SRM

INSTITUTE OF SCIENCE & TECHNOLOGY

Deemed to be **University** *u/s 3 of UGC Act, 1956*

PROJECT TITLE

STUDENT RECORD SYSTEM

NAME

ALAN PARAKKAL

REG NO

RA2111002010004

DEPARTMENT

MECHANICAL ENGINEERING

SUBMITTED TO

DR. R. RAJKUMAR

DSBS

SCHOOL OF COMPUTING

SRMIST

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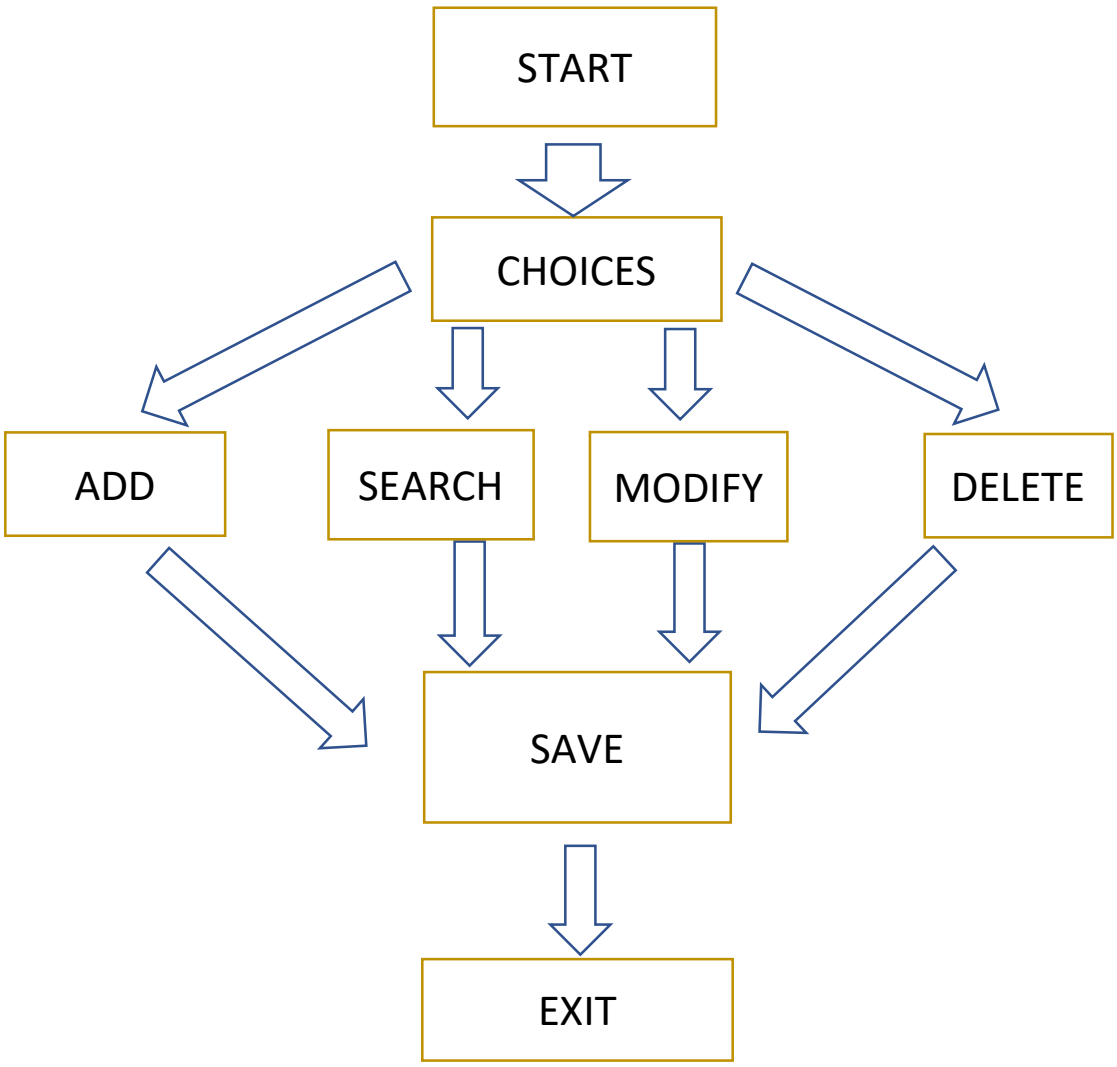
ABSTRACT

