

**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE**  
**Deemed to be University**  
(Declared under Distinct Category by Ministry of Education, Government of India)  
NAAC Accredited with A++ Grade



**Project Report**

**on**

**Development of School Management system**

A project report submitted in partial fulfilment of the requirement for the degree of

**MASTER IN COMPUTER APPLICATION**

**in**

**COMPUTER SCIENCE AND ENGINEERING**

**Submitted By**

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE**  
**GWALIOR – 474005 (MP) Estd. 1957**  
**JAN – JUNE 2024**



# Certificate of Project

Ref. No: 002024/E-143

Date: 23/04/2024

*This certifies that Riya Yadav has completed a 4-month project completion internship program as a PHP Developer with notable performance.*

*Throughout the internship period, she was very good. Her consistently high performance demonstrates a commitment to continuous improvement and professional growth.*

*We value her contribution to Saanvi Innovations.*

**Saanvi Innovations.**

*Priyanka Gupta*

*General Manager*

*Sandeep Gupta*

*CEO & Director*

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## **CERTIFICATE**

This is certified that **Riya Yadav (0901CA221054)** has submitted the project report titled **Development of School Management system** under the mentorship of **Mr. Himanshu Gupta**, (Project Manager Full, Saanvi Innovation Pvt. Ltd.) in partial fulfilment of the requirement for the award of degree of **Master in Computer Application** of Computer Science and Engineering from **Madhav Institute of Technology and Science, Gwalior.**

*Saxena  
25/4/2024*

**Dr. Parul Saxena**

(Assistant Professor)

Computer Science and Engineering

*25/4/2024*

**Dr. Manish Dixit**

(Professor and Head)

**Computer Science and Engineering**

**Professor & HOD**

**Department of CSE**

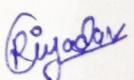
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**DECLARATION**

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of **Master in Computer Application** in Computer Science and Engineering at **Madhav Institute of Technology & Science, Gwalior** is an authenticated and original record of my work under the mentorship of **Mr. Himanshu Gupta**, Project Manager (Full Stack Developer Team), Saanvi Innovation Private Limited (Gwalior).

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



**Riya Yadav**

0901CA221054

2<sup>nd</sup> year

Masters in Computer Application  
Computer Science and Engineering

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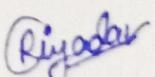
## **ACKNOWLEDGEMENT**

The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary project. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering**, for allowing me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

I would like to extend my heartfelt appreciation to **Mr. Himanshu Gupta**, Project Manager (Full Stack Developer Team, Saanvi Innovation Private Limited (Gwalior) for their exceptional mentorship, guidance, and assistance throughout the project. Their valuable inputs and feedback have helped me enhance my knowledge and skills. Their constant encouragement and support have been instrumental in the successful completion of this project.

I am sincerely thankful to my faculty coordinator. I am grateful to the guidance of **Dr. Parul Saxena** (Assistant Professor), Computer Science and Engineering, for her continued support and guidance throughout the project. I am also very thankful to the faculty and staff of the department.



**Riya Yadav**

0901CA221054

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Masters of Computer Application  
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## ABSTRACT

E-School (SMS) is a web application written in PHP which is supported by a stable MySQL database. Unlike a conventional system, implementation of E-School does not demand huge investments in hardware or software; all that schools need is an internet connection & a device, such as desktop computers. This revolutionary SMS works as a centralized hub that lets schools access information from anywhere as long as they have the appropriate login credentials. E-School is a unique platform that breaks down technological barriers, allowing its versatile features to be used from almost anywhere in the world, as long as standard internet connectivity is available. For one, our E-School platform is unequalled in its agility & can easily adjust its operations in accord with the specific management systems or needs of each individual school.

**Administrators:** Data provisioned in real-time in a manner that is precise, the School Administration System enables administrators to base their decisions on data confidently. Teachers, as well as administrators, are all provided with a vast array of time saving administration tools which parents can get instant access to the progress of their children, in the grades & in the attendance records too. Features rich SMS sends school calendar & detailed reports, based from attendance logs to report cards & transcript, are generated on the spot which can then be managed efficiently.

*"This Module is been performed by other team members, & the modules mentioned below is developed by me."*

**Teachers:** In the hands of educators, SMS becomes more than a feature; it is a Swiss knife that education professionals categorize various functions to boost their effectiveness in coordinating their tasks. From easily managing grading books to potential of tracking student attendance, to inputting class notes, crafting comprehensive lesson plans, & thus, generating detailed reports, the system serves as a force multiplier for educators. Furthermore, SMS allows hassle-free communication between staff, students & their parents that together produces a collaborative educational environment.

**Students:** With E-School students have an opportunity to learn in a unique way. On the E-School portal, the students will have the option of accessing the class schedules, timetables, results, activities, & attendance details when they are uploaded or added by administrators or the teachers, whenever they need it, everywhere online. Additionally, learners can engage in effective communication with their teachers through email that leads to collaboration & works in favor of their learning. Through E-School, the students become self-starters taking the control of the direction of their academic journey & self-fulfillment.

**Guardian:** Guardian have access to all the details of their child including academic performances, teachers, fees, etc.

ई-स्कूल (एसएएस) एक वेब एप्लिकेशन है जो एक डिशर MySQL डेटाबेस द्वारा समर्थित PHP में लिखा गया है। एक पारंपरिक सिस्टम के विवरों, ई-स्कूल का लागू होना हाईवेर या सॉफ्टवेयर में विशाल निवेश की मांग नहीं करता; स्कूलों को केवल एक इंटरनेट कनेक्शन और एक डिनाइम, जैसे कि हेल्पकेंट कंजूटर की आवश्यकता है। यह क्रांतिकारी स्कूल प्रबंधन प्रणाली एक केंद्रीकृत हब के रूप में काम करता है जो स्कूलों को उपयुक्त लागिंग ड्रॉडोज़िशन्स के साथ कहीं से भी पहुँच प्रदान करता है। ई-स्कूल एक अद्वितीय प्लेटफॉर्म है जो प्रौद्योगिकीक सीमाओं को तोड़ता है, जिसमें इसकी विभिन्नता सुविधाओं का उपयोग दुनिया के किसी भी कोने से किया जा सकता है, मानक इंटरनेट कनेक्टिविटी का लाभ लेते हुए।

**प्रशासक:** वास्तविक समय में डेटा प्रदान किया जाता है जो सटीक है, स्कूल प्रशासन प्रबंधन प्रणाली प्रशासकों को साहस से निर्णय लेने के लिए उन्हें आधारित करता है। शिक्षक, साथ ही प्रशासक, सभी समय बचाने वाले प्रशासनिक उपकरणों का लाभ उठाते हैं जिनके अंतर्गत माता-पिता अपने बच्चों की प्रगति का तुरंत उपयोग कर सकते हैं, अंकों और उपस्थिति रिकॉर्ड्स में। सुविधाएँ समृद्ध एसएएस स्कूल कैलेंडर हैं,

“यह मॉड्यूल अन्य टीम सदस्यों द्वारा प्रदर्शित किया जा रहा है, और नीचे उल्लिखित मॉड्यूल में द्वारा विकसित किए गए हैं।”

