PURBANCHAL UNIVERSITY

DEPARTMENT OF COMPUTER ENGINEERING

KHWOPA ENGINEERING COLLEGE

LIBALI-2, BHAKTAPUR

A FINAL REPORT

ON

CONTACT INFORMATION MANAGEMENT SYSTEM

Project work submitted in partial fulfillment of requirements for the award of the degree of Bachelor of Engineering in Computer Engineering (Third Semester).

SUBMITTED BY:

Jenisha Shrestha (770315)

Kritima Shrestha (770318)

Rabin Thimi (770328)

Rajesh Hamal (770329)

SUBMITTED TO:

Department of Computer Engineering

UNDER THE SUPERVISION OF

Dr. Mahammad Humayoo

14 February 2023

DEPARTMENT OF COMPUTER ENGINEERING

KHWOPA ENGINEERING COLLEGE

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CERTIFICATE OF APPROVAL

This is to certify that the project entitled "CONTACT INFORMATION MANAGEMENT SYSTEM" submitted by Ms. Jenisha Shrestha, Ms. Kritima Shrestha, Mr. Rabin Thimi and Mr. Rajesh Hamal as partial fulfillment of the requirements for the award of the Degree of Bachelor in Computer Engineering of Purbanchal University has been examined by us and may be placed before the examination board for their consideration.

Panel of Examiners:

Name	Signature	Date

External Examiner

Er.

Head of Department

Er. Bikash Chawal

Project Supervisor

Dr. Mahammad Humayoo

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We are extremely grateful to our supervisor Dr. Mahammad Humayoo for his continuous guidance, advice and support throughout this project.

Our appreciation also goes to the people who helped us directly and indirectly to make this project.

ABSTRACT

Our project is a contact information management system which is based on a concept to store and generate all the records of the Person of an Organization's Contact. Also, this program is considered as a simple database of contacts in an organization where the user can add Contact details safely and it's not time-consuming. The purpose of Contact Management System is to automate the existing manual system by the help of computerized equipment and full-fledged computer software fulfilling their requirements, so that their valuable data/information can be stored for a longer period of time with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

Contact Information Management System can lead to error free, secure, reliable and fast management system. The organization can maintain computerized records without redundant entries. Basically the project describes how to manage for good performance and better services for the clients.

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CHAPTER 1

INTRODUCTION

1.1Background

Contact Information management is the process of recording contacts including their personal information and tracking their interactions with the intention of communication.[1] A Contact Information management system is the program that enable user to easily store and find contact information, such as Name, status, Addresses, Post, Telephone numbers, and Email addresses. It records and organizes your contacts.

Every organization, whether big or small, has challenges to overcome and managing the information of Credential, Contact, Profile, Mobile, Emails. Every contact Management system has various Contact needs, therefore we design Contact Information Management System that are adopted to your managerial requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. It will allow you to manage your workforce anytime, at all times. This system will ultimately allow you to better manage resources. [2]

1.2 Motivation

We are learning student and in most of the case we just learn in theoretical way. But we want to implement those concepts in real world problems. Moreover we are expected to work as good teams in future in our profession so to learn teamwork and get fine outcome through the teamwork we choose this project. Also in this project we can get more helps and support through many sources. As this is our first step we choose to make a contact information management system. And we want to learn and see how those things works behind the screen.

1.3 Statement problems

Our team made a short discussion on the program to be made and we finally decided to make a program on Contact Information Management System. We set our mind to make a good user interface program by working on the how to take user defined input, operation to be performed in the program, prompts to be displayed, and files to be stored.

1.4 Objectives

To implement management system that manages (create, edit, search, delete)the contacts of people.

1.5 Applications

The Contact Information Management System project aimed for users to store the information of members of certain organizations.

1.6 Scope and limitation

This can be used by the members of certain organization of any age group.

CHAPTER 2

LITERATURE REVIEW

The 'Contact Information Management System' has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by the existing system.[2] Moreover this system is designed for the particular need of the company to carry out operations in a smooth and efficient manner. It gives you easy access to all details regarding your contact information. It demonstrates the creation of a user interface of a system.