Student record system is an application that stores all the record of Students for an institution. The record of the added Students can also be accessed through the student record system. This application can be used by institutions such as schools and colleges to store student's details.
Student Record System has a unique style of coding and is presented in a colourful manner. It uses files as database to perform file handling operations such as add, search, modify and delete records to manage students' records. In this project, you can also generate mark-sheet for students.
The modify option allows the user to modify a record by replacing it. The delete option allows the user to enter the name of the student he/she wants to delete from the system. The platform used here is c language. We use the "**Windows.h**" header file which contains declarations for all the functions in the Windows API. In this application there is also the use of gotoxy() function. The gotoxy is a function which will locate the text cursor to x and y positions on the screen. Any outputs to the screen will start at the cursor x, y positions, and the cursor is updated accordingly. This student record system is useful than keeping physical records of students as it will save time while searching for the record, we can speed up the process, the records can also be retrieved quickly and there will reduced of paper and files. This system was most useful for many companies during lockdown. Institution Management could access and store/update their student records while staying at home. The data is stored in another file called as "**.Dat file**". Dat file is a generic data file that can store the list of records entered and can also be opened with notepad, etc.

FLOW CHART



PROGRAM

```
#include <stdio.h>
#include <string.h>
#include <conio.h>
#include <stdlib.h>
#include <windows.h>

struct student{
    char ID[15];
    char name[20];
    char add[20];
    char parname[20];
    int Class;
    long unsigned int phone_no;
};

struct student stu;

///This will set the forground color for printing in a console window.
void SetColor(int ForgC)
{
     WORD wColor;
     ///We will need this handle to get the current background attribute
     HANDLE hStdOut = GetStdHandle(STD_OUTPUT_HANDLE);
     CONSOLE_SCREEN_BUFFER_INFO csbi;

     ///We use csbi for the wAttributes word.
     if(GetConsoleScreenBufferInfo(hStdOut, &csbi))
     {
        ///Mask out all but the background attribute, and add in the forgournd color
          wColor = (csbi.wAttributes & 0xF0) + (ForgC & 0x0F);
          SetConsoleTextAttribute(hStdOut, wColor);
     }
     return;
}

void ClearConsoleToColors(int ForgC, int BackC)
{
     WORD wColor = ((BackC & 0x0F) << 4) + (ForgC & 0x0F);
     ///Get the handle to the current output buffer...
     HANDLE hStdOut = GetStdHandle(STD_OUTPUT_HANDLE);
     ///This is used to reset the carat/cursor to the top left.
     COORD coord = {0, 0};
     ///A return value... indicating how many chars were written
     ///   not used but we need to capture this since it will be
     ///   written anyway (passing NULL causes an access violation).
     DWORD count;
     ///This is a structure containing all of the console info
     /// it is used here to find the size of the console.
     CONSOLE_SCREEN_BUFFER_INFO csbi;
     ///Here we will set the current color
     SetConsoleTextAttribute(hStdOut, wColor);
```

```
     if(GetConsoleScreenBufferInfo(hStdOut, &csbi))
     {
          ///This fills the buffer with a given character (in this case 32=space).
          FillConsoleOutputCharacter(hStdOut, (TCHAR) 32, csbi.dwSize.X * csbi.dwSize.Y,
coord, &count);
          FillConsoleOutputAttribute(hStdOut, csbi.wAttributes, csbi.dwSize.X *
csbi.dwSize.Y, coord, &count );
          ///This will set our cursor position for the next print statement.
          SetConsoleCursorPosition(hStdOut, coord);
     }
     return;
}

void SetColorAndBackground(int ForgC, int BackC)
{