**शिक्षक:** शिक्षकों के हाथ में, एसएएस एक औजार से अधिक होता है; यह उन्हें उनके कार्यों को संगठित करने में अधिक प्रभावी बनाता है। अंकन बुक को संगठित रूप से प्रबंधित करने से लेकर छात्रों की उपस्थिति को ट्रैक करने, कक्षा नोट्स इनपुट करने, विस्तृत पाठ योजनाएँ बनाने, और इसके बाद विस्तृत रिपोर्ट्स उत्पन्न करने तक, प्रणाली शिक्षकों के लिए एक बल गुणक होता है। इसके अतिरिक्त, एसएएस कर्मचारियों, छात्रों और उनके माता-पिता के बीच संर्व युक्त संवाद को सुनिश्चित करता है, जो मिलकर एक सहयोगी शैक्षिक वातावरण को बढ़ावा देता है।

**छात्र:** ई-स्कूल के साथ, छात्रों को एक अद्वितीय तरीके से शिक्षा प्राप्त करने का अवसर मिलता है। ई-स्कूल पोर्टल पर, छात्रों को अपलोड किए गए या प्रशासकों द्वारा जोड़ी गई कक्षा की अनुसूचियाँ, समय सारणियाँ, परिणाम, गतिविधियाँ, और उपस्थिति विवरण प्राप्त करने का विकल्प होगा, जब भी उन्हें यह आवश्यक होगा, हर जगह ऑनलाइन। इसके अतिरिक्त, शिक्षा विद्यार्थियों को अपने शिक्षकों के साथ ईमेल के माध्यम से प्रभावी संवाद में भागीदार बनने का अवसर मिलता है, जो सहयोग बढ़ाता है और उनके शैक्षिक यात्रा को समृद्ध करता है। ई-स्कूल के माध्यम से, छात्र स्वयं संचालित हो जाते हैं, जो उनकी शैक्षिक यात्रा और स्व-पूर्ति की दिशा में निर्देशित करते हैं।

**प्रतिकृतियों:** प्रतिकृतियों को उनके बच्चे के सभी विवरणों तक पहुँच है, जिसमें शैक्षिक प्रदर्शन, शिक्षक, शुल्क आदि शामिल हैं।

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## CHAPTER 1: INTRODUCTION

Effective learning environments are based on the effective management & timely coordination of school-related activities, which ensure educational consistency especially with the ever-changing nature of education. SMS is designed as a platform that provides coordination b/w teachers, students, & parents by its top-level. It is a one-stop solution to school management which addresses difficulties of school administration. The main goal of this project is transforming & enhancing multiple school processes through a SMS-a complex & user-friendly system.

This SMS had been created taking into consideration a wide range of modules & features specific to educational institutions. On the other hand, for the purpose of monitoring student registration & attendance, this system offers the functionality of communication tools & control tools. It seeks to align resource allocation, fast-track channels of communication, & generally enhance the overall operational efficiency in the management of academic & non-academic activities through the use of sophisticated technologies. The goal is to ensure that there is a quality tool that is suitable for educational establishments so that they can enhance the administrative work and, on the other hand, empower a collaborative & communicative education forum for all the participants.

The education sector has faced some of the greatest challenges along with the existing education system being ruined & the need for the efficiency & adaptability of the systems in education becoming imperative in times of the COVID-19 pandemic. As extenuating circumstances brought about by the pandemic dictate, an incorporation of distinct SMS is highly important in bringing much needed change to tackle the obstacles that have arisen during this period.

## **1.1 Problem Identification**

Here are few points that helps to identify the problem.

### **1.1.1 Centralized Management**

The school management system ensures that all student data is centralized, organized, & managed in a systematic manner. It offers a data base where the details about students, their attendance records, academic performance & other needed data can get securely stored.

### **1.1.2 Time Saving**

This system allows teachers to do the roll call electronically, thus saving time for manual attendance input & minimizing errors. It can also send automatic notifications to parents about their child's attendance. This way they are always up to date.

### **1.1.3 Enhanced Communication**

The system provides communication among teachers, students, parents, & administrators in the form of messaging, announcements, & forums. It offers a common platform which affords the stakeholders a chance to share information & collaborate.

A school management system covers tools for allocating classrooms, for managing textbooks & for keeping track of other resources. It offers optimal usage of resources, protects against double-booking, & improves the efficiency with which they are used.

### **1.1.4 Accessibility to Information**

It Enables accessibility to all the required information to its users as permitted by admin or stakeholder which brings efficient & smooth working.

### **1.1.5 Lack of Analytical Insights**

Without a robust system for data analysis, schools miss out on valuable insights into student performance & institutional trends. A School Management System with analytical capabilities is essential for informed decision-making & continuous improvement in the education system.

### **1.1.6 Support for Remote Learning**

In the current educational landscape, the need for remote learning capabilities is evident, emphasizing the requirement for a SMS that aligns with the evolving educational paradigms.

The identified problems underscore the necessity for a modern, integrated SMS that indulges these challenges, enhances communication, streamlines administrative processes, & gives a secure & efficient platform for managing educational institutions. The development of such a system aims to alleviate these issues & contribute to a more effective & responsive educational ecosystem.

## 1.2 Parent Organization

Over the course of my internship at **Saanvi Innovation**, a subsidiary of the **Techieshubhdeep IT Solutions** group, I developed an understanding of our parent organization's dedication to engineering & technological growth. Techieshub has the experience of implementing thesis & projects based on the latest & novel IP cores & protocols.

*"<https://saanviinnovation.com/index.html>"*

Parent organization's mission is straightforward: to be devoted to the empirical research with different directions based on the IEEE & other international communities. They are committed to doing it right by producing quality services & products that are also modifiable to emerging customer requirements & market variations. The historical movement, environmental crisis, social inequality, technological innovation, physical fitness, & personal hobbies are the main topic of the infographic.

Upholding innovation as a central value at techieshubbdeep is the driver of our commitment. It provides thesis writing services as well as ME/MTech projects, & IEEE final year projects, & keep abreast with the latest technological developments.

To sum up, Techieshubhdeep IT Solutions is the key to solving vital & sophisticated engineering & tech challenges & thus the leader in the engineering & technology industries. I'm honored to be an intern with Saanvi Innovation, a company dedicated to improving the engineering & technological landscape, as a part of the entire Techieshubhdeep company philosophy. Techieshubhdeep is well-known to be a pioneer in creating cutting-edge thesis & projects by employing IP cores & protocols.

## **1.3 Software and Hardware Specification**

### **1.3.1 Hardware Specification**

The school management system specifications have been tailored to run at the optimum performance on the standard hardware equipment used in educational institutions.

In order to perform well, it recommends to use a server with either Intel Core i5 processor or its equivalent or higher, 8GB of RAM or more, & at least 256GB SSD storage. For client devices which include desktop computers & computers, you should provide a Minimum Intel Core i3 processor & at least 4GB RAM in addition to a sufficient storage capacity. Whereas tablets & smartphones are optional items, they must work well on the web & provide modern web browsing capabilities.

### **1.3.2 Software Specification**

The software specification of the school management system is developed on a solid foundation based on a stable software stack for reliability & security of data. It runs on both Linux & Windows server operating systems & features Apache as the web server. Database management can be done with MySQL. The system is created based on PHP, Java Script, HTML 5 & CSS 3 languages with also usage of Bootstrap for frontend design. Technologies like VS Code, PHP, & for version control are amongst principals that are used to ensure the efficiency of development & the collaboration.

The hardware & software specifications together contribute to the correct & secure operation of the school management system. This system also serves the purpose as a reliable platform for managing educational activities, collaboration as well as the overall communication b/w the teachers, students & parents.

## CHAPTER 2: SYSTEM ANALYSIS

### 2.1 Problem Analysis

In the contemporary educational milieu, the harmonious relations between students, parents & teachers are an indispensable part of academic success, personal growth & good development. Traditional communicating models have their limits; thus, the SMS has been designed to fill the gap. The analysis is based on a number of key features that characterize the project & which promote smoothly interaction & engagement among the stakeholders.

