

# **STUDENT MANAGEMENT SYSTEM**

## **A PROJECT REPORT**

*Submitted by*

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*In fulfillment for the subject Software Project-1 (MTCA16106)*

**Master of Computer Application**

At



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**Sarvajanik Education Society**  
**Sarvajanik College of Engineering & Technology, Surat.**  
**Master of Computer Application Department**  
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## CERTIFICATE

This is to certify that the project entitled “STUDENT MANAGEMENT SYSTEM” has been submitted by JHA SHUBHAMKUMAR (ET23MTCA020), SHAH RUCHITKUMAR (ET23MTCA060), SOLANKI KHUSHALKUMAR (ET23MTCA062) towards fulfillment for the subject Software Project – I (MTCA16106) in 1<sup>st</sup> Semester of MCA of Sarvajanik University, Surat during the academic year 2023-24.

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1. \_\_\_\_\_

2. \_\_\_\_\_

# Acknowledgement

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## 1. Abstract

## 2. Software Specification

### Operating System:

- The Student Management System is designed to operate smoothly across all major platforms like Windows, macOS and Linux.
- Compatibility with diverse operating systems ensures accessibility for a broad user base.
- Whether users are on Windows, macOS or Linux the system guarantees a consistent and reliable performance.

<b>Operating system</b>	<ul style="list-style-type: none"><li>➤ Microsoft windows 7 or above</li><li>➤ Ubuntu 16.04 LTS or above</li><li>➤ MacOS 12 or above</li></ul>
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### Hardware Configuration:

#### Processor:

- The Student Management System is optimized for a minimum Intel Core i3 processor, ensuring responsive performance during runtime.

<b>Processor</b>	Intel i3 or higher
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#### RAM:

- A minimum of 4 GB RAM is recommended to provide a smooth and efficient user experience while handling files and processing data.

<b>RAM</b>	4GB or higher
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**Storage:**

- The system requires approximately 128 GB of storage space, accommodating the application's executable files and data storage for student and teacher's records.

<b>Storage</b>	128 GB or higher
----------------	------------------

**Development Environment:**

- The Student Management System is designed to be developed and compiled using the Dev C++, Turbo C or Visual Studio integrated development environments (IDEs).

<b>Development Environment</b>	Dev C++, Turbo C or Visual Studio
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**Programming Language:**

- This system is implemented in the C programming language, ensuring compatibility with the compilers provided by Dev C++ or Turbo C.

<b>Programming Language</b>	C OR C++
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### 3. Scope & Objectives

The primary objective of the Student Management System is to store and maintain student and teacher's data efficiently through console-based application. This system aims to achieve operational excellence by providing a centralized platform for managing various activity of school or colleges through this application.

In this system real-time data updation is done into the files. The main goal of the Student Management System is to improve the accuracy and efficiency in the student records management.

The system is developed for Administration Staff, Teacher and Student to maintain records. The Administration Staff is the main user of this system. They can access all the data related to student and teachers and they can manipulate it according to their needs. They can manage course details, teacher's details, students detail along with this an additional fee payment facility is also given in this applicaton.

In the context of the Student Management System, the aim is to provide administration staff with a convenient and straightforward method for maintaining records through the command-line interface. This eliminates the need for maintaining physical files or books with the goal of enhancing accessibility.

The goal of this system is to increase administrative efficiency by simplifying the data maintaining process.

Through streamlined reservation handling and automated updates, the Console Table Booking System reduces the workload on restaurant staff, leading to quicker and more accurate reservation processing.



## 4. Database Design

### File System for Data Storage

- The Student Management System uses file system as the primary mechanism for storing and managing student's and teacher's data.

### File Structure:

Course Detail
Course ID
Course Name
Fees
Subjects [6]

Teacher Detail
Teacher ID
Name
Department
Date of Joining
Salary
Mobile No
Email
Password

Student Detail
Enrollment No
Name
Date of Birth
Department
Mobile No
Email
Password
Fee
Marks [Subject] [6]

## **4.1 Use Case Diagram**

## **4.2 Activity Diagram**

## **4.3 ER Diagram**

## 5. System Design

### 5.1 Screenshot

#### Welcome Page

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
|             MENU             |
+-----+
| Option      | Login As  |
+-----+
|      1      | Admin    |
|      2      | Teacher  |
|      3      | Student  |
|      4      | Exit     |
+-----+

Please select your role from above : 1
```

#### Admin Login

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
| ADMIN LOGIN |
+-----+

Enter Username : admin
Enter Password : ***|
```