     WORD wColor = ((BackC & 0x0F) << 4) + (ForgC & 0x0F);;
     SetConsoleTextAttribute(GetStdHandle(STD_OUTPUT_HANDLE), wColor);
     return;
}

COORD coord = {0,0}; ///set the cordinate to 0, 0 (top-left corner of window);
void gotoxy(int x, int y){
    coord.X = x; coord.Y = y; /// X and Y coordinates
    SetConsoleCursorPosition(GetStdHandle(STD_OUTPUT_HANDLE), coord);
}

void drawRectangle(){
    int i, j;
    gotoxy(0,0);
    printf("%c",201);
    for(i = 1; i < 78; i++){
        gotoxy(i, 0);
        printf("%c",205);
    }
    gotoxy(78,0);
    printf("%c",187);
    for(i = 1; i < 25; i++){
        gotoxy(78, i);
        if(i == 6){
            printf("%c",185);
        }else{
            printf("%c",186);
        }
    }
    gotoxy(78, 25);
    printf("%c",188);
    for(i = 77; i > 0; i--){
        gotoxy(i,25);
        if(i == 35){
            printf("%c",202);
        }else{
            printf("%c",205);
        }
    }
```

```
    gotoxy(0,25);
    printf("%c",200);
    for(i = 24; i > 0; i--){
        gotoxy(0,i);
        if(i == 6){
            printf("%c",204);
        }else{
            printf("%c",186);
        }
    }

    for(i = 1; i < 78; i++){
        gotoxy(i,6);
        if(i == 35){
            printf("%c",203);
        }else{
            printf("%c",205);
        }
    }

    for(i = 7; i < 25; i++){
        gotoxy(35,i);
        printf("%c",186);
    }

}

void clearWindow(){
    int i,j;
    for(i = 37; i < 78; i++){
        for(j = 7; j < 25; j++){
            gotoxy(i,j);printf(" ");
        }
    }
    return;
}

void window(){
    drawRectangle();
    gotoxy(28,2);
    SetColor(35);
    printf("\nSTUDENT RECORD SYSTEM");
    gotoxy(20,3);
    printf("\nSRM Institute of Science and Technology, kattankulathur, Tamil Nadu,
India");
    gotoxy(31,4);
    printf("\nEstd.: 1985 B.S.");
    gotoxy(25,24);
    SetColor(17);

}

void get_password(char* pass)
{
```

```
    char temp_passP[25];
    int i=0;
     while(1)
    {
            temp_passP[i]=getch();
            if(temp_passP[i]==13){break;}
            else if(temp_passP[i]==8)
            {
                if(i!=0) {
                printf("\b \b");
                i--;
                } else {printf("\a");}
            }
            else
            {
                printf("*");
                *(pass+i) = temp_passP[i];
                i++;
            }
             *(pass+i)='\0';
     }
}

void use_pass_field(){
    int x = 15, y = 16;
    int use;
    char pass[10];
    SetColor(10);
    gotoxy(15,12);printf("The database is password protected.");
    gotoxy(15,13);printf(" Enter Valid username and password");
    SetColor(17);
    gotoxy(20,x);printf("USERNAME:- ");
    gotoxy(20,y);printf("PASSWORD:- ");
    gotoxy(34,x);scanf("%d",use);
    gotoxy(34,y);get_password(pass);
}

void print_heading(const char st[]){
    SetColorAndBackground(31,28);
    gotoxy(45,8);printf("SRS : %s",st);
    SetColorAndBackground(17,15);
}

int conf_record(char id[]){
   // left for you
   //it checks whether the entered id for
   //new record is already in the database.
}

void add_student(){
    clearWindow();
    print_heading("Add Record");
    int print = 37;
    FILE *fp;
```

```
    fp = fopen("record.txt","ab+");
    SetColor(45);
    if(fp == NULL){
        MessageBox(0,"Error in Opening file\nMake sure your file is not write
protected","Warning",0);

    }else{
        fflush(stdin);
        gotoxy(print,10);printf("ID: ");gets(stu.ID);
        //here you can confirms the ID
        gotoxy(print,12);printf("Name: ");gets(stu.name);
        gotoxy(print,14);printf("Address: ");gets(stu.add);
        gotoxy(print,16);printf("Parent's name: ");gets(stu.parname);
        gotoxy(print,18);printf("Class: ");scanf("%d",&stu.Class);
        gotoxy(print,20);printf("Phone Number: ");scanf("%ld",&stu.phone_no);
        fwrite(&stu, sizeof(stu), 1, fp);
        gotoxy(40,22); printf("The record is sucessfully added");
    }
    SetColor(28);
    fclose(fp);
    return;
}

void search_student(){