**Chat Feature:** The key component in the proposed SMS is a chat option for students, parents, & teachers that lets them intercommunicate through live communication. Such function enables the concerned parties to communicate friction-less & in a timely manner by sharing questions, expressing academic worries & working on assignments or projects within the platform.

**Live Updates of Exams, Events, & Attendance:** The SMS serves the best platform that facilitates timely transmission of the school information, such as test timetables, upcoming events & absenteeism. These updates help keep all stakeholders on the same page regarding important dates, activities, & student attendance so that stakeholders can be more involved & informed about what is happening at the school.

**Personalized Dashboards:** Every single user is provided with a dashboard that is private & designed to satisfy the different needs of each party, including students, parents, & teachers. They are not only the entry points into useful information, but also the place where users can access all relevant info like academic achievements, deadlines, school's announcements & engagements.

In conclusion, the implementation of a SMS is not just a matter of convenience but a strategic investment in the future of education. By enhancing communication & collaboration, & integrating technology into the learning experience, the system contributes to the overall effectiveness & success of educational institutions in fulfilling their mission of providing quality education to students.

## 2.2 Feasibility Study

### 2.2.1 Economic Feasibility Study

S. No	Category (per month)	Cost (INR)
1.	System Analyst	10,000
2.	Programmer	30,000
3.	Electricity	200
4.	Hardware and Software	15,000
5.	Utility Cost	2000
<b>TOTAL Amount</b>		57,200 /- (per month)

### 2.2.2 Technical Feasibility Study

#### 2.2.2.1 Hardware Requirements

S. No	Hardware	Range
1.	processor	I3/i5
2.	RAM	8GB OR Higher
3.	SSD	256GB OR Higher
4.	Operating system	32bits or 64 bits (for seamless implementation)

#### 2.2.2.2 Software Requirements

S. No	Software	Description
1.	Operating System	WINDOWS 10/11(any)
2.	TEXT EDITOR	VS CODE (IN USE)
3.	NETWORK	XAMPP - MY SQL - APACHE SERVER
4.	TECHNOLOGY (IN USE)	- HTML - CSS - JAVASCRIPT - PHP
5.	BROWSER	Google Chrome, Mozilla Firefox, Opera, etc (any)

### **2.2.3 Behavioral Feasibility Study**

This research aims at investigating the effectiveness of students, teachers, administrators & other stakeholders in the school community in interacting & adopting the new system. It takes into account user requirements that include preferences, habits, attitudes & culture to make sure that the system meets the needs of the users & establishes good relationship with the existing school environment.

#### **2.2.3.1 Seamless Maintenance of Student Records**

The School Management System improves the process by which the information of students is recorded, making the task easier for the administrators, teachers, & parents who need to track & handle such information. This system should have student profiles as part of it. It is where information like personal data, academic records, attendance, disciplinary record, extracurricular activities, & health data can be kept & updated. This ensures the comprehensive management of student data.

#### **2.2.3.2 Analysis of Academic Performance**

Users, including teachers & parents, are able to monitor the progress of students by having the overall academic performance data readily available to them hence making it possible for them to analyse their performance over time. This analysis would involve more than just grades but stakeholder evaluations, standardized test scores, & teacher evaluation among other things. This segment delivers information on an individuals' strengths & weaknesses, thus paving the way for personalized learning approaches & for interventions aimed at helping students to succeed.

#### **2.2.3.3 Effortless & Swift Communication**

The system establishes a hassle-free & quick communication buzz b/w the teachers, students, & parents. Also, some functionalities like attendance, classes, & a school event, ensure time-based communication & relate stakeholders together as well as interested parties.

#### **2.2.3.4 24-Hour Accessibility**

The system is open access, 24-hours by end-users meaning that all stakeholders can access the educational data, the resources, & school services regardless of time. In the case of the families connecting to the system from home, work, or on-the-go, the fact that this service is available

all the time supports the continued learning & engagement in school activities. Also, cloud-based storage is a guaranty of data security & backup meaning that users are relaxed about data accessibility & stability.

#### **2.2.3.5      Integration with External Systems**

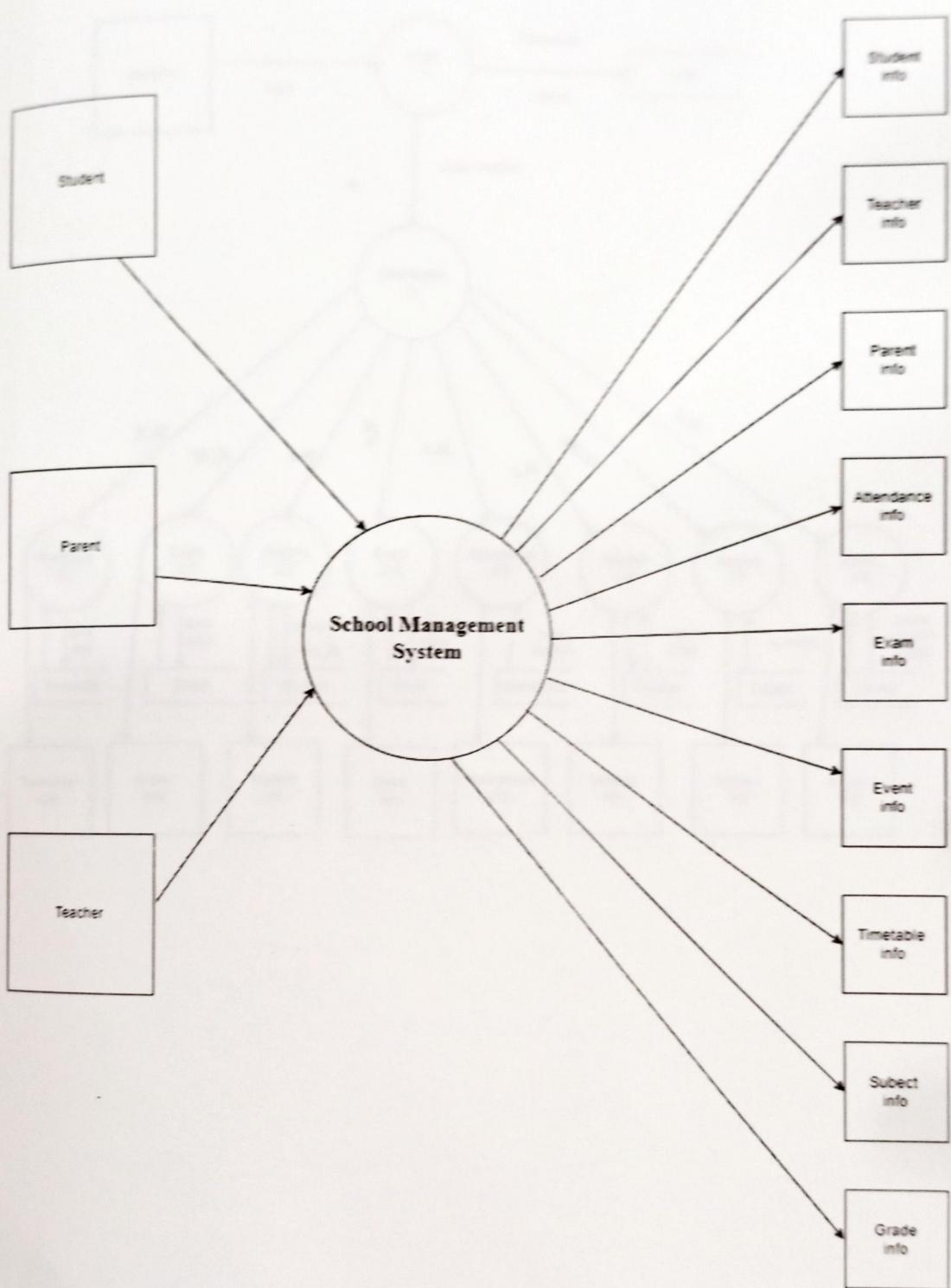
The SMS will be able to link with the external resources & some of them are learning management systems, accounting software, & communication software. This smooth merge eliminates processes & cuts duplicate data entry but also improves overall efficiency. For instance, the integration with a learning management system leads to a synchronization process in an automatic way.