## Admin Dashboard

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
| ADMIN DASHBOARD |
+-----+
| No. | Options |
+-----+
| 1 | Add New Course |
| 2 | Edit Course Details |
| 3 | List of Courses |
| 4 | Add New Teacher |
| 5 | Edit Teacher Details |
| 6 | List of Teachers |
| 7 | Delete Teacher Details |
| 8 | Add New Student |
| 9 | Edit Student Details |
| 10 | Search Student Details |
| 11 | List of Students |
| 12 | Delete Student Details |
| 13 | Fees Payment |
| 14 | Fees Pending List |
| 15 | Update Userid & Password |
| 16 | Exit |
+-----+

Enter your choice : 1|
```

## Add New Course

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
| Add New Course |
+-----+

Enter Course Name : MCA
Enter Fees(in Rs.) : 96000
Enter Name of 6 Subjects
Subject 1 : DATA STRUCTURE
Subject 2 : JAVA TECHNOLOGY
Subject 3 : PYTHON
Subject 4 : MATHEMATICS
Subject 5 : AGILE METHODOLOGY
Subject 6 : PROJECT
```

## Course Added

```
-----  
Course ID      :      1  
Course Name    :      MCA  
  
Course Fees    :      96000
```

### Subjects

```
-----  
Subject 1      :      DATA STRUCTURE  
Subject 2      :      JAVA TECHNOLOGY  
Subject 3      :      PYTHON  
Subject 4      :      MATHEMATICS  
Subject 5      :      AGILE METHODOLOGY  
Subject 6      :      PROJECT  
-----
```

Course added successfully !!

## Course List

```
+-----+  
| Course List |  
+-----+
```

```
Course ID      :      1  
Course Name    :      MCA  
Course Fees    :      96000  
  
Subject 1      :      DATA STRUCTURE  
Subject 2      :      JAVA TECHNOLOGY  
Subject 3      :      PYTHON  
Subject 4      :      MATHEMATICS  
Subject 5      :      AGILE METHODOLOGY  
Subject 6      :      PROJECT  
-----
```

```
Course ID      :      2  
Course Name    :      BCA  
  
Course Fees    :      35000  
  
Subject 1      :      WEB DEVELOPMENT  
Subject 2      :      C LANGUAGE  
Subject 3      :      VB .NET  
Subject 4      :      STATISTICS  
Subject 5      :      DATA STRUCTURE  
Subject 6      :      PROJECT  
-----
```

List of Courses As on : 22-12-2023 17:10

## Add New Teacher

```
+-----+
|               |
|   Add New Teacher   |
|               |
+-----+

(1) MCA
(2) BCA

Select Course From Above List : 1

Selected Course : MCA
Teacher's Name : MAYANK JAIN
Email : mayank@gmail.com
Mobile : 9487545454
Salary : 55000

-----

Teacher added successfully !!

Teacher Login ID : mayank@gmail.com
Default Password : teacher

-----
```

## Teacher's List

Teacher's List		
Teacher ID	:	101
Name	:	MAYANK JAIN
Department	:	MCA
Date of Joining	:	22-12-2023
Mobile No.	:	9487545454
Email-id	:	mayank@gmail.com
Password	:	teacher
Salary	:	55000
-----		
Teacher ID	:	102
Name	:	PREKSHA PARMAR
Department	:	MCA
Date of Joining	:	22-12-2023
Mobile No.	:	7845451200
Email-id	:	preksha@gmail.com
Password	:	teacher
Salary	:	50000
-----		
Teacher ID	:	103
Name	:	SHUBHAM JHA
Department	:	BCA
Date of Joining	:	22-12-2023
Mobile No.	:	7383988791
Email-id	:	shubham@gmail.com
Password	:	teacher
Salary	:	45000
-----		
List of Teachers As on : 22-12-2023 17:16		

## Edit Teacher Details

```
+-----+
| Edit Teacher Details |
+-----+
```

Enter Teacher's Id to Update : 104

```
+-----+
| Sorry ! No Teacher details found for above Teacher ID |
+-----+
```

```
+-----+
| Edit Teacher Details |
+-----+
```

Enter Teacher's Id to Update : 103

```
-----
Teacher ID      : 103
Name            : SHUBHAM JHA
Department      : BCA
Date of Joining : 22-12-2023
Mobile No.      : 7383988791
Email-id        : shubham@gmail.com
Salary          : 45000
-----
```

Enter Teacher's New Name : SHUBHAMKUMAR JHA

Enter New Salary(in Rs.) : 47000

Enter New Mobile No. : 7383988791

Enter New Email ID : shubham@gmail.com

Teacher Details Updated Successfully !!



