A PROJECT ON

"SCHOOL MANAGEMENT SYSTEM"

SUBMITTED IN

PARTIAL FULFILLMENT OF THE REQUIREMENT

FOR THE COURSE OF DIPLOMA IN ADVANCED COMPUTING FROM CDAC

Institute for Advanced Computing & Software Development

Akurdi, Pune(MH)

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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 schools 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 minute 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 students 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 responsive website to manage the different school activities.

- To track student's grades from their parents.

- 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

3.1 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.

3.2 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.

3.3 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 users for the proposed system, these are Admin, Teaher and student

Roles	Functions
Admin	-**Log In/Out** -**Register** -**Approve user** -**view feedbacks** - **Add New Subject & delete** - **Add New Class & Sections** - **Add New Teacher & delete** - **Edit Teacher** - **Add New Student & delete** - **Edit Student**
Teacher	- **Log In/Out** - **Assign students Marks** - **Post tasks and upload assignments** -**View feedbacks** -**Display result and add attendance**
Student	-**Edit profile** -**See result** -**Submit assignment** -**See attendance** -**Give feedbacks**

3.4 SYSTEM REQUIREMENT

Before creating any website or a mobile App, it is necessary to visualize the layout, design and all features intended to be incorporated.

In addition, how users will interact with each page and icon and how the website/App should perform (behaviour, load time etc.).

Requirements are the necessary attributes in the system, a statement that identifies a capability, characteristic or quality factor of the system in order to have value and utility to the users. Once the requirements are set, developers can initiate the other technical work including system design, development, testing, implementation, and operation. For any system, there are functional and non-functional requirements to be considered while determining the requirements of the system.

The functional requirements are user "visible" features that are typically initiated by stakeholders of the system, such as generate report, login, and signup.

On the other hand, non-functional requirements are requirements that describe how the system will do what it is supposed to do, for example, security, reliability and maintainability

3.5 CONSTRAINT

School Management System shall be able to handle at least 1000 students data at a time.

3.6 NON FUNCTIONAL REQUIREMENTS

3.6.1 Interface

Go to Appendix B for user interfaces

3.6.2 Performance

- **Number of Concurrent Users:**

SMS shall be able to handle at least 1000 users.

- **Adding a User:**

The system is susceptible to any temporary server failure since it uses the strong feature of Struts 2 and Hibernate. Hence the examination will be continued even if the sever gets disconnected in between the examination.

3.7 Other Requirements:

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.

3.8 FUNCTIONALITY

A) ADMIN (Headmaster)

* He can approve other user such as teachers and students

* He can add another Teachers and Students and delete them

* Can add subjects, assign classes and sections

* Can view the feedbacks

B) TEACHER

* Enter Student's grades per Subject.

* Contact with students and parents.

* Add new assignments to students

* Teacher can edit student's profile

* Teacher can display the results for students

C) STUDENTS

* He can edit his own profile

* He can see his result or grades

* See attendance status

* Give feedback

3.9 FUNCTIONAL REQUIRNMENTS

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 are 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 have a friendly user interface and the system very interactive.

Chapter 4
DESIGN

4.1 Database Design

The following table structures depict the database design

Table 1: User_Info

Field	Type	Null	Key	Default	Extra
_id	int	NO	PRI	NULL	auto_increment
first_name	varchar(30)	YES		NULL	
last_name	varchar(30)	YES		NULL	
dob	date	YES		NULL	
mobile	varchar(15)	YES		NULL	
gender	varchar(10)	YES		NULL	
acc_status	int	YES		NULL	
username	varchar(30)	YES		NULL	
email	varchar(30)	YES	UNI	NULL	
password	varchar(100)	YES		NULL	
type_job	varchar(10)	YES		NULL	
pincode	varchar(10)	YES		NULL	
locality	varchar(100)	YES		NULL	

Table 1: Student Details

Field	Type	Null	Key	Default	Extra
student_id	int	NO	PRI	NULL	
roll_no	int	NO	MUL	NULL	auto_increment
class	varchar(2)	YES		NULL	
section	varchar(2)	YES		NULL	
fees	int	YES		0	