#### **2.2.3.6      Enhanced Parental Engagement**

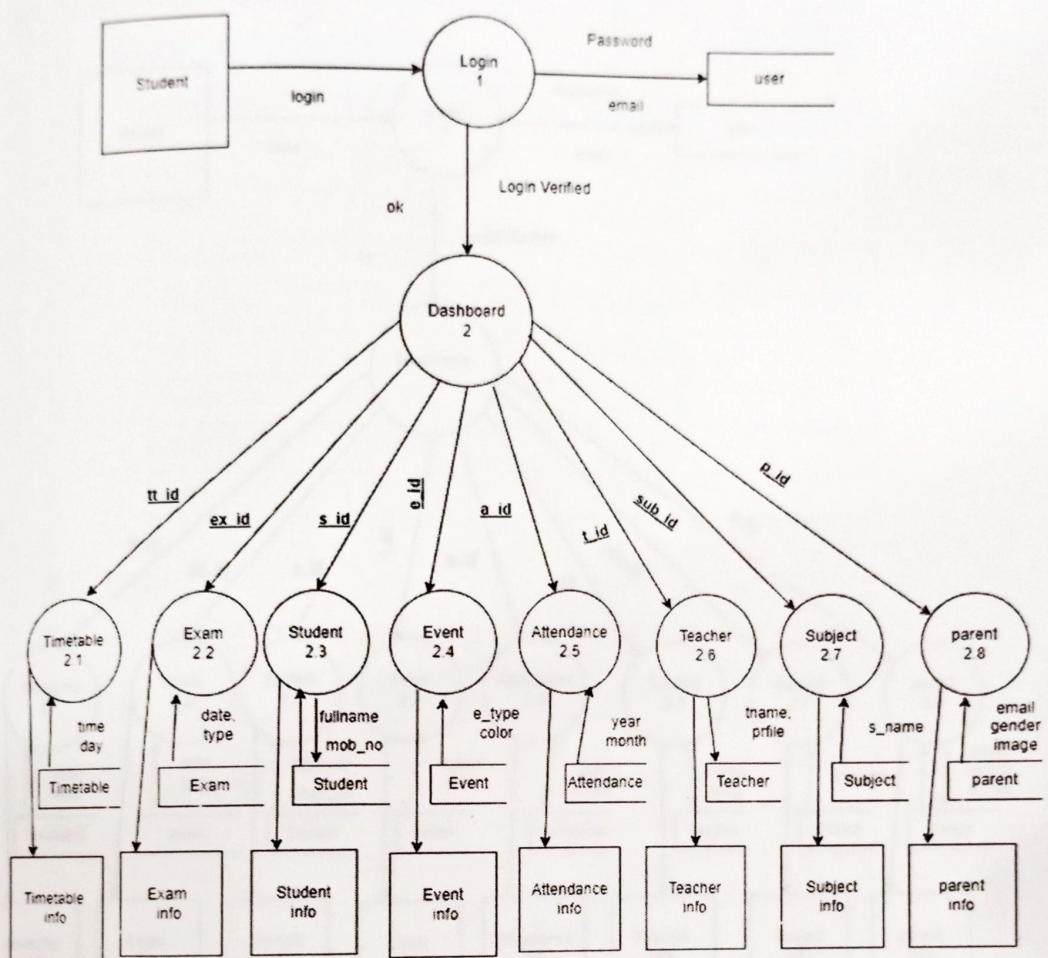
The SMS places emphasis on heightened parental engagement by giving parents a chance to perceive their children's academic journey, involving the attendance records, grades, & behavioural reports. Through parental portals, two-way communication features, & collaboration between home & school, parents' active participation in their kids' education is encouraged to enhance their outcomes.

## 2.3 Data Flow Diagram

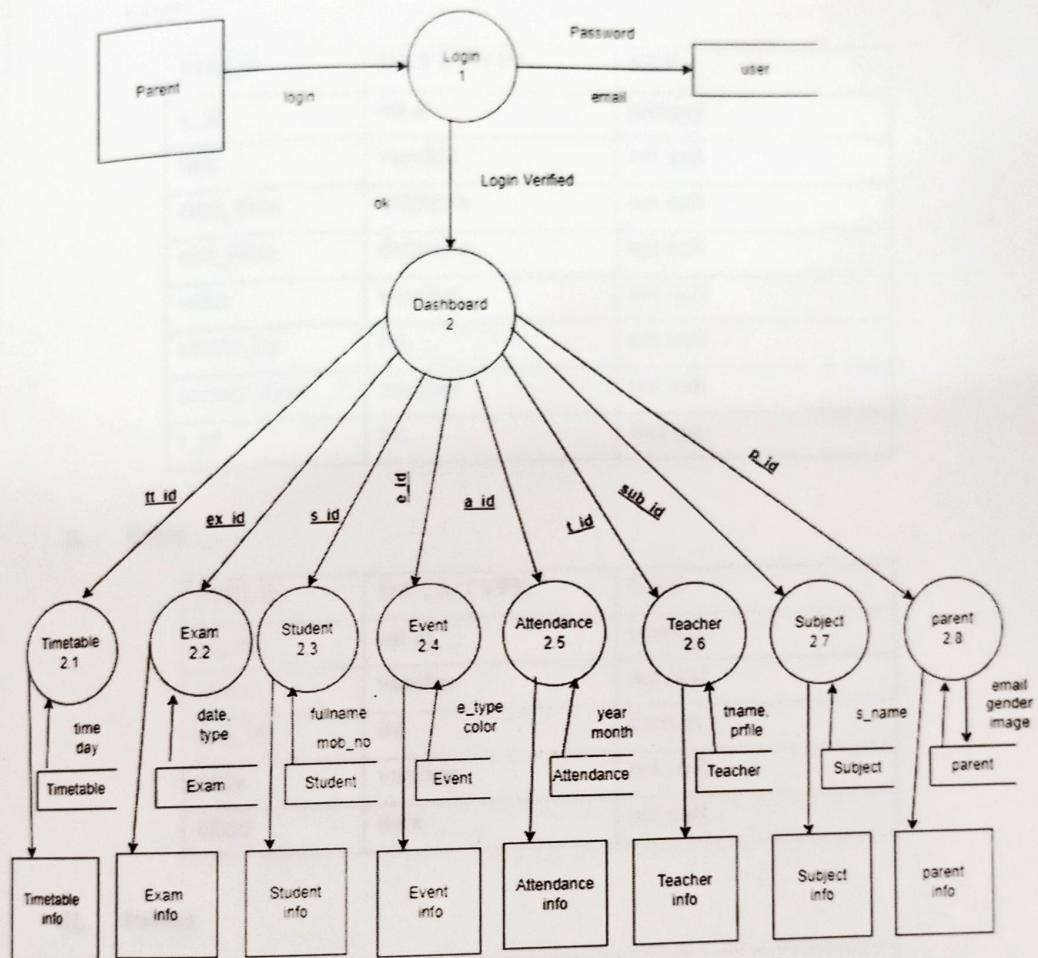
### 2.3.1 DFD Level Zero



### 2.3.3 DFD Level 1 for Student



### 2.3.4 DFD Level 1 for Parent



# CHAPTER 3: SYSTEM DESIGN

## 3.1 Database Structure

### I. Event

FIELD	DATA TYPE	KEY
<u>e_id</u>	int ai	primary
title	varchar	not null
start_time	datetime	not null
end_time	datetime	not null
color	varchar	not null
create_by	int	not null
creator_type	varchar	not null
t_id	int	foreign