## Delete Teacher Details

```
+-----+
| Delete Teacher Details |
+-----+

Enter Teacher's ID to Delete : 104

Teacher ID      : 104
Name            : TEST

Department      : BCA

Date of Joining : 22-12-2023
Mobile No.      : 4545456512
Email-id        : test@gmail.com
Salary          : 12000

-----

Do you want to delete this teacher ? (Y/N): y

Teacher details deleted for Teacher Id 104 .
```

## Add New Student

```
+-----+
| Add New Student |
+-----+

(1) MCA
(2) BCA

Select Course From Above List : 1

Selected Course      : MCA
Student Name         : KHUSHAL SOLANKI
Email                : khushal@gmail.com
Mobile               : 7894512000
Address              : UTRAN SURAT
Date of Birth(dd-mm-yyyy) : 01-01-2003

-----

Student added successfully !!

Student Login ID : khushal@gmail.com
Default Password : student

-----
```

## Student List (Course wise)

+-----+  
| Student List |  
+-----+

- (1) MCA
- (2) BCA

Select Course From Above List : 1

### Student List

Enrollment No. : 230000001  
Name : SHUBHAM JHA  
  
Date of Birth : 07-10-2003  
Department : MCA  
Mobile No. : 7383988791  
Email-id : shubham@gmail.com  
Fees Status : Unpaid  
Address : DINDOLI SURAT

-----

Enrollment No. : 230000002  
Name : KHUSHAL SOLANKI  
  
Date of Birth : 01-01-2003  
Department : MCA  
Mobile No. : 7894512000  
Email-id : khushal@gmail.com  
Fees Status : Unpaid  
Address : UTRAN SURAT

-----

Enrollment No. : 230000003  
Name : RUCHIT SHAH  
  
Date of Birth : 10-12-2004  
Department : MCA  
Mobile No. : 8745125478  
Email-id : ruchit@gmail.com  
Fees Status : Unpaid  
Address : VARACHHA SURAT

-----

Total Student : 3

List of Students As on : 22-12-2023 17:34

## Student List (Course wise)

### Student List

- (1) MCA
- (2) BCA

Select Course From Above List : 2

#### Student List

Enrollment No. : 2300000004  
Name : RAHUL SINGH  
  
Date of Birth : 01-01-2002  
Department : BCA  
  
Mobile No. : 4875454845  
Email-id : rahul@gmail.com  
Fees Status : Unpaid  
Address : GODADARA SURAT

---

Enrollment No. : 2300000005  
Name : YOGESH PATIL  
  
Date of Birth : 01-10-2005  
Department : BCA  
  
Mobile No. : 9874545454  
Email-id : yogesh@gmail.com  
Fees Status : Unpaid  
Address : UDHNA SURAT

---

Enrollment No. : 2300000006  
Name : YASH JAIN  
  
Date of Birth : 01-01-2001  
Department : BCA  
  
Mobile No. : 7845154578  
Email-id : yash@gmail.com  
Fees Status : Unpaid  
Address : VESU SURAT

---

Total Student : 3

List of Students As on : 22-12-2023 17:38

## Edit Student Detail

```
+-----+
|           Edit Student Detail           |
+-----+

Enter Enrollment No. : 230000001

Enrollment No.      : 230000001
Name                 : SHUBHAM JHA

Date of Birth        : 07-10-2003
Department           : MCA
Mobile No.           : 7383988791
Email-id             : shubham@gmail.com
Fees Status          : Unpaid
Address              : DINDOLI SURAT

-----
Enter Student's Updated Name : SHUBHAM KUMAR

Enter New Mobile No.      : 7383988791

Enter New Email ID       : shubham@gmail.com

New Address               : DINDOLI SURAT GJ

Student Details Updated Successfully !!

Press any key for return to main menu... |
```

```
+-----+
|           Edit Student Detail           |
+-----+

Enter Enrollment No. : 230000006

+-----+
|           Sorry ! No Student details found for above Enrollment No           |
+-----+

Press any key for return to main menu... |
```

## Search Student By Enrollment No.

```
+-----+
| Search Student Details |
+-----+

(1) Search By Enrollment No.
(2) Search By Student Name

Select Option From Above : 1

Enter Enrollment No : 230000001

Enrollment No. : 230000001
Name           : SHUBHAM KUMAR

Date of Birth  : 07-10-2003
Department    : MCA
Mobile No.    : 7383988791
Email-id      : shubham@gmail.com
Password      : student
Fees Status   : Unpaid
Address       : DINDOLI SURAT GJ

-----

Press any key for return to main menu... |
```