    clearWindow();
    print_heading("Search Record");
    SetColor(45);
    char s_id[15];
    int isFound = 0;
    gotoxy(37,10);printf("Enter ID to Search: ");fflush(stdin);
    gets(s_id);
    FILE *fp;
    fp = fopen("record.txt","rb");
    while(fread(&stu,sizeof(stu),1,fp) == 1){
        if(strcmp(s_id,stu.ID) == 0){
            isFound = 1;
            break;
        }
    }
    if(isFound == 1){
        gotoxy(37,12);printf("The record is Found");
        gotoxy(37,14);printf("ID: %s",stu.ID);
        gotoxy(37,15);printf("Name: %s",stu.name);
        gotoxy(37,16);printf("Address: %s",stu.add);
        gotoxy(37,17);printf("Parent's Name: %s",stu.parname);
        gotoxy(37,18);printf("Class: %d",stu.Class);
        gotoxy(37,19);printf("Phone No: %ld",stu.phone_no);
    }else{
        gotoxy(37,12);printf("Sory, No record found in the database");
    }
    SetColor(28);
    fclose(fp);
    return;
}
```

```c
void mod_student(){
    clearWindow();
    print_heading("Modify Record");
    SetColor(45);
    char s_id[15];
    int isFound = 0, print = 37;
    gotoxy(37,10);printf("Enter ID to Modify: ");fflush(stdin);
    gets(s_id);
    FILE *fp;
    fp = fopen("record.txt","rb+");
    while(fread(&stu, sizeof(stu),1,fp) == 1){
        if(strcmp(s_id, stu.ID) == 0){
            fflush(stdin);
            gotoxy(print,12);printf("ID: ");gets(stu.ID);
            gotoxy(print,13);printf("Name: ");gets(stu.name);
            gotoxy(print,14);printf("Address: ");gets(stu.add);
            gotoxy(print,15);printf("Parent's name: ");gets(stu.parname);
            gotoxy(print,16);printf("Class: ");scanf("%d",&stu.Class);
            gotoxy(print,17);printf("Phone Number: ");scanf("%ld",&stu.phone_no);
            fseek(fp,sizeof(stu), SEEK_CUR);
            fwrite(&stu,sizeof(stu), 1, fp);
            isFound = 1;
            break;
        }
    }
    if(!isFound){
        gotoxy(print, 12);printf("No Record Found");
    }
    fclose(fp);
    SetColor(28);
    return;
}

void gen_marksheet(){
    //left for further enhancement
}

void delete_student(){
    clearWindow();
    print_heading("Delete Record");
    SetColor(45);
    char s_id[15];
    int isFound = 0, print = 37;
    gotoxy(37,10);printf("Enter ID to Modify: ");fflush(stdin);
    gets(s_id);
    FILE *fp, *temp;
    fp = fopen("record.txt","rb");
    temp = fopen("temp.txt", "wb");
    while(fread(&stu, sizeof(stu),1,fp) == 1){
        if(strcmp(s_id, stu.ID) == 0){
            fwrite(&stu,sizeof(stu),1,temp);
        }
    }
```

```
    fclose(fp);
    fclose(temp);
    remove("record.txt");
    rename("temp.txt","record.txt");
    gotoxy(37,12);printf("The record is sucessfully deleted");
    SetColor(28);
    return;
}

void main_window(){
    int choice;
    SetColor(28);
    int x = 2;
    while(1){
        gotoxy(x,8);printf("1. Add Student");
        gotoxy(x,10);printf("2. Search Student");
        gotoxy(x,12);printf("3. Modify Student Record");
        gotoxy(x,14);printf("4. Generate Marksheet");
        gotoxy(x,16);printf("5. Delete Student Record");
        gotoxy(x,18);printf("6. Change password");
        gotoxy(x,20);printf("7. Exit");
        gotoxy(x,22);printf("Enter your choice: ");
        scanf("%d",&choice);
        switch(choice){
            case 1:
                add_student();
                break;
            case 2:
                search_student();
                break;
            case 3:
                mod_student();
                break;
            case 4:
                break;
            case 5:
                delete_student();
                break;
            case 6:
                break;
            case 7:
                exit(0);
                break;
            default:
                break;
        }

    }

}

int main(){
    ClearConsoleToColors(17,15);
    SetConsoleTitle("Programming-technique.blogspot.com - Student Record System");
```

```
    window();
    //use_pass_field();
    main_window();
    return 0;
}
```

