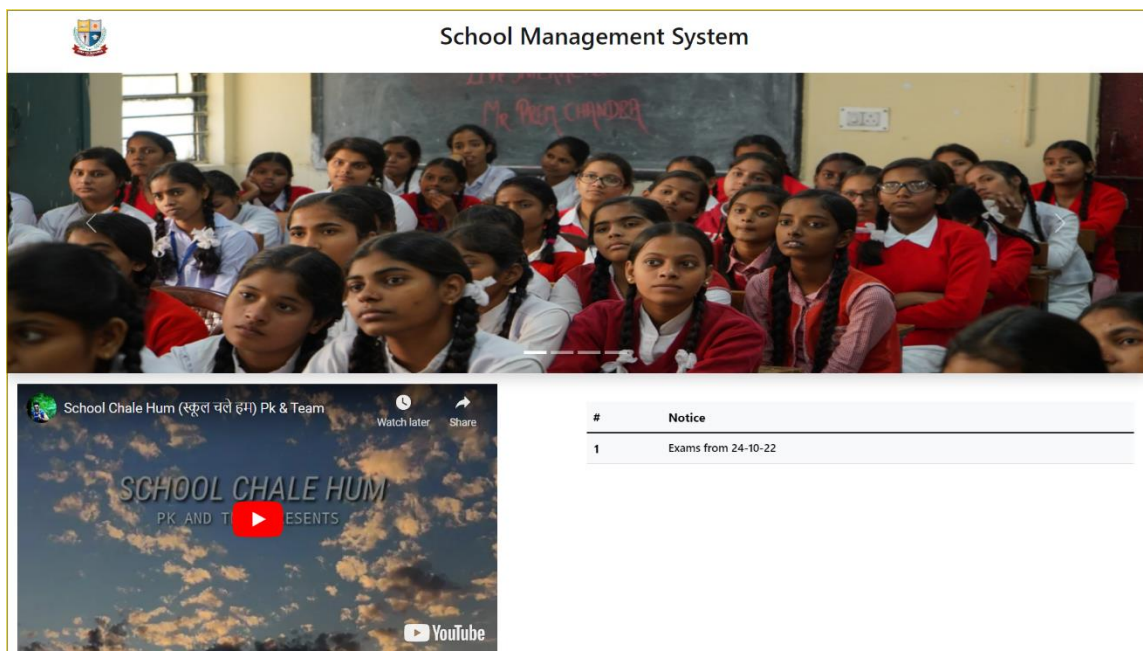


Fig. DFD for Student

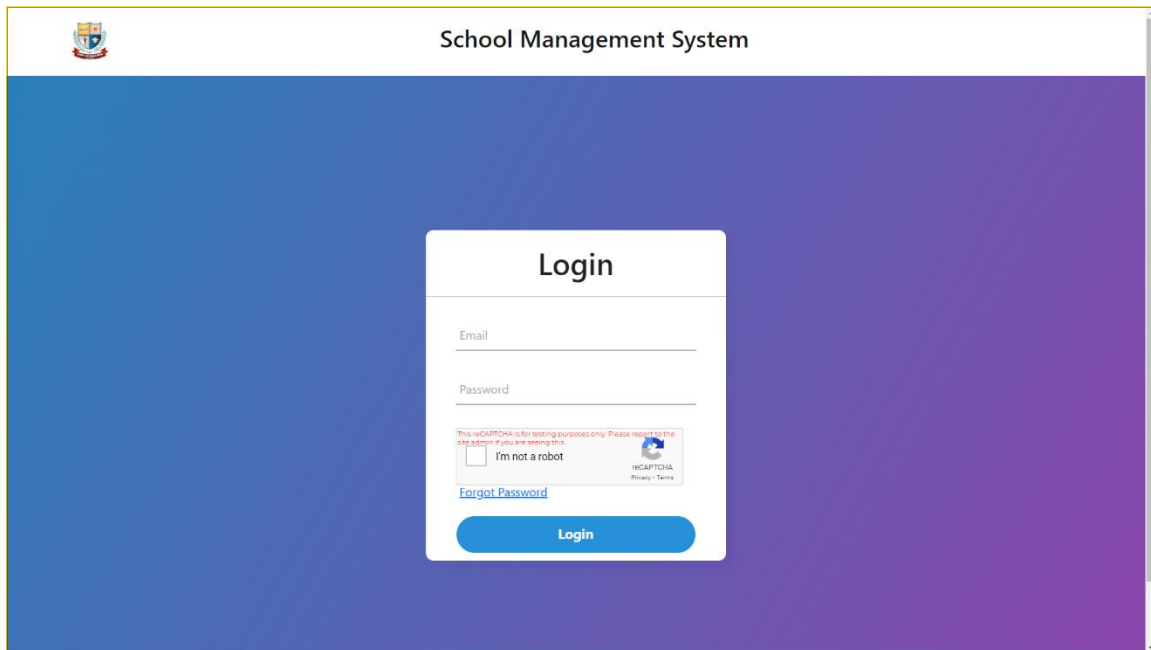
CHAPTER 5

SCREENSHOTS

5.1 HOME PAGE

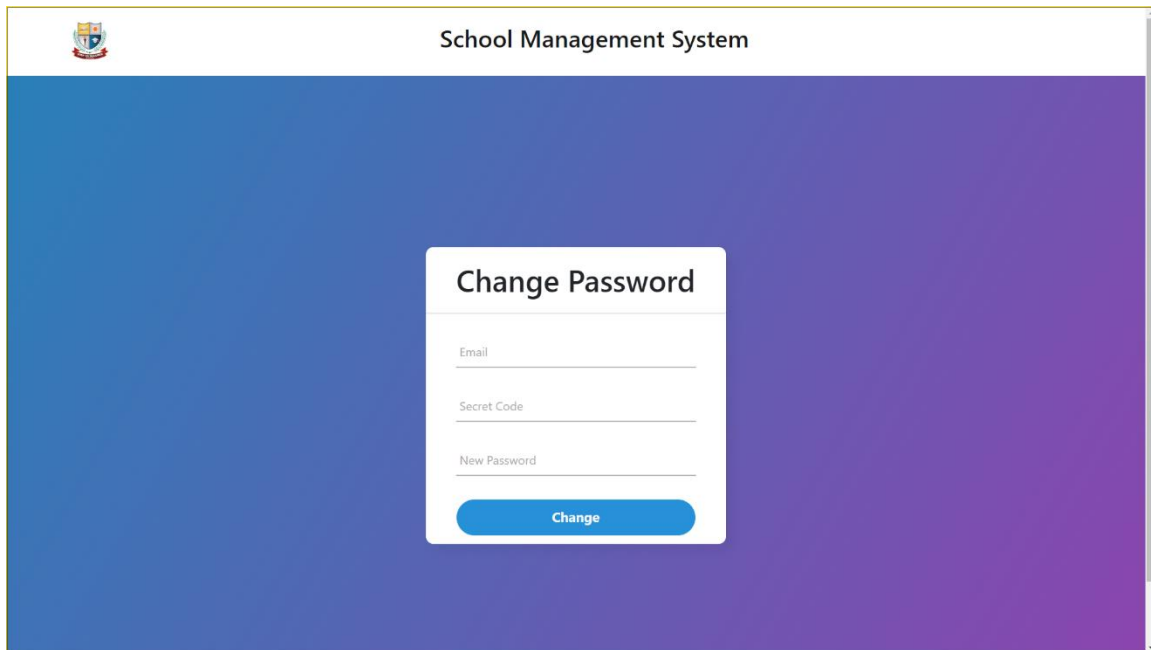


5.2 USER LOGIN PAGE



The screenshot displays the user login interface of a School Management System. The page features a blue and purple gradient background. At the top, there is a header bar with a school crest logo on the left and the text "School Management System" in the center. The main content area contains a white login form with the title "Login". The form includes input fields for "Email" and "Password", a reCAPTCHA verification section with the text "I'm not a robot", a "Forgot Password" link, and a blue "Login" button at the bottom.

5.3 CHANGE PASS VERIFICATION PAGE



The screenshot displays the 'Change Password' verification page within the 'School Management System'. The page features a blue and purple gradient background. A white modal box is centered, containing the title 'Change Password' and three input fields: 'Email', 'Secret Code', and 'New Password'. A blue 'Change' button is positioned at the bottom of the modal. The system's logo and name are visible in the top header of the browser window.