This facilitates you to add, edit, list, view, search and delete contacts. A file is preserved for all records that have been added or updated. Name, phone number, address, and email address, etc. can all be used to categorize your contacts.[3] However, this can be especially beneficial if you have many contacts to organize or multiple people that need access to the information. Before in absence of this system, we had to keep record in a paper media by hand.

The key features of contact information management system are listed below:

- Add new contacts: with information such as name, phone number, address, and email
- List all contacts: lists all the contacts stored in file with their respective contact details
- Search contacts: based on name
- Edit contacts: edit information given while adding the contacts (name, phone number, address, and email)
- Delete contacts: deletes contacts from file.
- Display the record: displays the profile record created.

CHAPTER 3

PROJECT MANAGEMENT

3.1 Team Members

This project is the joint effort of:

1. Jenisha Shrestha (770315)
2. Kritima Shrestha (770318)
3. Rabin Thimi (770328)
4. Rajesh Hamal (770329)

3.2 Feasibility Study

Through our contact information management system, we are trying to create, edit ,reset ,delete the information of people of certain organizations . And also proposed in such a way that future changes can be easily done based on the future upcoming requirements.

3.3 Work breakdown planning

S.N	Week / Work	1st	2nd	3rd	4th	5th	6th	7th
1.	Project Identification							
2.	Analysis							
3.	Design							
4.	Coding and Testing							
5.	Implementation							
6.	Documentation							

Fig 3.1: Work Breakdown Planning

CHAPTER 4

METHODOLOGY

4.1 BASIC BLOCK DIAGRAM

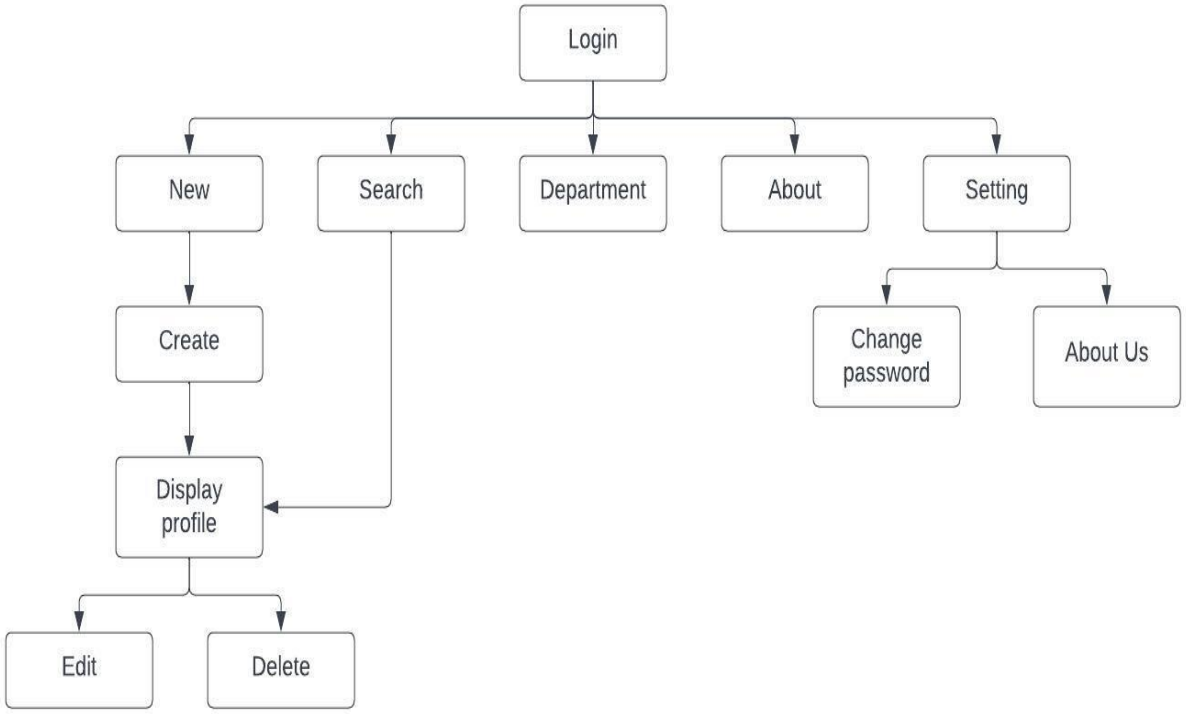


Fig 4.1: Basic Block Diagram

The system starts with login page where you have to enter the password. Then only it displays the main menu of the system where you can choose the required option. If you choose NEW option then there you can create new record of any person and display it. You can SEARCH the record of any person by their name and display the profile. After displaying the profile you can even edit and delete the record as per requirements. In DEPARTMENT section you can find all the records list in each department. You can find some guidelines in the ABOUT menu. We also have SETTINGS menu where you can change the login password and also know some information about us.