## Search Student By Name

```
+-----+
| Search Student Details |
+-----+

(1) Search By Enrollment No.
(2) Search By Student Name

Select Option From Above : 2

Enter Student Name : SHUBHAM KUMAR

Enrollment No. : 230000001
Name           : SHUBHAM KUMAR

Date of Birth  : 07-10-2003
Department    : MCA
Mobile No.    : 7383988791
Email-id      : shubham@gmail.com
Password      : student
Fees Status   : Unpaid
Address       : DINDOLI SURAT GJ

-----

Press any key for return to main menu... |
```

## Delete Student Detail

```
+-----+
| Delete Student Details |
+-----+

Enter Enrollment No. : 2300000006

Enrollment No.      : 2300000006
Name                 : YASH JAIN

Date of Birth        : 01-01-2001
Department           : BCA

Mobile No.           : 7845154578
Email-id             : yash@gmail.com
Fees Status          : Unpaid
Address              : VESU SURAT

-----

Do you want to delete this Student ? (Y/N): y

Student details deleted with Enrollment No. 2300000006 .

Press any key for return to main menu... |
```

```
+-----+
| Delete Student Details |
+-----+

Enter Enrollment No. : 2300000009

+-----+
| Sorry ! No Student details found for above Enrollment No. |
+-----+

Press any key for return to main menu...
```

## Fees Payment

```
+-----+
|           |
| Fees Payment |
|           |
+-----+
```

Enter Enrollment No. : 230000001

-----

Enrollment No.	:	230000001
Name	:	SHUBHAM KUMAR
Department	:	MCA
Fees Status	:	Unpaid

-----

Do You Want to Deposit Fees for Above Student ? (Y/N): Y

Fees Deposited Successfully !!

Press any key for return to main menu... |

```
+-----+
|           |
| Fees Payment |
|           |
+-----+
```

Enter Enrollment No. : 230000001

-----

Enrollment No.	:	230000001
Name	:	SHUBHAM KUMAR
Department	:	MCA
Fees Status	:	Paid

-----

Fees Already Paid

Press any key for return to main menu... |

## Fees Pending List (Course wise)

```
+-----+
| Fees Pending List |
+-----+

(1) MCA
(2) BCA

Select Course From Above List : 1

-----
Enrollment No      Name
-----
2300000002         KHUSHAL SOLANKI
2300000003         RUCHIT SHAH
2300000007         NARENDRA MODI
-----

Total Students : 3

Press any key for return to main menu...
```

```
+-----+
| Fees Pending List |
+-----+

(1) MCA
(2) BCA

Select Course From Above List : 2

-----
Enrollment No      Name
-----
2300000004         RAHUL SINGH
2300000005         YOGESH PATIL
-----

Total Students : 2

Press any key for return to main menu... |
```



## Update Admin Credentials

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====
```

```
+-----+
| UPDATE ADMIN CREDENTIALS |
+-----+
```

Enter new username: admin

Enter new password: \*\*\*\*\*

Admin account updated successfully! Press any key to continue...|

## Teacher Login

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====
```

```
+-----+
| TEACHER LOGIN |
+-----+
```

Enter Email-id : mayank@gmail.com

Enter Password : \*\*\*\*\*|

## Teacher Dashboard

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

Welcome, MAYANK JAIN

+-----+
|          TEACHER DASHBOARD          |
+-----+
| No. | Options |
+-----+
|  1  | View Profile |
|  2  | Add Student Marks |
|  3  | Change Password |
|  4  | Exit |
+-----+

Please enter your choice : 1
```

## Teacher Profile

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
| PROFILE |
+-----+

Welcome, MAYANK JAIN

ID : 101

Name : MAYANK JAIN

Department : MCA
Date of Joining : 22-12-2023

Mobile No. : 9487545454

Email-id : mayank@gmail.com

Salary : 55000

-----

Press any key for return to main menu...
```

## Add Student Marks

```

+-----+
|  ADD STUDENT MARKS  |
+-----+

Enter Enrollment No : 230000003

-----
Enrollment No. : 230000003
Name           : RUCHIT SHAH
Department     : MCA
-----

----- MARKS -----
DATA STRUCTURE : N/A
JAVA TECHNOLOGY : N/A
PYTHON         : N/A
MATHEMATICS    : N/A
AGILE METHOLOGY : N/A
PROJECT        : N/A
-----

Do you want to proceed ? (Y/N): y

Enter Marks for below subjects(out of 100)

DATA STRUCTURE : 65
JAVA TECHNOLOGY : 62
PYTHON         : 72
MATHEMATICS    : 45
AGILE METHOLOGY : 81
PROJECT        : 91

Marks updated successfully

Press any key for return to main menu... |
```