School Management System

Change Password

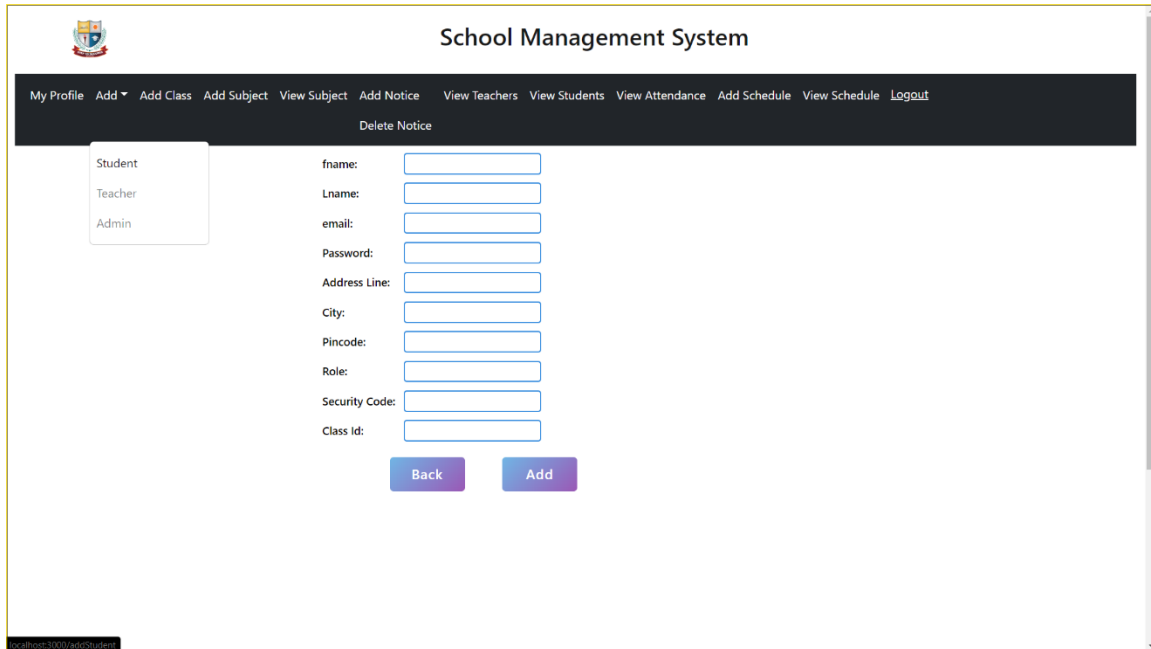
Email

Secret Code

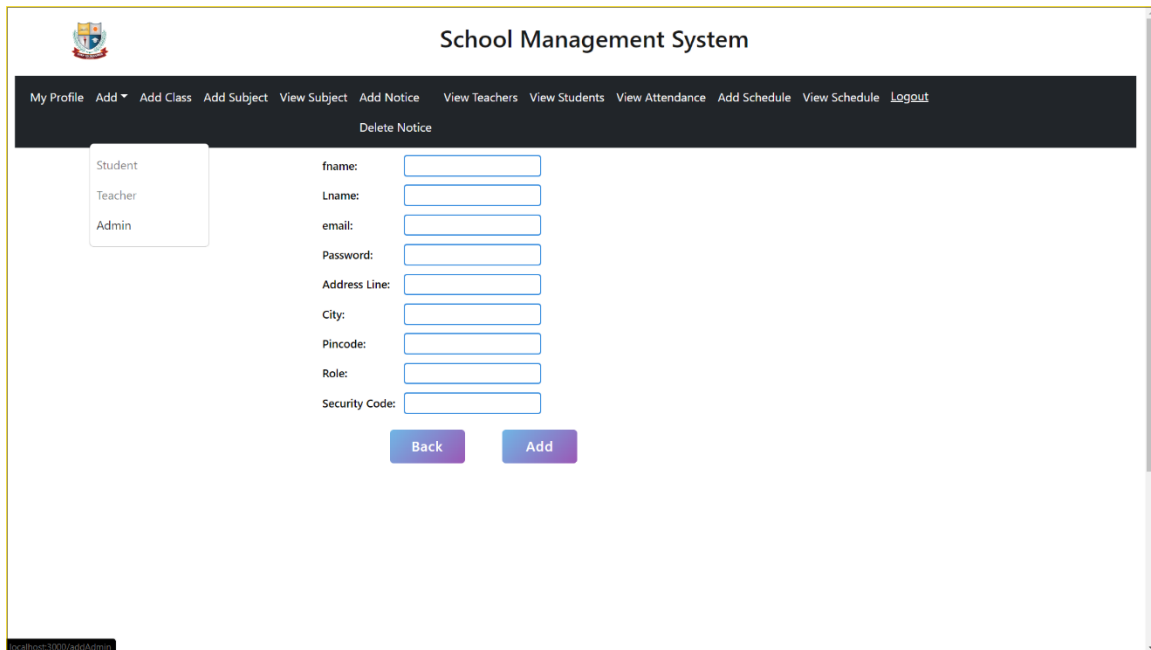
New Password

[Change](#)