Table 3: Teacher Details

Field	Type	Null	Key	Default	Extra
teacher_id	int	NO	PRI	NULL	-
designation	varchar(25)	YES		NULL	-
salary	int	YES		0	-

Table 4: Teacher Assignment

Field	Type	Null	Key	Default	Extra
teacher_id	int	YES		NULL	
assignment_id	int	NO	PRI	NULL	auto_increment
added_assignment	varchar(100)	YES		NULL	
submission_time	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED
subject_code	varchar(10)	YES		NULL	
assignment_due	timestamp	YES		NULL	

Table 5: Teacher Attendance

Field	Type	Null	Key	Default	Extra
teacher_id	int	YES		NULL	
date_of_attendance	timestamp	NO	PRI	CURRENT_TIMESTAMP	DEFAULT_GENERATED
attendance_status	varchar (10)	YES		NULL	

Table 6: Student Attendance

Field	Type	Null	Key	Default	Extra
student_id	int	YES		NULL	
date_of_attendance	timestamp	NO	PRI	CURRENT_TIMESTAMP	DEFAULT_GENERATED
attendance_status	varchar (10)	YES		NULL	

Table 7: Student Subjects

Field	Type	Null	Key	Default	Extra
student_id	int	YES	-	NULL	-
subject_code	varchar(10)	YES	-	NULL	-

Table 8: Subjects Details

Field	Type	Null	Key	Default	Extra
subject_name	varchar(25)	YES		NULL	-
class	varchar(2)	YES		NULL	-
subject_code	varchar(10)	NO	PRI	NULL	-
max_marks	int	YES		NULL	-
max_assignment_marks	int	YES		NULL	-
teacher_id	int	YES		0	-

Table 9: Student Feedback

Field	Type	Null	Key	Default	Extra
feedback_id	int	NO	PRI	NULL	auto_increment
student_id	int	YES		NULL	
teacher_id	int	YES		NULL	
feedback_remarks	varchar(100)	YES		NULL	
feedback_ratings	int	YES		NULL	

Table 10: Schedule

Field	Type	Null	Key	Default	Extra
session_id	int	NO	PRI	NULL	auto_increment
teacher_id	int	YES		NULL	
class	varchar(2)	YES		NULL	
subject_code	varchar(10)	YES		NULL	
start_time	time	YES		NULL	
end_time	time	YES		NULL	

Table 11: Class

Field	Type	Null	Key	Default	Extra
class	varchar(2)	NO	PRI	NULL	-
class_rep	int	YES		NULL	-
teacher_rep	int	YES		NULL	-

Table 12: Marks

Field	Type	Null	Key	Default	Extra
marksheet_id	int	NO	PRI	NULL	auto_increment
student_id	int	YES		NULL	
subject_code	varchar(10)	YES		NULL	
marks	int	YES		NULL	
assignment_marks	int	YES		NULL	
assignment_solution	varchar(100)	YES		NULL	
submission_time	timestamp	YES		NULL	

Table 13: Address

Field	Type	Null	Key	Default	Extra
city	varchar(25)	YES		NULL	-
district	varchar(25)	YES		NULL	-
state	varchar(25)	YES		NULL	-
country	varchar(25)	YES		NULL	-
pincode	varchar(10)	NO	PRI	NULL	-

4.2 CODING STANDARDS IMPLEMENTED

Naming and Capitalization

Below summarizes the naming recommendations for identifiers in Pascal casing is used mainly (i.e. capitalize first letter of each word) with camel casing (capitalize each word except for the first one) being used in certain circumstances.