RESULTS (TEXT)

1)

1. Add Student

2. Search Student

3. Modify Student Record

4. Generate Marksheet

5. Delete Student Record

6. Change password

7. Exit

Enter your choice: 1

ID: 100235
Name: Rohit
Address: Chennai
Parent's name: Krishnan
Class: 12
Phone Number: 9125684598
The record is successfully added

2)

1. Add Student

2. Search Student

3. Modify Student Record

4. Generate Marksheet

5. Delete Student Record

6. Change password

7. Exit

Enter your choice: 2

The record is Found
ID: 100235
Name: Rohit
Address: Chennai
Parent's Name: Krishnan
Class: 12
Phone No: 2147483647

3)

1. Add Student

2. Search Student

3. Modify Student Record

4. Generate Marksheet

5. Delete Student Record

6. Change password

7. Exit

Enter your choice: 3
Enter ID to Modify: 100235
ID: 100233
Name: Rahul
Address: Bangalore
Parent's name: Vishnu
Class: 11
Phone Number: 9872653140

4)

1. Add Student

2. Search Student

3. Modify Student Record

4. Generate Marksheet

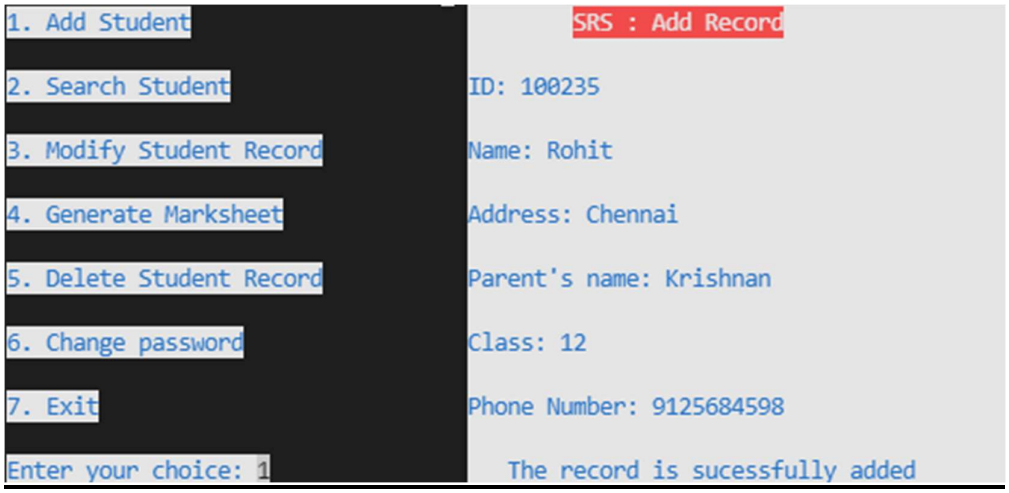
5. Delete Student Record

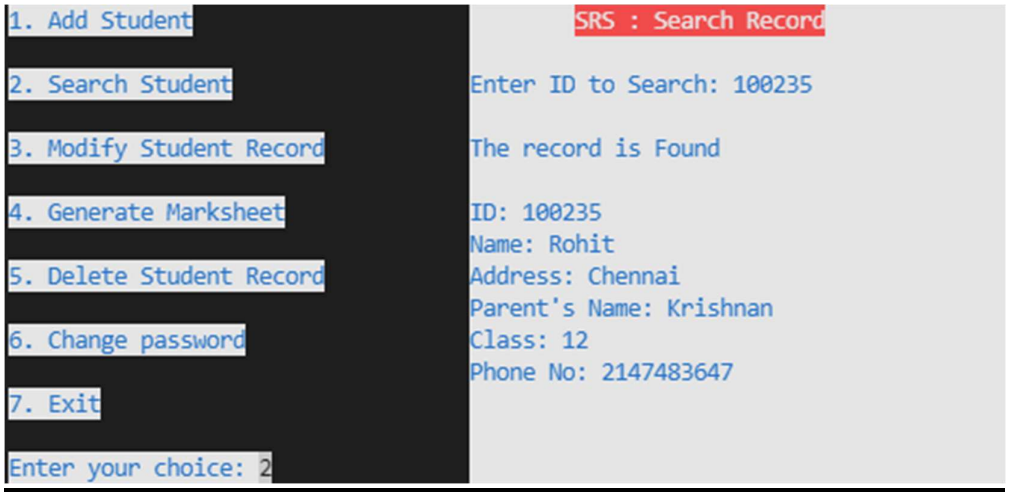
6. Change password

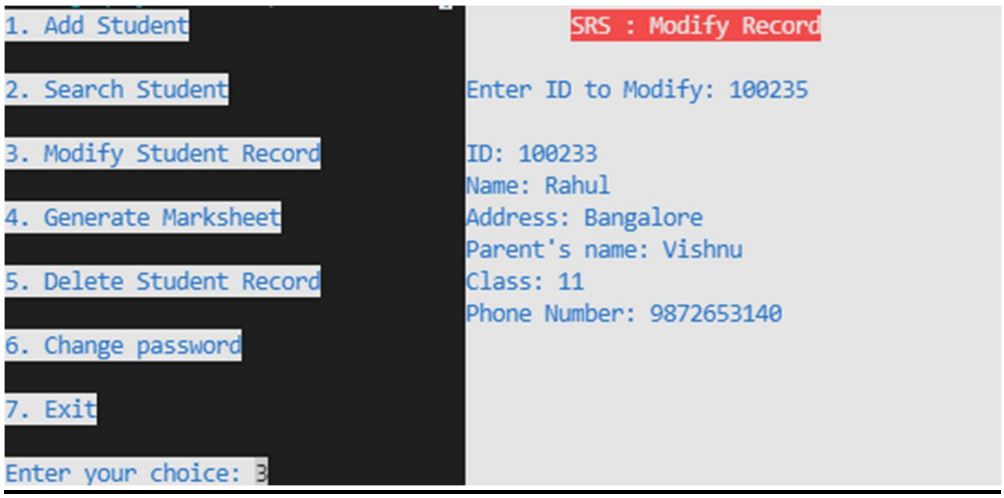
7. Exit

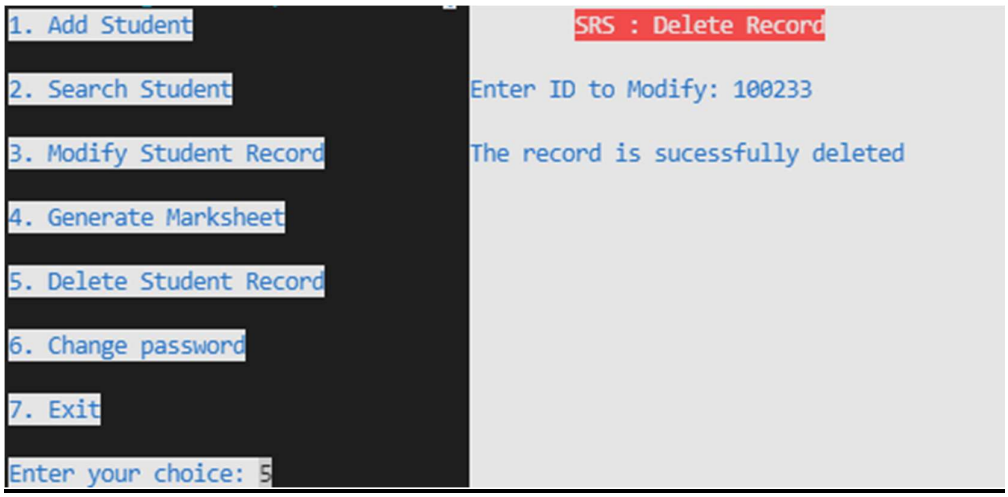
Enter your choice: 5