5.4 USER REGISTRATION PAGE



The screenshot displays the 'School Management System' user registration interface. At the top, a navigation bar includes links for 'My Profile', 'Add', 'Add Class', 'Add Subject', 'View Subject', 'Add Notice', 'View Teachers', 'View Students', 'View Attendance', 'Add Schedule', 'View Schedule', and 'Logout'. Below this, a 'Delete Notice' link is visible. On the left, a dropdown menu is open, showing 'Student', 'Teacher', and 'Admin' options. The main form area contains input fields for 'fname:', 'Lname:', 'email:', 'Password:', 'Address Line:', 'City:', 'Pincode:', 'Role:', 'Security Code:', and 'Class id:'. At the bottom of the form are 'Back' and 'Add' buttons.



This is a duplicate of the screenshot above, showing the 'School Management System' user registration page with the same navigation bar, dropdown menu, and form fields.



School Management System

[My Profile](#) | [Add](#) | [Add Class](#) | [Add Subject](#) | [View Subject](#) | [Add Notice](#) | [View Teachers](#) | [View Students](#) | [View Attendance](#) | [Add Schedule](#) | [View Schedule](#) | [Logout](#)

Delete Notice

Student
Teacher
Admin

fname:

Lname:

email:

Password:

Address Line:

City:

Pincode:

Role:

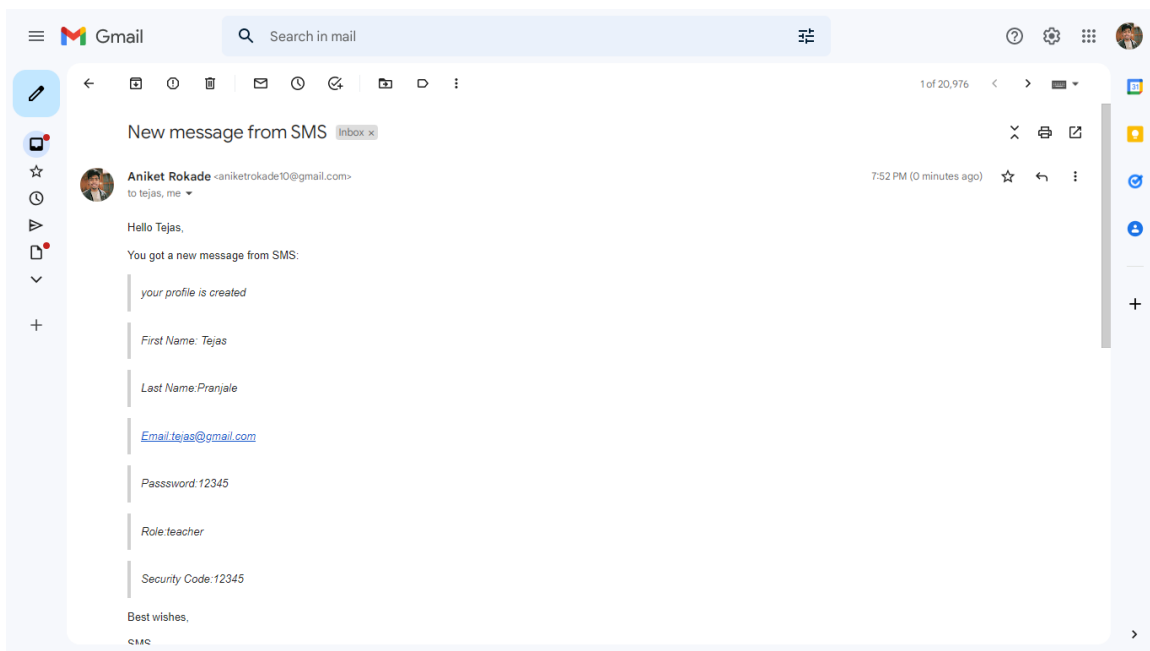
Security Code:

Designation:


Monthly Salary:

Back
Add

5.5 MAIL AFTER REGISTRATION



5.6 USER UPDATE PAGE

School Management System

[My Profile](#) [Add Notice](#) [View Teachers](#) [View Students](#) [Add Attendance](#) [Add Marks](#) [Upload files](#) [Logout](#)

User Id :

First Name :

Last Name :