### II. Exam

FIELD	DATA TYPE	KEY
<u>ex_id</u>	int ai	primary
name	varchar	not null
sub_id	int	foreign
eday	varchar	not null
edate	date	not null

### III. Parent

FIELD	DATA TYPE	KEY
<u>p_id</u>	int ai	primary
full_name	varchar	not null
paddress	varchar	not null
phone	varchar	not null
email	varchar	not null
pgender	varchar	not null
s_id	varchar	foreign
b_date	date	not null
reg_date	date	not null
pimage	photo	not null

IV. Student

FIELD	DATA TYPE	KEY
s_id	int ai	primary
grade_id	int	foreign
fullname	varchar	not null
phone	int	not null
email	varchar	not null
reg_date	date	not null
sgender	varchar	not null
saddress	varchar	not null
birth_date	date	not null
simage	photo	not null
status	varchar	not null

V. Time Table

FIELD	TYPE	KEY
tt_id	int ai	primary
grade_id	int	foreign
starttime	double	not null
endtime	double	not null
day	varchar	not null

VI. Grade

FIELD	DATA TYPE	KEY
grade_id	int ai	primary
gname	varchar	not null
t_id	int	foreign

VII. Subject

FIELD	DATA TYPE	KEY
sub_id	int ai	primary
s_name	varchar	not null
tt_id	int	foreign

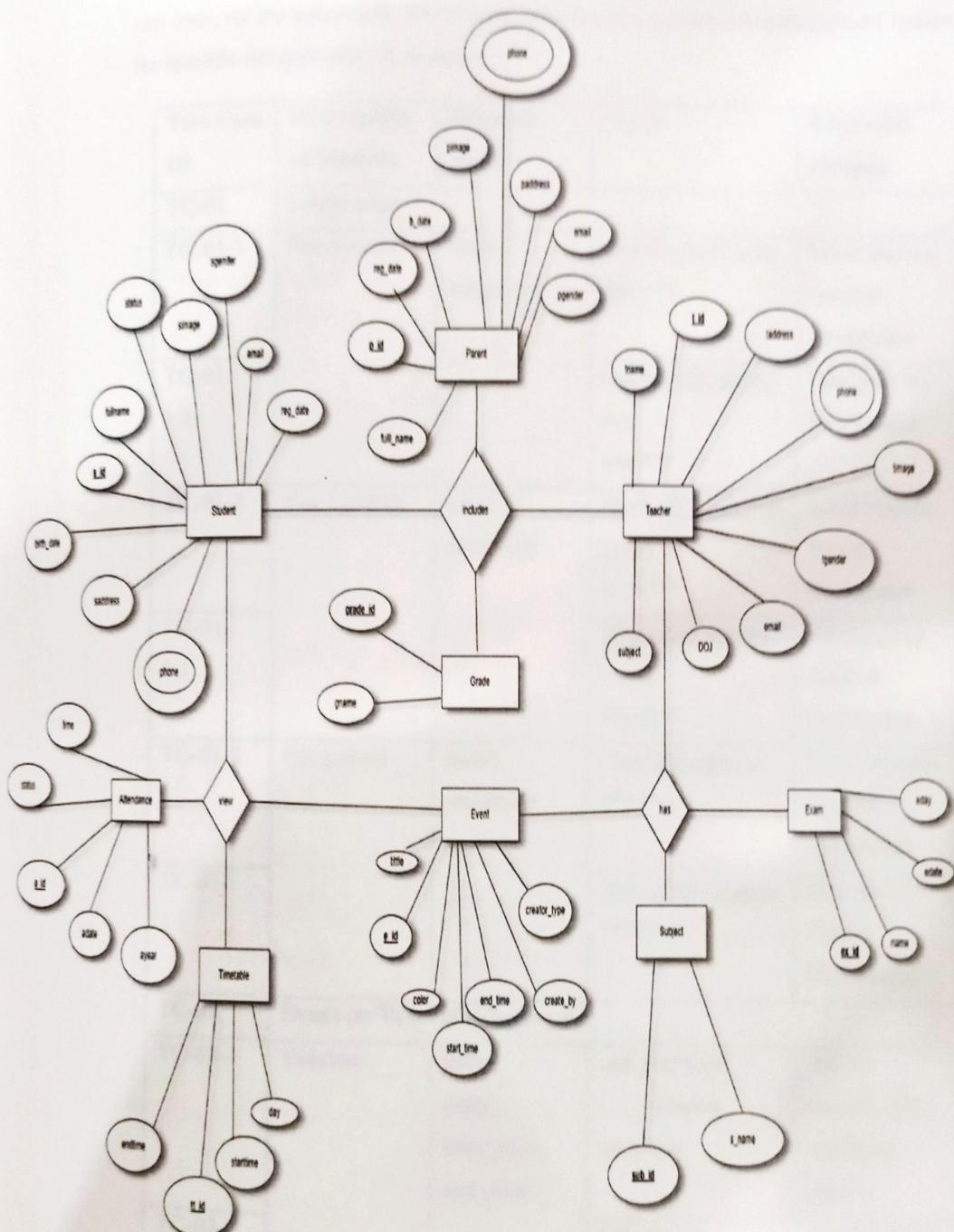
VIII. Attendance

FIELD	DATA TYPE	KEY
a_id	int ai	primary
s_id	int	foreign
adate	date	not null
ayear	year	not null
time	time	not null
status	varchar	not null

IX. Teacher

FIELD	DATA TYPE	KEY
tname	varchar	not null
t_id	int ai	primary
s_id	int	foreign
subject	varchar	not null
taddress	varchar	not null
phone	int	not null
tgender	varchar	not null
email	varchar	not null
timage	photo	not null
DOJ	date	not null

### 3.2 Entity-Relationship Diagram



# CHAPTER 4: TESTING

## 1.1 Unit Testing

This table gives a systematic information of the several test cases, their descriptions, inputs, expected outputs, actual outputs & the Pass/Fail status as summarized beneath. Through each test case, we are essentially focused on ensuring that our school management system is tested for specific functionality & features.

