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Pipaliya Devangi

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**PREFACE**

Nowadays, it is highly possible to adapt mobile computing in various applications. The portability, open source nature of smart phones and android development platform has made the development of application software for various environments as handy. Smartphone applications are resulted in paper less work, easy to use and time saving in nature.

The wireless communication technology of smart phone enables the information transfer from the current client to remote database server, where ever the network range is available.

The Attendance Management System is a mobile computing software application, which focusses on an activity or function, which is based on management information system of academic institutions. In this work, the systems functionalities are categorized as a group and the similarities in grouped functionalities are designed and developed with reuse of software components.

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**1. Introduction**

* 1. **Problem Statement**

Schools often have trouble keeping track of student details, attendance, and marks when everything is done on paper or in different files. This makes it hard for teachers and students to find information quickly, and mistakes can happen easily. There is no easy way for students to see their own records or for staff to manage all the data in one place. Because of this, a lot of time is wasted and important information can get lost. That’s why we need a simple online system to manage all student information in one place, so everything is easier and faster for everyone

* 1. **Project Overview**

This project is a Shree SMS that helps schools keep all student information in one place. It allows admins to add, edit, and manage student records, attendance and results easily through a website. Students can log in to see their own details, attendance, and marks anytime. The system makes it faster and simpler for staff to handle student data and reduces mistakes. It also helps students stay updated about their academic progress. Overall, it saves time and keeps everything organized for both students and school staff.

* 1. **Purpose of the Project**

The purpose of this project is to help schools to manage student information, attendance, and results easily in one place. It saves time, reduces mistakes, and lets students and staff quickly access important details online.

**2. Existing System**

* 1. **Gap Analysis**
* Old System:

Data is stored in files or registers, making it hard to search, update.

Students and staff must visit the office or check physical records to get information.

* New System:

Data is stored digitally, making it easy to search, update, and share instantly.

Students and staff can access information online anytime, from anywhere.

* 1. **Need of Application**

This application is needed to make it easier for schools to manage student records, attendance, and results in an organized way. It helps reduce manual work, avoids errors, and allows quick access to important information for both students and staff. The system also improves communication and keeps all data safe and up-to-date.

* + 1. **Goal of the project**

The main goal of the Shree SMS is to simplify and automate the management of student information, attendance, and academic results for educational institutions. It aims to provide a secure and user-friendly platform for both administrators and students to access and manage essential data

* + 1. **Scope of the project**

The scope of this project includes managing student records, attendance, and results through a web-based system. It allows both administrators and students to access and update information easily and securely.

* 1. **Feasibility Study**
     1. **Technical Feasibility:**

The project can be developed using widely available technologies like PHP, MySQL, HTML, CSS, and Bootstrap. Most educational institutions have the necessary hardware and internet access to run a web-based system.

* + 1. **Operational Feasibility:**

The system is easy to use for both staff and students, requiring minimal training. It will improve daily operations by making student data management, attendance tracking, and result viewing faster and more accurate.

* + 1. **Economic Feasibility:**

The cost of developing and maintaining the system is low compared to the time and resources saved by reducing paperwork and manual errors. The project can be implemented using existing infrastructure, making it cost-effective.

1. **Requirements**

* **Hardware**
  + - RAM : 8 GB or Higher
    - HDD : 100 GB or Higher
    - System Type : 64 Bit
* **Software**
  + - * visual Studio
      * SDK : 24 or higher
      * Target SDK : 28
      * OS : Windows 10 or higher
      * Database : MYSQL

**4. SDLC**

**5. Diagrams**

**5.1 ER diagram for SHREE SMS**

* **List of figure**
* **ER Diagram**



**5.2 Use Case Diagram of SHREE SMS**

* **List of figures**



* **Use Case Diagram**



**5.3 Activity Diagram for SHREE SMS**

* **List of figures**



* **Activity Diagram from admin side**

****

* **Activity Diagram from user side**

****

**5.4 Process flow Diagram for SHREE SMS**

* **List of figures**



* **Process Flow Diagram from admin side**



* **Process Flow Diagram from user side**



**6. Data Dictionary**

**6.1 Data Flow Diagram**

A DFD also known as “bubble chart” has the purpose of clarifying system requirements and identifying major transformations. It shows the flow of data through a system. It is a graphical tool because it presents a picture. The DFD may be partitioned into levels that represent increasing information flow and functional detail. Four simple notations are used to complete a DFD.

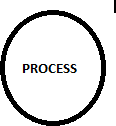
* **List of figures**

# DATA FLOW

The data flow is used to describe the movement of information from one part of the system to another part. Flows represent data in motion. It is a pipe line through which information flows. Data flow is represented by an arrow.



# PROCESS

A circle or bubble represents a process that transforms incoming data to outgoing data. Process shows a part of the system that transforms inputs to outputs.

# EXTERNAL ENTITY

A square defines a source or destination of system data. External entities represent any entity that supplies or receive information from the system but is not a part of the system.



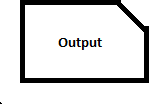
# DATA STORE

The data store represents a logical file. A logical file can represent either a data store symbol which can represent either a data structure or a physical file on disk. The data store is used to collect data at rest or a temporary repository of data. It is represented by open rectangle.