## Update Student Marks

```

+-----+
|  ADD STUDENT MARKS  |
+-----+

Enter Enrollment No : 230000003

-----
Enrollment No. : 230000003
Name           : RUCHIT SHAH
Department     : MCA
-----

----- MARKS -----
DATA STRUCTURE : 65
JAVA TECHNOLOGY : 62
PYTHON         : 72
MATHEMATICS    : 45
AGILE METHOLOGY : 81
PROJECT        : 91
-----

Do you want to proceed ? (Y/N): n

Student marks not updated....

Press any key for return to main menu... |
```

## Add Student Marks

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
| ADD STUDENT MARKS |
+-----+

Enter Enrollment No : 230000004

+-----+
| Sorry ! Above Enrollment No. doesn't exist in your Department |
+-----+

Press any key for return to main menu... |
```

- Here Teacher can add marks of only that student which belongs to their department.

## Change Login Password

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
| CHANGE PASSWORD |
+-----+

Welcome, MAYANK JAIN

Enter new password: *****

Password Updated Successfully !!

Press any key for return to main menu... |
```

## Student Login

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
| STUDENT LOGIN |
+-----+

Enter Email-id : shubham@gmail.com

Enter Password : *****|
```

## Student Dashboard

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

Welcome, SHUBHAM KUMAR

+-----+
| STUDENT DASHBOARD |
+-----+
| No. | Options |
+-----+
| 1 | View Profile |
| 2 | View Result |
| 3 | Change Password |
| 4 | Exit |
+-----+

Please enter your choice : 1|
```

## Student Profile

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
|  PROFILE  |
+-----+

Welcome,  SHUBHAM KUMAR

Enrollment No.   :   2300000001
Name             :   SHUBHAM KUMAR

Department       :   MCA
Date of Birth    :   07-10-2003
Mobile No.       :   7383988791
Email-id         :   shubham@gmail.com
Address          :   DINDOLI SURAT GJ

-----
Press any key for return to main menu... |
```

## Change Login Password

```
=====
===== STUDENT MANAGEMENT SYSTEM =====
=====

+-----+
| CHANGE PASSWORD |
+-----+

Welcome,  SHUBHAM KUMAR

Enter new password: *****

Password Updated Successfully !!

Press any key for return to main menu...
```

## View Result

### STUDENT MANAGEMENT SYSTEM

#### RESULT

ENROLLMENT No. : 230000001      COURSE : MCA  
NAME : SHUBHAM KUMAR  
DOB : 07-10-2003

SUBJECTS	TOTAL MARKS	OBTAINED MARKS
DATA STRUCTURE	100	75
JAVA TECHNOLOGY	100	82
PYTHON	100	71
MATHEMATICS	100	94
AGILE METHODOLOGY	100	65
PROJECT	100	92
TOTAL	600	479
PERCENTAGE		79.83 %

Press any key for return to main menu... |

## View Result

### STUDENT MANAGEMENT SYSTEM

#### RESULT

ENROLLMENT No. : 230000002      COURSE : MCA  
NAME : KHUSHAL SOLANKI  
DOB : 01-01-2003

SUBJECTS	TOTAL MARKS	OBTAINED MARKS
DATA STRUCTURE	100	N/A
JAVA TECHNOLOGY	100	N/A
PYTHON	100	N/A
MATHEMATICS	100	N/A
AGILE METHODOLOGY	100	N/A
PROJECT	100	N/A

TOTAL	600	N/A
-------	-----	-----

PERCENTAGE	RESULT NOT DECLARED
------------	---------------------

Press any key for return to main menu... |



## View Result

### STUDENT MANAGEMENT SYSTEM

#### RESULT

ENROLLMENT No. : 2300000004                      COURSE : BCA

NAME : RAHUL SINGH

DOB : 01-01-2002

SUBJECTS	TOTAL MARKS	OBTAINED MARKS
WEB DEVELOPMENT	100	12
C LANGUAGE	100	21
VB .NET	100	35
STATISTICS	100	25
DATA STRUCTURE	100	38
PROJECT	100	29
TOTAL	600	160
PERCENTAGE		26.67 % [FAIL]

Press any key for return to main menu...