Test Case ID	Description of Module	Element name	Input	Expected Output	Actual Output
TC-01	Login page				
TC-01-1	For Teacher	email, password	teacher1@gmail.com sam***	Error shown- Invalid Credential	pass
TC-01-1.1			teacher1@gmail.com sam***	Navigate to Dashboard	Pass
TC-01-2	For Student	email, password	Student887@gmail.com Qwe***	Error shown- Invalid Credential	pass
TC-01-2.1			Student887@gmail.com Riya\$**	Navigate to student dashboard	pass
TC-01-3	For parent	email, password	Dad1@gmail.co *****	Error shown- Invalid Credential	pass
TC-01-3.1			Dad1@gmail.com *****	Navigate to Parent Dashboard	pass
TC-02	Event on Teacher's Dashboard				
TC-02-1	Teacher	tittle, color, start_time, end_time	Lab practical .....(blank) 16/04/24	Error shown- fill required details	Pass
TC-02-2			Lab practical Red 16/04/24-20/04/24	Event added successfully (visible on	Pass

				teacher's dashboard)	
TC-02-1	teacher has access to choose who can view event details that he/she added	category	category- All students, students only, teachers only, etc. (dropdown)	Only the selected category can view the event details created by teacher	pass
TC-03	Updating student details along with guardian details by Teacher	fullname, pname	student1 dad1	successful	Pass
TC-04	Timetable on Teacher dashboard				
TC-04-1	Teacher can add their Timetable	day, starttime, endtime	Monday, ..... 10.00	Error shown add all require details	Pass
TC-04-2			Monday 9.00 10.00	Added to time-table	pass
TC-05	Exam by teacher				
TC-05-1	Adding exam details	e_type, ex_name,	..... Term 1	Error shown fill require details	pass
TC-05-2			monthly Term 1	exam added as instructed	pass

## 1.2 Compatibility Testing

In every test case, the system should be used with browser or device described, & the behavior should be examined to understand whether there are any issues of layout or functionality. The actual output should be identical with the test input for the test to pass.

Test Case ID	Description	Input	Expected Output	Actual Output	Pass/Fail
TC-COMP-001	Test compatibility with Chrome browser for Android PCs	Access system via Chrome browser on Android PC	System functions correctly without layout or functionality issues	System functions as expected	Pass
TC-COMP-002	Test compatibility with Firefox browser for Android PCs	Access system via Firefox browser on Android PC	System functions correctly without layout or functionality issues	System functions as expected	Pass
TC-COMP-003	Test compatibility with Edge browser for Android PCs	Access system via Edge browser on Android PC	System functions correctly without layout or functionality issues	System functions as expected	Pass

### An Example for all Browser

TC-URL-001	Test accessing the school management system	Enter "localhost/school_project" in the URL bar of a web browser	System login page is displayed	System login page is displayed	Pass
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### 1.3 Validation Testing

Through validation testing, it is ensured that the functions of the school management system are operational as per the specifications & the requirements are met.

The teacher panel requires that teachers are able to properly validate & update student information, including details of their guardians. In addition, validation testing makes it possible for teachers to manage their classes efficiently significantly, including promoting students to next classes or transferring them to other sections. It also has tested the functionality for event creation so that our teachers is able to create events with relevant details & fixed reminders.

In the student panel, the validation testing involves the chat functionality & the access to the academic material. This involves testing the chat feature for correct communication between students, for instance sending a message & accepting friend request. However, this validation test also allows the students to easily access the academic information for example teacher details, exam dates, fee details, timetables & attendance records. It is about checking the availability of interface elements & correctness of displayed information.

### 1.4 Integration Testing

Integration testing situations when different components or modules of school management system go together to validate the seamless operation.

The panel of a teacher will exhibit the attributes to determine whether each student interface & database are integrated properly for modifying the student details. It is performing the validation of the flow of information between the databases of the teacher panel & the database to ensure that any modifications made by teachers are correctly shown in the student records. Similarly, integration testing occurs between teacher dashboard & event management system to make sure that events created by teachers are properly recorded & display.

Parents can keep an eye to their children's performance including marks, events, exams, teacher's information, fees, etc. Which enables them to know more about their child's growth.

In summary, integration testing is to test all components of the SMS is functioning harmoniously to give a seamless experience that is both effective & efficient for both teachers & students.

## 1.5 User Acceptance Testing

The (UAT) User Acceptance Testing is performed by the SMS users, as a form of validation, to assess if the UAT achieved their expectations & fulfilled their needs as anticipated.

Teachers from the UAT panel can do activities like updating student details, & activities like generating events using the system. Educators tend to prefer this type of system because information is easy to update, & several events can be created, which in turn improves efficiency & staff satisfaction.

The same mode of action is being undertaken by the students during the student council UAT where they are asked to test functionalities such as the chat feature & academic information accessibility. the good usability of the chat feature which make possible for students to begin conversations, send messages & even manage friend requests & the ease of accessing academic data. Students' participation is therefore an important service delivery component through which students-peers communication & access to necessary information is poised, leading to a good study environment.

Over the course of the UAT, through this iterative strategy, the system is tailored to cover the needs & expectations of its users, which in turn lead to their higher level of satisfaction & system adoption by the wider school population.

## CHAPTER 5: IMPLEMENTATION

Firstly, install some IDE software for implementing our project which are as follows: -

### 1.1 Visual Studio Code: -

- a. Go to the official Visual Studio website: <https://visualstudio.microsoft.com/downloads/>
- b. Click on the "**Download**" button for the version of Visual Studio you want to install.
- c. Choose the components you want to install, such as languages, frameworks, & tools.
- d. Click on the "**Install**" button to start the installation process.
- e. Follow the installation wizard & select the options that suit your needs.

### 1.2 XAMPP FOR PHP: -

- a. Go to the official MySQL Workbench website: <https://www.apachefriends.org/>
- b. Select the version of XAMPP for your operating system.
- c. Click on the "**Download**" button to start the download.
- d. Once the download is complete, run the installer. Follow the installation wizard & select the options that suit your needs.

### 1.3 PHP MYSQL: -

- a. After successfully install **XAMPP**, start **APACHE** & **MySQL** sever.
- b. Go to the Google chrome or any other browser & type **PHPMYADMIN** for accessing PHP
- c. Select new database & create your database for this.

## CHAPTER 6: SAMPLE FORMS AND REPORTS

### 6.1 Login form

All user (parents, students, teachers) will login through the same phase

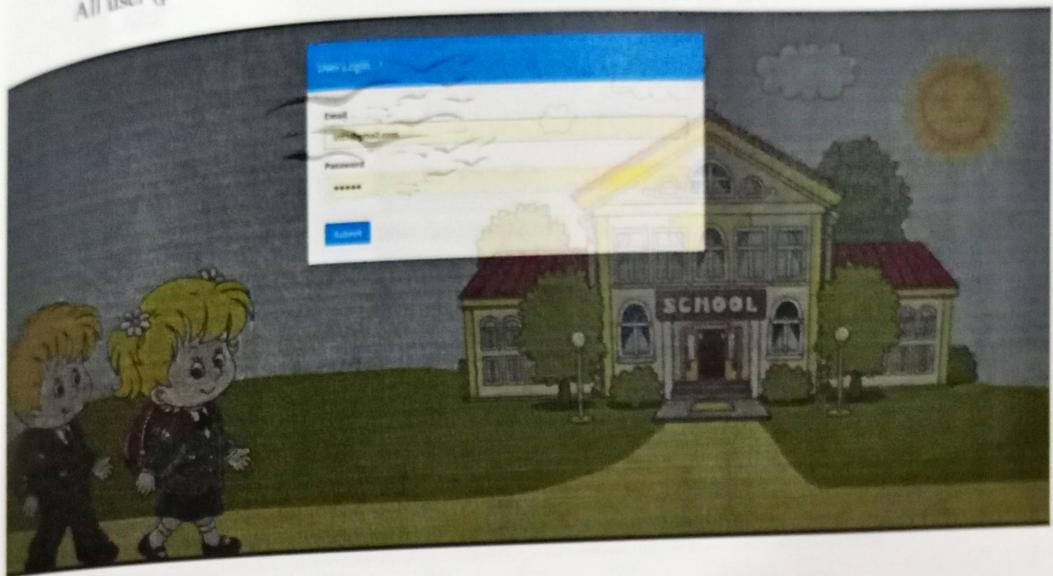
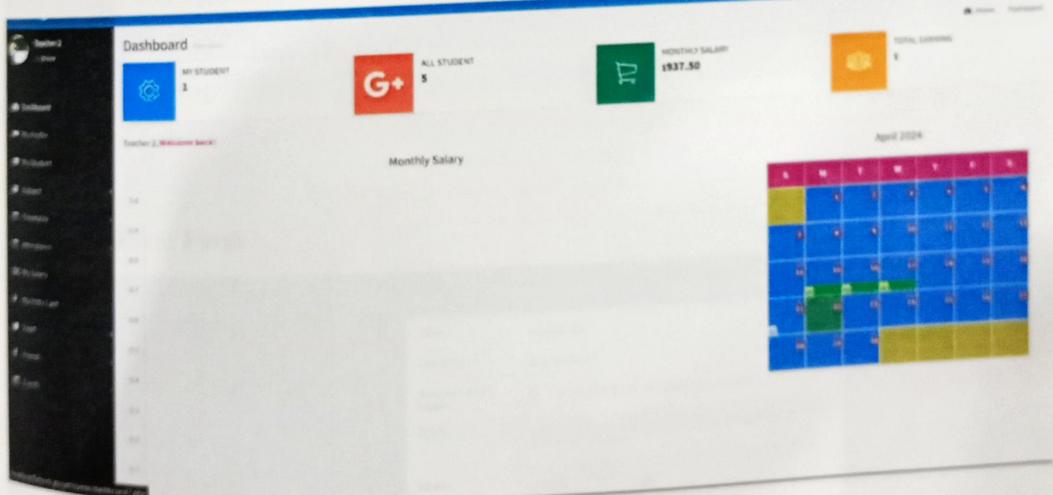