Email :

Password :

Address line :

City :

Pincode:

Security Code :

Role :

Update

5.7 ADD SUBJECTS PAGE

localhost:3000 says
Subject Added Successfully

OK

My Profile Add Add Class Add Subject View Subject Add Notice View Teacher View Student View Attendance Add Schedule View Schedule Logout

Delete Notice

Subject Name:

Total Mark:

Class Id:

Teacher Id:

Back Add

5.8 ADD NOTICE

localhost:3000 says
Notice Added Successfully

OK


My Profile Add Add Class Add Subject View Subject Add Notice View Teacher View Student View Attendance Add Schedule View Schedule Logout

Delete Notice

Notice:

Back Add

5.9 DELETE NOTICE




School Management System

My Profile Add Add Class Add Subject View Subject Add Notice View Teachers View Students View Attendance Add Schedule View Schedule Logout

Delete Notice

#	Notice	Action
1	Exams from 24-10-22	<button>Delete</button>

5.10 GIVE STUDENTS MARKS




localhost:3000 says
Marks Added Successfully
OK

My Profile Add Notice View Teachers View Students Add Attendance Add Marks Update Marks Logout

Student Id:
Subject Id:
Marks:
Back Add

5.11 VIEW MARKS




School Management System

My Profile View Teachers View Students Fees Payment View Schedule View Marks View Attendance Logout

Class StudentId

Subject id	Subject Name	Marks	Firstname	ClassId
1	English-1	85	Aniket	1

5.12 ADD ATTENDANCE OF STUDENT




localhost:3000 says
Attendance Added

My Profile Add Notice View Teachers View Students Add Attendance View Marks View Attendance Logout

Student Id:
Date of Attendance:
Status:

5.13 VIEW STUDENTS ATTENDANCE




School Management System

My Profile View Teachers View Students Fees Payment View Schedule View Marks View Attendance Logout

Enter Student Id

StudentId	First Name	Last Name	Class Id	Date	Status
1	Aniket	Rokade	1	2022-09-23	Present

5.14 ADD SCHEDULE



localhost:3000 says
Schedule Added Successfully

My Profile Add Add Class Add Subject View Subject Add Notice View Teachers View Students View Attendance Add Schedule View Schedule Logout

Delete Notice

Day:
Subject Id:
Start time:
End Time:

5.15 FEES

localhost:3000/addFees

My Profile View Teachers View Students Fees Payment View Schedule View Marks View Attendance Logout

Student Id:

Fees amount:


Back Add

localhost:3000 says
Fees Added Successfully

5.16 FEES RECORDS

School Management System				
My Profile Add Add Class Add Subject View Subject Add Notice View Teachers View Students View Attendance Add Schedule View Schedule Logout				
Delete Notice				
Select Class <input type="text" value="1"/> <input type="button" value="find"/>				
student Id	first name	last name	Class ID	Fees paid
1	Ankit	Rokade	1	10000

5.17 VIEW SCHEDULE



School Management System


[My Profile](#)
[Add](#)
[Add Class](#)
[Add Subject](#)
[View Subject](#)
[Add Notice](#)
[View Teachers](#)
[View Students](#)
[View Attendance](#)
[Add Schedule](#)
[View Schedule](#)
[Logout](#)

Delete Notice

Select Class find

Day	Subject Name	Starttime	Endtime	ClassId	Teacher Name
Monday	English-1	8	9	1	Tejas

5.18 VIEW ATTENDANCE



School Management System

[My Profile](#)
[View Teachers](#)
[View Students](#)
[Fees Payment](#)
[View Schedule](#)
[View Marks](#)
[View Attendance](#)
[Logout](#)

Enter Student Id find

StudentId	First Name	Last Name	Class Id	Date	Status
1	Aniket	Rokade	1	2022-09-23	Present

CHAPTER 6

CONCLUSION

6.1 CONCLUSION

School Management System puts forth the actual working of a school. School record management, attendance, schedule management, Marks, etc. are the key features of our project. User can access services and functionalities from the system anywhere and anytime for their own comfort.

6.2 FUTURE SCOPE

School Management System can be easily modified according to new requirements from the school authorities. We can improve this application after getting feedback from schools.

We can add some additional features in this application like online video conferencing which will be game changer for small schools since many video conferencing apps are charging huge money from schools. We can also add functionalities for online exams on the application.

As the saying goes, necessity is the mother of invention, there is a lot of room for improvement and innovation.

CHAPTER 7

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7.1 REFERENCES

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