4.2 ALGORITHM

1. Algorithm for different operations

i)New record adding operation

Step 1: Start
Step 2: Read a character in ch from user
check if(ch='0') then
Goto END
Step 3: Check if (ch=1)
Read department name in team[20]
Step 4: Call gteam() fuction for validation of department name
Then save returned value in c
i) Check if (c=0) then goto step 5
ii) Check if (c=1) then goto step 3
Step 5:Input all data
i) upp: Read first name and call validation function then save return value in c
c=namee(fname)
Check if (c=1) then goto upp
ii) uppp: Read last name and call validation function save and return value in c
c=name(lname)
Check if(c=1) then goto uppp
iii) up1: Read age and call age validation function save and return value in c
c=age()
Check if c=1 then goto up1
iv) up2: Read gender and call gender validation function and save return value in c
c=gender()
Check if c=1then goto up2
v) up3: Read phone number and call number validation function and save return value in c
c=contact()
Check if(c=1) then goto up3
vi) up4: Read email and call email validation function and save return value in c
c=eemail()
Check if(c=1) then goto up4
vii) up5: Read address and call address validation function and save return value in c
c=addr()
Check if (c=1)then goto up5
viii) up6: Read post and call post validation function and save return value in c
c=post()
Check if(c=1) then
goto up6
ix) up7: Read joined date and date validation function and save return value in c
c=gjoin();
Check if(c=1) then
goto up7

x) up8: Read experience year in 2 digit and validation function and save return value in c.
c=gExp();
Check if(c=1) then
goto up8

Step 6: Call display function
Step 7: Write in Alldata.txt file
Step 8:End

ii) Record searching Operation

Step 1: Start
Step 2: Read a character in ch from user
Check if ch='0' then goto END
Step 3: Check if ch='1' then
Read and save all data in object array F[20] from file (All data)
Declare int i=0 and read until the end of the file
While(fin)
{
Fin.read((char*)&F[i],sizeof(file));
i++
}
Step 4: Read first name and last name from user
Step 5: Declare int check as 0 and compare the first name and last name from user with a names of all record in object array F[20]
Step 6: Declare j=0, check =0
Step 7: Check if j<I
Step 8: Compare cfname and F[j].fname) and compare (clname and F[i].lname)
If condition is true then set check=1 and goto step10

Step 9: Increase j++ and goto step 7
Step 10: Check if(check='1') then call display function
Step 11: Check if (check='0') then print "contact not found" and goto step 2
Step 12: End

iii) Record Edit Operation
Step 1: Start
Step 2: Read a character in ch from user
Check if ch='0' then
go to end
Step 3: Check if ch=1,input all data
Step 4: Take a input for choice

Case a: upp: Read first name and call validation function and save return value in c
c=namee(fname)

Check if (c=1) then goto upp

Case b: uppp: Read last name and call validation function and save return value in c
C=name(lname)
Check if(c=1) then goto uppp

Case c: up1: Read age and call age validation function and save return value in c
c=age()
Check if c=1 then
goto up1

Case d: up2: Read gender and call gender validation function and save return value in c
c=gender()
Check if c=1then goto up2

Case e: up3: Read phone number and call number validation function and save return value in c
c=contact()
Check if(c=1) then goto up3

Case f: up4: Read email and call email validation function and save return value in c
c=eemail()
Check if(c=1) then goto up4

Case g: up5: Read address and call address validation function and save return value in c
c=addr()
Check if(c=1) then
goto up5

Case h: Read degree and save in degree variable

Case i: print "Department cannot be changed."