Figure 1 login (for all users)

### 6.2 Teacher Details

#### a) Teacher Dashboard



### b) Student Details

A screenshot of a web-based student management system. The interface includes a sidebar with navigation links like 'Dashboard', 'Students', 'Teachers', 'Classes', 'Subjects', 'Events', 'Attendance', 'Reports', 'Logout', and 'Help'. The main content area is titled 'My Student' and shows a table with 11 rows of student data. Each row contains a student's name, class, and subject. To the right of the table is a 'Search' field and a 'Print' button. Below the table, a message says 'Showing 1 to 5 of 10 entries'.

### c) Time Table

A screenshot of a time table for a week. The interface includes a sidebar with navigation links like 'Dashboard', 'Students', 'Teachers', 'Classes', 'Subjects', 'Events', 'Attendance', 'Reports', 'Logout', and 'Help'. The main content area is titled 'Timetable' and shows a grid for the days Sunday through Saturday. Each day has a header row with 'Time', 'Sunday', 'Monday', 'Tuesday', 'Wednesday', 'Thursday', 'Friday', and 'Saturday'. Below this are four time slots (8:00-9:00, 9:00-10:00, 10:00-11:00, 11:00-12:00) with subject and teacher assignments. For example, on Sunday, Subject 2, Teacher 2, Class A, and Subject 2, Teacher 2, Class B are listed for the first two slots. On Saturday, Subject 2, Teacher 2, Class B, and Subject 2, Teacher 2, Class A are listed for the last two slots.

### d) Event Form

A screenshot of an event form titled 'Add Event'. The form includes fields for 'Title' (monthly test), 'Category' (Only Students), 'Date and Time range' (radio button selected for '04/18/2024 12:00 AM - 04/22/2024 11:59 PM'), 'Note' (text area containing 'Test start/end dates are declared and marked as orange in your event calendars'), and 'Color' (dropdown menu set to 'orange'). A 'Submit' button is at the bottom.

### e) Subject Details

Subject

My Subject

Show 10 entries

ID	Grade	Subject	Fee(\$)
1	Grade 1	Subject 2	250.00
2	Grade 2	Subject 2	350.00
3	Grade 3	Subject 2	400.00

Showing 1 to 3 of 3 entries

Print

Reset

### f) My Event Calendar

My Events

April

January 2017

February 2017

March 2017

May 2017

June 2017

July 2017

August 2017

September 2017

October 2017

November 2017

December 2017

January 2018

February 2018

March 2018

April 2018

May 2018

June 2018

July 2018

August 2018

September 2018

October 2018

November 2018

December 2018

Sunday

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

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### g) Teacher Profile

My Profile

Teacher 2

	Full Name	Parul Saxena
	Name With Initials	Professor.saxena
	Address	MITS
	Gender	Female
	Email	t2@gmail.com
	Phone Number	222-222-2222
	User Name	t2@gmail.com
	Password	*****

Browse: 1697089030\_Parul mam.jpg

Note: We get the email address for the user name.

Submit

## 6.3 Student Details

### a) Student Dashboard

The dashboard features a sidebar with navigation links like Home, Profile, Teacher, Subjects, Attendance, Payments, and Exam. The main area includes a 'G+' icon, a 'Monthly Attendance' chart, and a large 'March 2022' calendar with various colored cells (blue, yellow, green) representing attendance or grades. A sidebar on the left shows a student's profile with a photo and basic information.

### b) Student Profile

The profile page displays a circular photo of the student and a table of personal details. The student's name is Riya. The table includes fields for Full Name, Name with initials, Address, Gender, Email, Phone Number, Guardians Name, Guardians Address, Guardians Phone, Guardians Email, User Name, and Password.

Full Name	Riya Kedav
Name with initials	Riya
Address	Gwalior
Gender	Female
Email	sample@gmail.com
Phone Number	111-222-3334
Guardians Name	Mr. Yadav
Guardians Address	Gwalior
Guardians Phone	222-333-4444
Guardians Email	sampledad@gmail.com
User Name	sample@gmail.com
Password	12345

### c) Subjects (assigned as per grade)

The page lists subjects assigned to the student. Each entry includes the ID, Grade (1st class), Subject name, Teacher name, and Fee (\$). The subjects are Subject 3, Subject 2, and Subject 3, taught by Dr. Parul Saxena, Teacher 3, and Teacher 6 respectively, with fees of 200.00, 100.00, and 100.00.

ID	Grade	Subject	Teacher	Fee(\$)
1	1st class	Subject 3	Dr. Parul Saxena	200.00
2	1st class	Subject 2	Teacher 3	100.00
3	1st class	Subject 3	Teacher 6	100.00

c) Parent's Child Profile

Child Details	Value
Name	Riya
Address	Greater
Gender	Female
Email	sample@gmail.com
Phone Number	111-001-1114
Guardian Name	Mrs. Yadav
Guardian Address	Greater
Guardian Phone	222-333-4444
Guardian Email	sample@gmail.com
User Name	sample@gmail.com
Password	12345

d) Parent's Child's Subject

ID	Grade	Subject	Teacher	Fee(\$)
1	1st class	Subject 2	Teacher 2	350.00
2	1st class	Subject 4	Teacher 4	350.00
3	1st class	Subject 3	Dr. Parul Saxena	250.00
4	1st class	Subject 2	Teacher 3	100.00
5	1st class	Subject 3	Teacher 6	100.00

e) Parent's Child Teachers

ID	Name	Action
1	Teacher 1	<a href="#">Edit Profile</a> <a href="#">Delete</a>
2	Teacher 2	<a href="#">Edit Profile</a> <a href="#">Delete</a>
3	Teacher 3	<a href="#">Edit Profile</a> <a href="#">Delete</a>
4	Teacher 4	<a href="#">Edit Profile</a> <a href="#">Delete</a>
5	Teacher 5	<a href="#">Edit Profile</a> <a href="#">Delete</a>
6	Teacher 6	<a href="#">Edit Profile</a> <a href="#">Delete</a>
7	Dr. Parul Saxena	<a href="#">Edit Profile</a> <a href="#">Delete</a>

## CHAPTER 7: CONCLUSION AND FUTURE SCOPE

In summary, the introduction of the SMS has several advantages for educational establishments as it simplifies administrative tasks, fosters communication b/w stakeholders & improves overall system functionality. This project has effectively proved that technology could be utilized as a tool of addressing the unique needs of educational institutions, which includes the performance of attendance tracking, grading & beyond. SMS is an automated way of doing things that frees teachers from the tedious nature of working with paper to focus more on teaching & student welfare.