Enter ID to Modify: 100233
The record is successfully deleted

RESULTS (SCREENSHOTS)






1. Add Student
2. Search Student
3. Modify Student Record
4. Generate Marksheet
5. Delete Student Record
6. Change password
7. Exit
Enter your choice: 3
SRS : Modify Record
Enter ID to Modify: 100235
ID: 100233
Name: Rahul
Address: Bangalore
Parent's name: Vishnu
Class: 11
Phone Number: 9872653140


1. Add Student
2. Search Student
3. Modify Student Record
4. Generate Marksheet
5. Delete Student Record
6. Change password
7. Exit
Enter your choice: 5
SRS : Delete Record
Enter ID to Modify: 100233
The record is sucessfully deleted

DECLARATION

I hereby declare that the project entitled "STUDENT RECORD SYSTEM" which is being submitted as a Mini Project of 1st semester in Mechanical Engineering to SRM INSTITUTE OF SCIENCE AND TECHNOLOGY is an authentic work done under the guidance of Prof. DR. R. RAJKUMAR, SCHOOL OF COMPUTING, SRMIST. I would also like to extend my gratitude towards the professors, friends and family members who have supported me during the project duration.

Date: 10/01/2022

Name: ALAN PARAKKAL

Reg No: RA2111002010004

REFERENCES

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