Case j: print "post cannot be changed"

Case k: up8: Read joined date and date validation function and save return value in c
c=gjoin()
Check if(c=1) then
goto up8

Case l: up9: Read experience year and call year validation function and save return value in c
c=gExp()
Check if c=1then
goto up9

}
Goto step 2
Step 5:End

iv) Record Delete Operation

This set of instructions are also added in another functions as per required condition and flow needed by program.

Step 1: Start
Step 2: Read all records in object array F[20] and i=count of record
Step 3: Initialize(int re) with argument values from previous functions
Step 4: Check if re=2 then write all records in a file except the record currently viewed record

which index is already save in j
Step 5: Intialize k with ‘ 0 ’ and fout object of the file.
Step 6: Check if k<I if not then goto step 8
Step 7: Check if ‘ j ’is not equa1 to ‘ k ‘ then
fout.write((char*)&F[k],sizeof(file));
Increment k++
Goto step 6
Step 8: End

v) Record Displaying Operation

Step 1: Start
Step 2: Read all records from the file and save it in object array Z[20] and save number of records in i

```
While (fin)
{
        Fin.read((char*)&Z[i],sizeof(file))
        i++;
}
```

Step 3: Initialize int q with argument value coming from calling function
Step 4: Compare department name of array index ‘q’ with department name of all records of Z[i] and display them.
Step 5: Initialize j by ’ 0 ’
Step 6: Check if j < i
Step 7: Compare Z[j].team and dteam[q]
If(strcmp(Z[j].team,dteam[q]=0)
Step 8: If condition is true, compare post of record with manager post
If(strcmp(Z[i].post,dpost[0]=0)
Step 9: Check if condition is true display(name, ID and post) and goto step 11
Step10: Increase j++ go to step 6
Step 11: Initialize k=0
Step 12: Check if k<I, if condition is true, check for vice-principle record
Step 13: Compare z[k].team & dteam[q] and z[k].post & dpost[q] if condition is true display (name, ID and post) then goto step 15
Step 14: Increase k++ goto step 12
Step 15: Initialize l=0
Step 16: Check if l<i
Step 17: Compare Z[k].team & dteam[q] and check if l not equal ‘ j ‘ and l not equal ‘ k ’ if condition is true display(name, ID and post) and goto step 19
Step 18: Increase l++ then goto step 16
Step 19: End

vi) Profile Displaying Operation

Step 1:Start
Step 2: Displaying all the variables (fname ,dname, a ,G, team ,ID, Join, Exp)
Step 3:Read a character from user in'ch'
Step 4: Check if ch='1' then call edit function Editf()
Step 5: Check if ch='2' then goto end
Step 6: Check if ch='0' then goto end
Step 7:END

2. Algorithms for data validation

i) Name validation

Step 1: Start
Step 2: Initialize char name[20] with argument value
Step 3: Check if first element of string name is capital letter
If(name[0]>='A' && name[0]<='Z')
Step 4: Initialize i=1, c=1
Step 5 Check if i < strlen(name)
Step 6:Check if name[i] >= 'a' and name [i]<= 'z' then set c=0 goto Step 9
Step 7: Increase i++ and goto step 5
Step 8: Check if c=1 then print "Enter Valid Data"
Step 9: Return c
Step 10:End

ii) Age validation

Step 1: Start
Step 2: Read char a[3] from user
Step 3: Initialize k=0, d=1
Step 4: Check if k<3 and initialize c=a[k]
a) Check if ascii value of a[k] is with in range of number
if(c>=48 &&c<=57)
set d=0
else goto step 6
Step 5: Increase k++ and goto step4
Step 6: Check if length of character a[3] is greater than 2
i) Check if strlen[a]>2 Then set d=1
Else goto step 7
Step 7: Check if d=1then print "enter valid data" else
goto step 8
Step 8: return d
Step 9: End

iii) Gender validation

Step 1: Start
Step 2: Read char G[2] from user and initialize d=0
Step 3: Check if first element of G is neither M,F nor 0
i) If condition is true goto step 5
ii) If condition is false print "Enter valid data"
set d=1
Step 4: Return d
Step 5: End