# OUTPUT

The output symbol is used when a hard copy is produced and the user of the copies cannot be clearly specified or there are several users of the output



* **DFD 0-level of SHREE SMS**



s

* **DFD 1-level of SHREE SMS admin side**



* **DFD 1-level of SHREE SMS student side**



**6.2 List of Tables**

**1. admin**

**2. attendance**

**3. message**

**4. section**

**5. result**

**6. setting**

**7. students**

1. **admin**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Column name | Data type | Remarks |
|  | Admin\_id | Int(11) | Primary key |
|  | Username | Varchar(127) | **-** |
|  | Password | Varchar(127) | **-** |
|  | Email | Varchar(127) | **-** |
|  | Fname | Varchar(127) | **-** |
|  | lname | Varchar(127) | **-** |

1. **Attendance**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Column name | Data type | Remarks |
|  | Attendance\_id | Int(11) | Primary key |
|  | Student\_id | Int(11) | Foreign key |
|  | Date | Date | **-** |
|  | Status | Enum | **-** |
|  | Section\_id | Int(11) | Foreign key |

1. **Message**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Column name | Data type | Remarks |
|  | Message\_id | Int(11) | Primary key |
|  | Sender\_full\_name | Varchar(255) | - |
|  | Sender\_email | Varchar(255) | - |
|  | Message | Text | - |
|  | Date\_time | datetime | - |

1. **Section**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Column name | Data type | Remarks |
|  | Section\_id | Int(11) | Primary key |
|  | Section | Varchar(255) | - |

1. **Result**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Column name | Data type | Remarks |
|  | Result\_id | Int(11) | Primary key |
|  | Student\_id | Int(11) | Foreign key |
|  | Maths | Float | **-** |
|  | Gujarati | Float | **-** |
|  | English | Float | **-** |
|  | Total | Float | **-** |
|  | Percentage | Float | **-** |
|  | Grade | Varchar(2) | **-** |
|  | Result | Varcahr(10) | **-** |

1. **Setting**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Column name | Data type | Remarks |
|  | Id | Int(11) | Primary key |
|  | Current\_year | Int(11) | - |
|  | Current\_semester | Varchar(100) | **-** |
|  | School\_name | Varchar(100) | **-** |
|  | Slogan | Varchar(100) | **-** |
|  | About | Text | **-** |

1. **Students**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Column name | Data type | Remarks |
|  | Student\_id | Int(11) | Primary key |
|  | Roll\_no | Int(11) | - |
|  | Username | Varchar(100) | Unique key |
|  | Password | Varchar(100) | **-** |
|  | Fname | Varchar(100) | **-** |
|  | Lname | Varchar(100) | **-** |
|  | Section | Int(11) | **-** |
|  | Address | Varchar(100) | **-** |
|  | Gender | Varchar(100) | **-** |
|  | Caste | Varchar(100) | **-** |
|  | Mobile\_no | Varchar(100) | **-** |
|  | Email\_address | Varchar(100) | **-** |
|  | Date\_of\_birth | date | **-** |
|  | Date\_of\_joined | timestamp | **-** |
|  | Parent\_fname | Varchar(100) | **-** |
|  | Parent\_lname | Varchar(100) | **-** |
|  | Parent\_phone\_no | Varchar(100) | **-** |

1. **Project Overview**
   1. **Screen Shots**
      1. **Home page**

**Testing (5-6 lines):**

**I tested the login for both admin and student and confirmed dashboards load correctly. I added, edited, and deleted students as admin and checked the changes in the student list. I logged in as a student and checked that attendance and results display correctly. I tried accessing pages without logging in and was redirected to the login page. I also tested logout and password reset, and both worked as expected. All main features work as intended.**

**TEST CASE Test Cases Table:**

**Test Case ID Description Steps to Execute Expected Result**

**TC01 Admin Login Enter valid admin credentials, click Login Admin dashboard loads**

**TC02 Student Login Enter valid student credentials, click Login Student dashboard loads**

**TC03 Add New Student (Admin) Login as admin, go to Add Student, fill form, save Student appears in list**

**TC04 Edit Student Details (Admin) Login as admin, edit a student, save changes Changes are visible in list**

**TC05 Delete Student (Admin) Login as admin, delete a student Student removed from list**

**TC06 View Attendance (Student) Login as student, go to Attendance Attendance table/chart is shown**

**TC07 View Results (Student) Login as student, go to Results Results table is shown**

**TC08 Logout Click Logout on any dashboard Redirected to login page**

**TC09 Access Page Without Login Open dashboard URL without logging in Redirected to login page**

**TC10 Reset Password Use forgot password, follow steps Password reset and login works**

**Test Case ID Description Steps to Execute Expected Result**

**TC11 Invalid Login Enter wrong username/password, click Login Error message shown, no login**

**TC12 Add Course (Admin) Login as admin, add a new course Course appears in course list**

**TC13 Edit Course (Admin) Login as admin, edit a course, save changes Changes are visible in list**

**TC14 Delete Course (Admin) Login as admin, delete a course Course removed from list**

**TC15 Add Section (Admin) Login as admin, add a new section Section appears in section list**

**TC16 Edit Section (Admin) Login as admin, edit a section, save changes Changes are visible in list**

**TC17 Delete Section (Admin) Login as admin, delete a section Section removed from list**

**TC18 Send Message (Admin) Login as admin, send a message to student Student receives message**

**TC19 View Profile (Student) Login as student, view profile page Correct profile info displayed**

**TC20 Responsive Design Open site on mobile/tablet Layout adapts, usable on device**

**TC21 SQL Injection Protection Try SQL injection in login or forms No data leak or error, safe**

**TC22 Session Timeout Stay idle, then try to use dashboard Redirected to login page**

**TC23 File Upload (if any) Try uploading allowed and disallowed files Only allowed files are accepted**

**TC24 Data Validation Submit forms with missing/invalid data Error shown, data not saved**

**TC25 Navigation Bar Links Click all navbar links Correct page loads, no highlight**