Identifier	Case	Examples	Additional Notes
Class	Pascal	Teacher, Users, Subjects, Marks	Class names should be based on "objects" or "real things" and should generally be **nouns**. No '_' signs allowed. Do not use type prefixes like 'C' for class.
Method	Camel	getPincode, setSubjectList	Methods should use **verbs** or verb phrases.
Parameter	Camel	teacherId, firstName	Use descriptive parameter names. Parameter names should be descriptive enough that the name of the parameter and its type can be used to determine its meaning in most scenarios.
Interface	Pascal with "I" prefix	TeacherDao	Do not use the '_' sign
Property	Pascal	StudentAttendance, AssignmentSolution	Use a noun or noun phrase to name properties.
Associated private member variable	Camel	_findByMarksheetId, findByStd	Use underscore camel casing for the private member variables

Comments

- Comment each type, each non-public type member, and each region declaration.

- Use end-line comments only on variable declaration lines. End-line comments are comments that follow code on a single line.

- Separate comments from comment delimiters (apostrophe) or // with one space.

- Begin the comment text with an uppercase letter.

- End the comment with a period.

- Explain the code; do not repeat it.

Chapter 5
DIAGRAMS

5.1 ENTITY RELATIONSHIP DIAGRAM
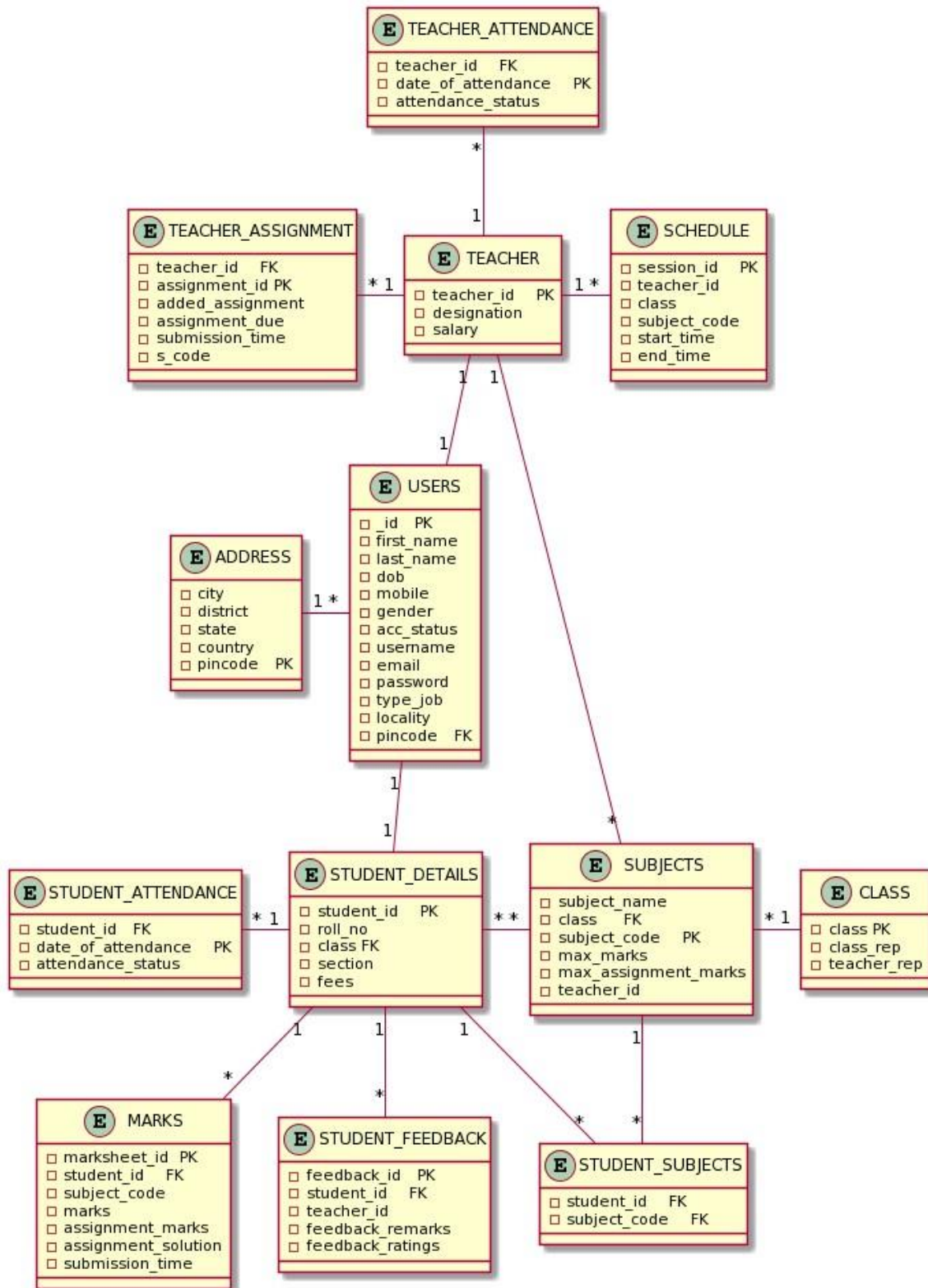
5.2 USE CASE DIAGRAM
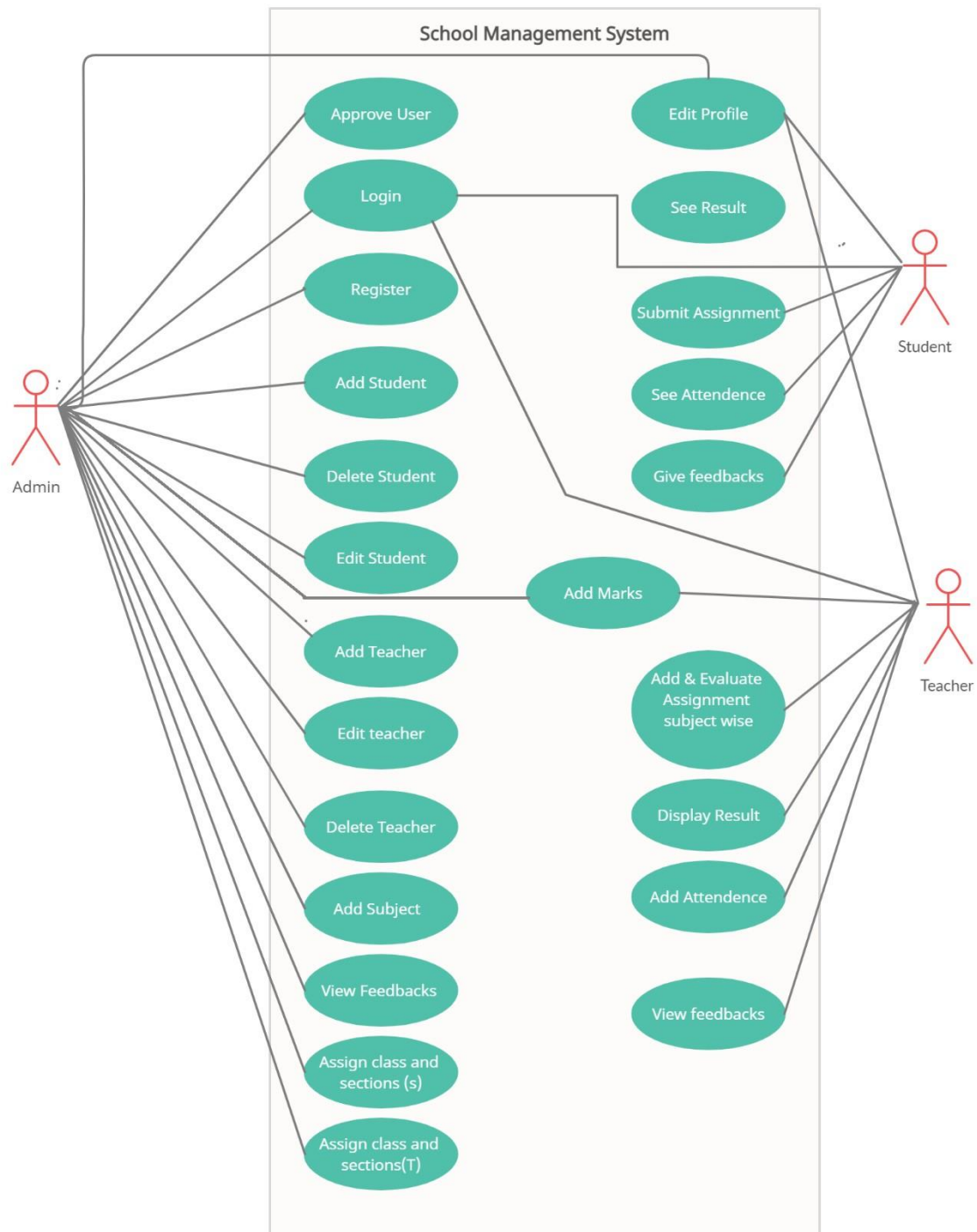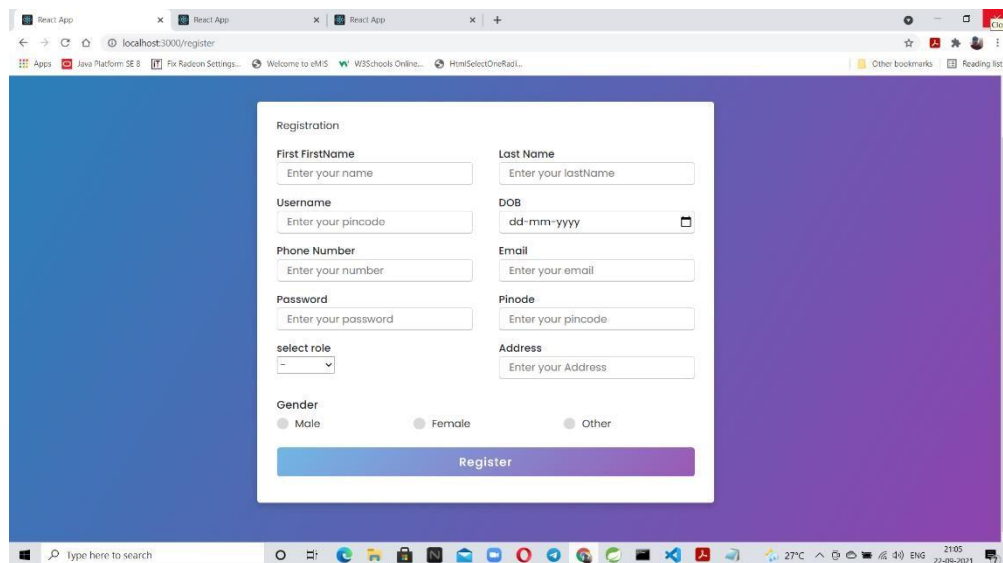
Chapter 5
ScreenShots