iv) Contact number validation

Step 1: Start
Step 2: Read char con[20] from user
Step 3: Declare c1=0 and c2=0
Step 4: Initialize k=0;
Step 5: Check if k<strlen[con]
Step 6: Check if elements of string con is (con[k]-48>=0 and con[k]-48<=9) then
set c2=1
a) Check if con[0] = 9 and con[1]= either 8 or 7
set c1=1
b) else goto step 8
Step 7: Increase k++ and goto step 5
Step 8: Check if c2=0 or c1=0 or length of con is not 10 then print enter valid data
set d=1
Step 9: Return d
Step 10: End

v)Team verification

Step 1: Start
Step 2: Globally declare
dteam[7][20]={"Account", "Advertisement", "Canteen", "Developer", "Security", "Tech nical"} and d=0
Step 3: Read char team[20] from user
Step 4: Check if character team[20] doesn't belong to any of the strings in string array dteam[7][20] then print " Enter valid data "
Else set d=1
Step 5: Return d
Step 6: End

vi) Join verification

Step 1: Start
Step 2: Read char join[12] from user
Step 3: Initilize i=0 and d=0
Step 4: Check if i < strlen(join)
Step 5: Check
a) if elements of string join are numbers and '/'

if join[i]>=48 and join<=57 or join[i]='/') goto step 6

b) if condition ' a ' is false print " Enter valid data "
set d=1 goto step 7

Step 6: Check if i=10 then

a) Check if join[4]=l and join[7]=l)
b) If condition is false, print " Enter valid data "
Set d=1

Step 7: Return d
Step 8: End

vii) Email verification

Step 1: Start
Step 2: Declare atcount=0,dotcount=0,at=-1 and dot =-1
Step 3: Read char email[20] from user
Step 4: Check if (email[0]>='a' and (email[0]<='z') or (email[0]>='A' and email[0]<='Z')
Step 5: Initialize k=0
Step 6: Check k<strlen(email)
Step 7: Check

i) if (email[k]='@')
Set at=0
atcount++
ii) if(email[k]='.')
Set dot=0
dotcount++

Step 8: Increase k++ and goto step 6
Step 9: Check if no '.' Or '@' added or any of them is added more than once or'.' Is at the end

i) Check if at=-1||dot=-1||atcount>=2||dotcount>=2||dot=strlen(email-1) then
Print " Enter valid data "
Set d=-1
goto Step 10
ii) Else goto step 11

Step 10: Return d
Step 11: End

viii) Address verification

Step 1: Start
Step 2: Read char add[20] from user
Step 3: Declare int d[20]
Step 4: Initialize k=0, c=0
Step 5: Check if k<= strlen(add)
Step 6:

a) Set d[k]=add[k]
b)
Check if (d[k]>=61 and d[k]>=91) or (d[k]>=97 and d[k]<=122)
c) If condition is false then print " Enter valid data "

Set c=1

Step 7: Return c

Step 5:End

ix) Experience verification

Step 1: Start

Step 2: Read char Exp[3] from user

Step 3: Initialization i=0

Step 4: Check if i<strlen(Exp)

a) Check if the elements of character Exp are number
If (Exp[i]>=48 && Exp[i]<=57)

b) If condition is wrong print " Enter valid data "
Set d=1

Step 5: Return d

Step 6: End

x) ID verification

Step 1:Start

Step 2: declare global variable dteam[7][20]={"Account", "Advertisement" ,"Canteen", "Developer", "Security" ,"Technical"} and dpost[4][20]={"Manager", "Vice manager", "Staff"}

Step 3: Read the char team[20] and char post[20] of the object used to call PID() function

Step 4: Read the contents of file in object array F[20] and initialize I with number of contents on file

{ fin.read((char*)&F[i],sizeof(file))
i++
}

Step 5: Initialize j=0

Step 7: Check if j< 1

Step 8: Initialize k=0

Step 9: Check if k<7

Step 10: Check

i) if the post of an record is staff compare F[j].post and dpost[2]

ii) And compare F[j].team and dteam[k], if condition is true then id[k]++

Step 11: Increase k++ and goto step 7

Step 12: Initialize j=0

Step 13: Check if j<7

Step 14: Compare team and dteam[j] if condition is true,

a) ID[0]=j+1

ID[1]=j+1

b) If post " Manager "

c) If the post is manager

i) Check if(strcmp(post,dpost[0]=0)