### **Future Scope**

The project which took advantage of various technological tools & platforms was able to create interactions that are beyond the typical characteristics of the classroom. I have accomplished the task in bridging the gap between the teachers & the students, which has ultimately led to further enrichment of this area of our experience in education.

#### **a. Integration of Virtual Classroom Technologies**

Incorporating virtual classrooms technology, like video conferencing applications & virtual whiteboards, can amplify real-time interactions & allow remote learning to be a possible option, therefore increasing the chances of meeting the needs of varied students & making sure that different learning styles are taken care of.

#### **b. Parent Involvement**

By broadening the scope of the project to include parent-teacher collaboration & communication, the student support system can be improved further, & a more integrated educational approach can be created. Offering parents the opportunity to see student performance reports, assignment update, & communication avenues foster transparency & renders accountability.

#### **c. Enhanced Communication Channels**

Creation of dedicated mobile application coupled with inclusion of ideas like push notifications, chatbots, & multi-media messaging can add to the betterment of the relationship between the teachers, students, & parents.

# PLAGIARISM REPORT

## Similarity Report

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RIYA Yadav

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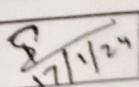
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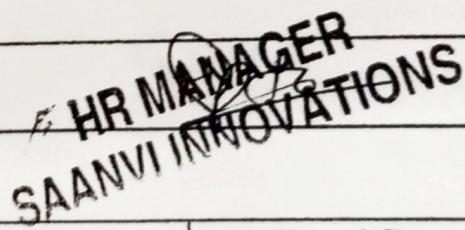
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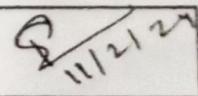
### FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	Riya Yadav		Department	CSE	
Industry/Organization	Shaanvi Innovation		4months	01/01/2024 - 15/01/2024	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work			✓		
Behaviour/Discipline/Team work					✓
Sincerity/Hard work			✓		
Comment on nature of work done/Area/Topic	Leaning work of different modules. Responsible for Frontend development & module integration in the project. Approach tasks with positivity and passion.				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	Good Mr. Himanshu Gupta				
<u>Signature of Industry Mentor</u>	 HR MANAGER SHAANVI INNOVATIONS				

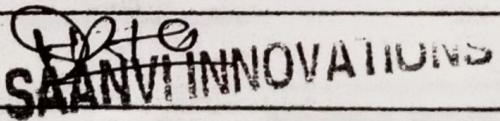
Receiving Date	17/1/24	Name of Faculty Mentor	Dr. Parul Saxena	Sign	
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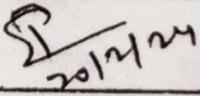
**FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MEN**  
**TOB**

Name of student	Riya Yadav		Department	CSE Program MCA	
Industry/Organization	Shaanvi Innovation Pvt lmt		Date/Duration	16/01/24 - 20/01/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work			✓		
Learning capacity/Knowledge upgradation			✓		
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hardwork				✓	
Comment on nature of work done/Area/Topic	Requirement Searching Task performance				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
Name of Industry Mentor	Mr. Himanshu Gupta				
Signature of Industry Mentor					

Receiving Date	11/2/24	Name of Faculty Men	Dr. Parul Saxena	Sign	
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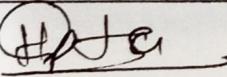
**FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MEN  
TO R**

Name of student	Riya Yadav		Department	CSE Program MCA	
Industry/Organization	Shaanvi Innovation Pvt Ltd		Date/Duration	1/02/24 - 15/02/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge upgradation			✓		
Performance/Quality of work			✓		
Behaviour/Discipline/Team work			✓		
Sincerity/Hardwork			✓		
Comments on nature of work done/Area/Topic	working Admin Module				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
Name of Industry Mentor	Mr. Himanshu Gupta				
Signature of Industry Mentor					

Receiving Date	20/2/24	Name of Faculty Men	Dr. Parul Saxena	Sign	
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## FORMAT

### FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

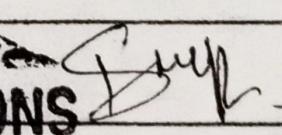
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Industry/Organization	SAANVI INNOVATION Pvt Ltd		Date/Duration	16/02/24 - 01/03/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work			✓		
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	Performance is Good				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
<u>Name of Industry Mentor</u>	Mr. Himanshu Gupta				
<u>Signature of Industry Mentor</u>	 Saanvi Innovations				

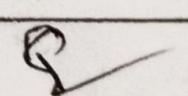
**FORTNIGHTLY PROGRESS REPORT OF FROM INDUSTRY MEN  
TOB**

Name of student	Riya Yadav		Department	CSE Program MCA	
Industry/Organization	Shaanvi Innovation Pvt Ltd		Date/Duration	2/03/24 - 16/03/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work			✓		✓
Learning capacity/Knowledge upgradation					✓
Performance/Quality of work				✓	
Behaviour/Discipline/Team work				✓	
Sincerity/Hardwork					✓
Comment on nature of work done/Area/Topic	overall Good performance (worked on integration)				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
Name of Industry Mentor	Mr. Himanshu Gupta / HR. Priyanka Singh				
Signature of Industry Mentor	HR MANAGER SHAANVI INNOVATIONS				

Receiving Date	22/4/24	Name of Faculty Men	Dr. Parul Saxena	Sign	
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**FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR**

Name of student	Riya Yadav		Department	CSE Program MCA	
Industry/Organization	Shaanvi Innovation Pvt Ltd		Date/Duration	17/03/24 - 1/04/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work			✓		
Learning capacity/Knowledge upgradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hardwork					✓
Comment on nature of work done/Area/Topic	Completing modules				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
Name of Industry Mentor	Mr. Himanshu Gupta / Mr. Priyanka Singh				
Signature of Industry Mentor	HR MANAGER  SHAANVI INNOVATIONS				

Receiving Date	22/4/24	Name of Faculty Men	Dr. Parul Saxena	Sign	
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**FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MEN**  
**TOR**

Name of student	Riya Yadav		Department	CSE Program MCA	
Industry/Organization	Shaanvi Innovation Pvt Ltd		Date/Duration	2/04/24 - 17/04/24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					✓
Learning capacity/Knowledge upgradation			✓		
Performance/Quality of work			✓		
Behaviour/Discipline/Team work					✓
Sincerity/Hardwork					✓
Comments on nature of work done/Area/Topic	Testing project				
<u>OVERALL GRADE (Any one)</u>	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
Name of Industry Mentor	Mr. Himanshu Gupta / Ms. Priyanka Singh				
Signature of Industry Mentor	HR MANAGER SHAANVI INNOVATIONS				

Receiving Date	22/4/24	Name of Faculty Men	Dr. Parul Saxena	Sign	
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