5.1   USER LOGIN PAGE
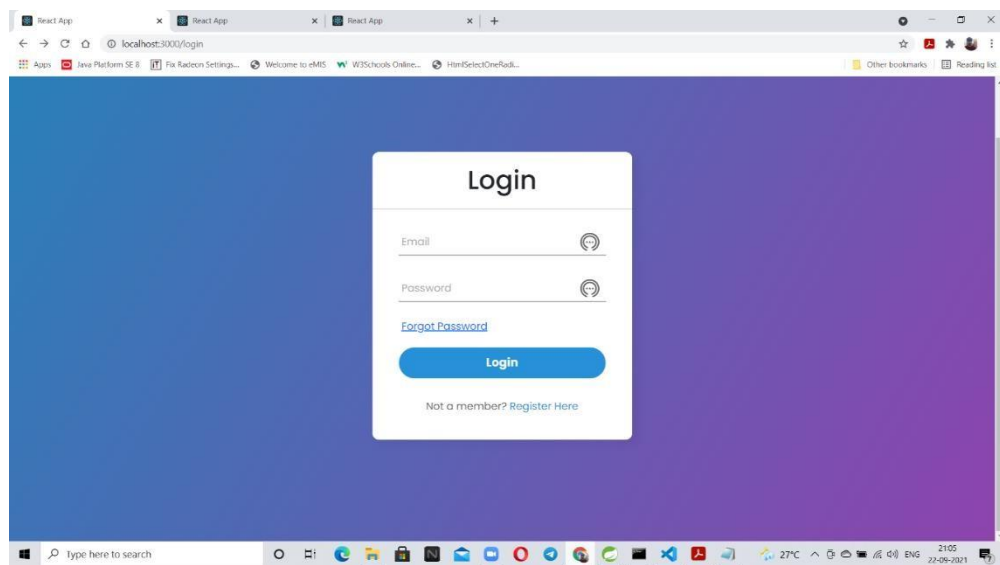
5.2   USER VERIFICATION PAGE

5.3   USER REGISTERATION PAGE

5.4 USER UPDATE PAGE

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School Management System

My Profile   Add User   Subjects   User ▾   Assign ▾   View ▾   Add Schedule   Attendance ▾   Feedbacks   Finance ▾   Logout   ADMIN

Activate Windows
Go to Settings to activate Windows.

School Management System

My Profile Add User Subjects User ▾ Assign ▾ View ▾ Add Schedule Attendance ▾ Feedbacks Finance ▾ Logout   ADMIN

Activate Account

Edit Users

First Name	Last Name	Designation	Email	Contact No.		
Brijendra	Yadav	student	brij123@gmail.com	07007859234	Activate	Delete
Hardik	Pandya	student	har123@gmail.com	07007859624	Activate	Delete
Virat	Singh	student	virat123@gmail.com	07007859430	Activate	Delete
Shreya	Chuahan	student	sh123@gmail.com	09110165318	Activate	Delete

School Management System

My Profile Add User Subjects User ▾ Assign ▾ View ▾ Add Schedule Attendance ▾ Feedbacks Finance ▾ Logout   ADMIN

Activate Account

Edit Users

First Name	Last Name	Designation	Email	Contact No.	
Pradeep	Yadav	student	pra123@gmail.com	08600165318	Edit
Shrikrushna	Kaphare	student	shri@gmail.com	08009180125	Edit
Deependra	Chauhan	student	Deep123@gmail.com	07007859782	Edit
Deepa	Singh	student	dep123@gmail.com	07007850439	Edit
Shilpi	Yadav	student	shil123@gmail.com	08600161111	Edit
Sonita	singh	teacher	sonita123@gmail.com	07000165318	Edit
Manjari	Yadav	teacher	man123@gmail.com	07000148318	Edit
Shifali	James	teacher	shifa123@gmail.com	07009180125	Edit
Naina	Bhushan	teacher	naina123@gmail.com	07007859782	Edit
Praveen	Verma	teacher	prav123@gmail.com	07007859234	Edit

School Management System

My Profile   Add User   Subjects   User ▾   Assign ▾   View ▾   Add Schedule   Attendance ▾   Feedbacks   Finance ▾   Logout   ADMIN

Role to Teacher

Subjects to Teachers

Classes to Students

Search Teacher By Name : [   ]   **Search**

:: Enter either firstname or lastname of the person

	Name	Email	Contact	Designation	New Designation	
	Sonita singh	sonita123@gmail.com	07000165318	SENIOR	[ ]	Change
14	Manjari Yadav	man123@gmail.com	07000148318	SENIOR	[ ]	Change
15	Shifali James	shifa123@gmail.com	07009180125	JUNIOR	[ ]	Change
16	Naina Bhushan	naina123@gmail.com	07007859782	SENIOR	[ ]	Change
17	Praveen Verma	prav123@gmail.com	07007859234	JUNIOR	[ ]	Change
18	Abhishek Jain	abhi123@gmail.com	07007859624	SENIOR	[ ]	Change
19	Prashant suman	pran123@gmail.com	7722009955		Junior	Change

Activate Wi
Go to Settings

School Management System

My Profile   Add User   Subjects   User ▾   Assign ▾   View ▾   Add Schedule   Attendance ▾   Feedbacks   Finance ▾   Logout   ADMIN