Set ID[2]=d[i]

ID[3]=1

ii) If post is vice manager

Check if(strcmp(post,dpost[1])=0)

Set ID[2]=d[i]

ID[3]=2

iii) If post is staff

else

Set ID[2]=d[i]

ID[3]=id[j]

id[j]++

iv) If the number of records is 10 for any team

Elseif(id[i]==10)

Set id[j]=0

D[j]=1

Step 15:End

4.3 FLOWCHART

4.3.a Flowchart for main menu

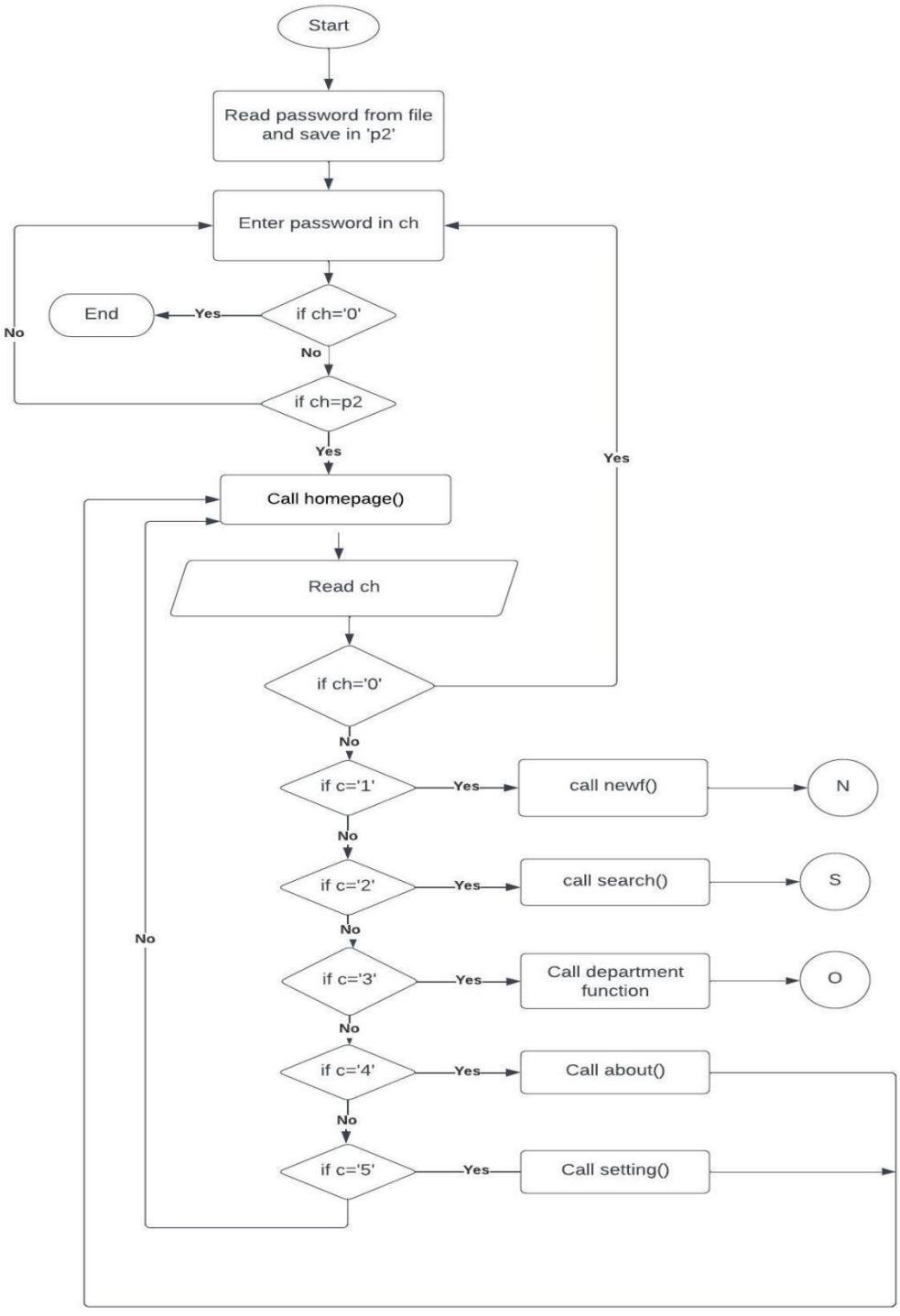


Fig 4.2 Flowchart for main menu

4.3.b Flowchart for new