Role to Teacher

Subjects to Teachers

Classes to Students

Subject Code	Subject Name	Class	Teacher Assigned	Select Teacher	
art_09	Arts	9	Not Assigned	None ▾	Assign
bio_06	Biology	06	Shifali James	Naina Bhushan (SENIOR) ▾	Assign
bio_07	Biology	07	Naina Bhushan	None ▾	Assign
bio_08	Biology	08	Shifali James	None ▾	Assign
comp_09	Computer	9	Not Assigned	Sonita singh (SENIOR) ▾	Assign
dr_01	drawing	1	Not Assigned	None ▾	Assign
dr_02	Drawing	2	Not Assigned	None ▾	Assign
eng_01	English	1	Shifali James	None ▾	Assign

School Management System

My Profile Add User Subjects User ▾ Assign ▾ View ▾ Add Schedule Attendance ▾ Feedbacks Finance ▾ Logout   ADMIN

Select Class :   4 ▾   **Show Subjects**

Select Subject :   eng_04-English ▾

Select Starting Time : 10:30 🕐

Select Ending Time :   11:15 🕐

Add Schedule

School Management System

My Profile Add User Subjects User ▾ Assign ▾ View ▾ Add Schedule Attendance ▾ Feedbacks Finance ▾ Logout   ADMIN

Schedule	Select Class : 9 ▾ **Show Students**
Marks	
Marksheets	Select Student : 5 : Shrikrushna Kaphare ▾ **Show Result**
Ranks	

Subject Code	Subject Name	Marks	Assignment Marks
art_09	Arts	0/0	0/50
comp_09	Computer	0/100	0/20
eng_09	English	0/100	0/20
game_09	Physical Edu	0/0	0/50
hin_09	Hindi	0/100	0/20
math_09	Mathematics	0/100	0/20
moral_09	Moral Science	0/100	0/0
sci_09	Science	0/100	0/20
sst_09	Social Studies	0/100	0/20

Teacher Attendance
Student Attendance
Assignment Posted
Assignment Submitted

School Management System

My Profile | Add User | Subjects | User ▾ | Assign ▾ | View ▾ | Add Schedule | Attendance ▾ | Feedbacks | Finance ▾ | Logout | **ADMIN**

Select Teacher : | Id:16 - Naina Bhushan ▼ | **Show Feedbacks**

None
Id:13 - Sonita singh
Id:14 - Manjari Yadav
Id:15 - Shifali James
Id:16 - Naina Bhushan
Id:17 - Praveen Verma
Id:18 - Abhishek Jain

Student Name		Ratings	Remarks

School Management System

My Profile View Schedule Pay Fees View Marks View Marksheet View Attendance View Assignments Logout   STUDENT

Schedule Of StudentID : 5 of Class : 11

Show Schedule

Class	Subject Name	Teacher Name	Start Time	End Time
11	Physics	Abhishek Jain	11:45:00	12:30:00

School Management System

My Profile View Schedule Pay Fees View Marks View Marksheet View Attendance View Assignments Logout   STUDENT

PayFees

Name	Shrikrushna Kaphare
Registration Id	5
Date of Birth	2001-07-26
Gender	MALE
Contact Number	08009180125
Username	sk123
Roll number	3
Class	9
Section	B
Amount Paid	**111005** /- Rupees

Please Verify your details before paying fees

Amount : [   ] /- Rupees

Pay

School Management System

My Profile View Schedule Pay Fees View Marks View Marksheet View Attendance View Assignments Logout   STUDENT

ATTENDANCE

Date	Status
2022-09-19	Present
2022-09-26	Present

Present Percentage = **100%**

School Management System

My Profile Add Assignment View ▾ Give Marks Check Balance Attendance ▾ Logout   Teacher

Schedule
Marks
Marksheet
Ranks

Schedule

Class	Subject Name	Teacher Name	Start Time	End Time
06	Biology	Shifali James	09:30:00	10:15:00
07	Biology	Shifali James	11:00:00	11:45:00
08	Biology	Shifali James	11:45:00	12:30:00

CONCULSION

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 grade and the academic achievement for their kids.

Its main objective is to build a responsive website to manage the different school activities. To track student's grades from their parents. 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.

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.

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