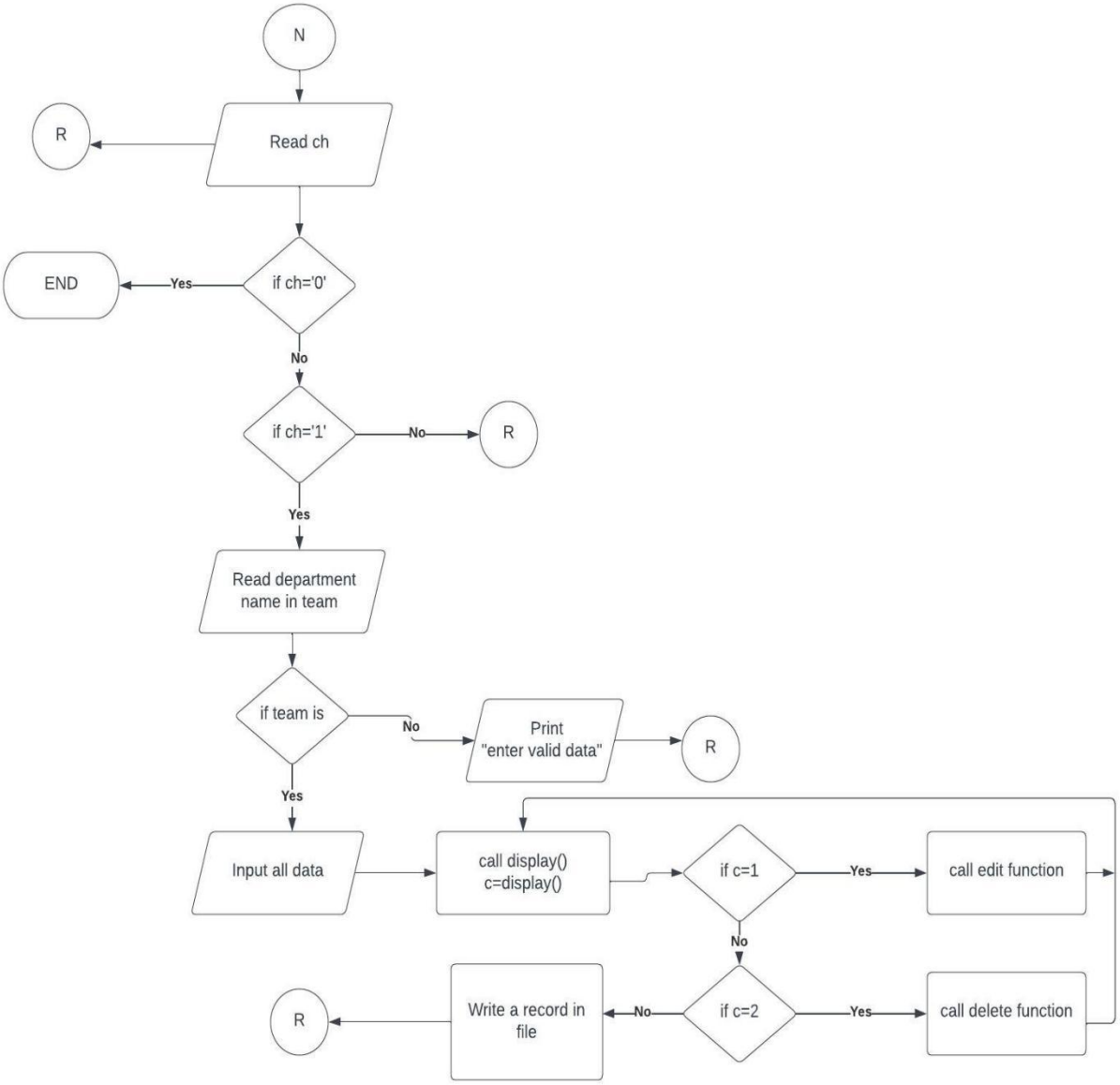


Fig 4.3 Flowchart for new operation

4.3.c Flowchart for search operation

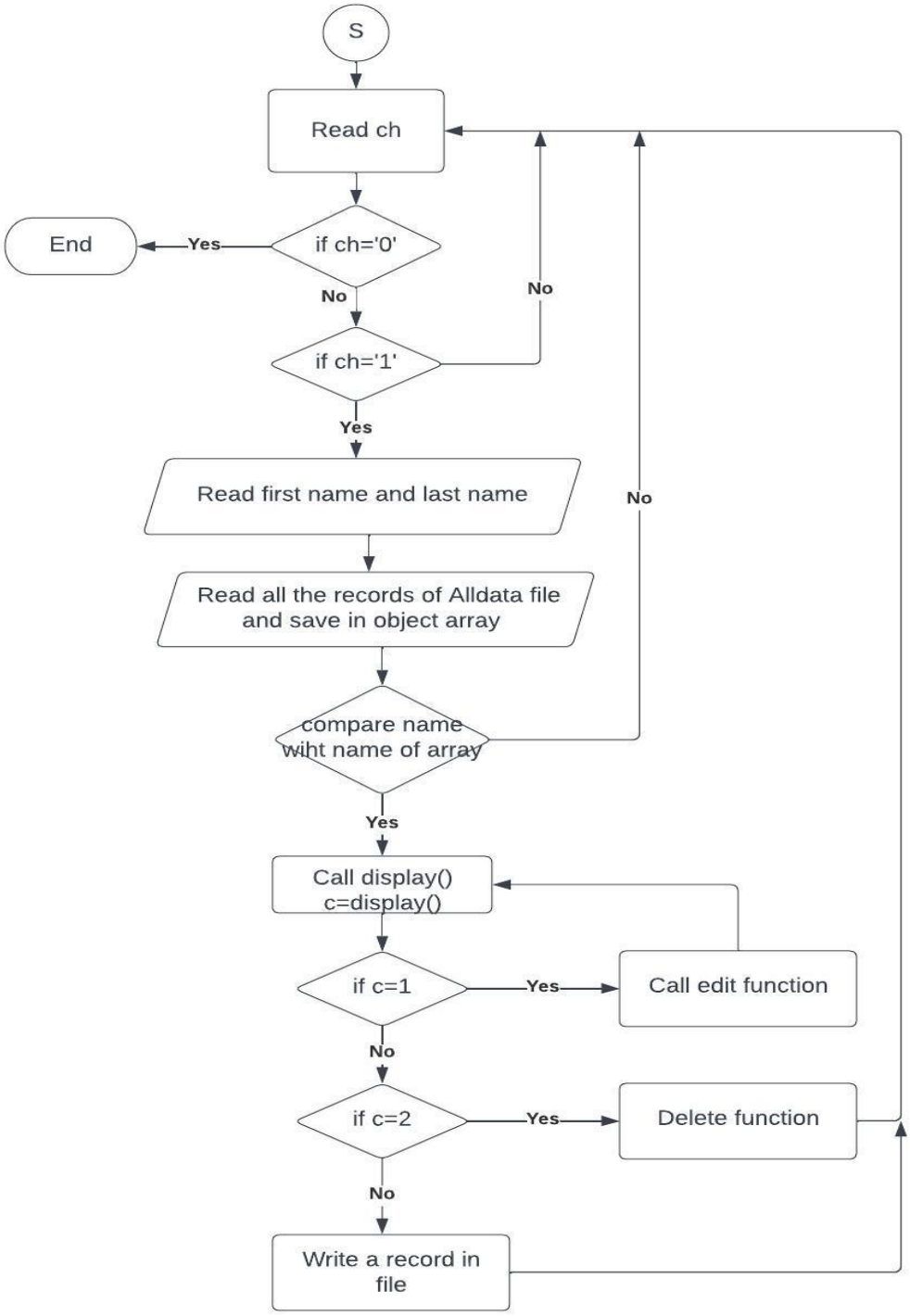


Fig 4.4: Flowchart for search operation

4.3.d Flowchart for department

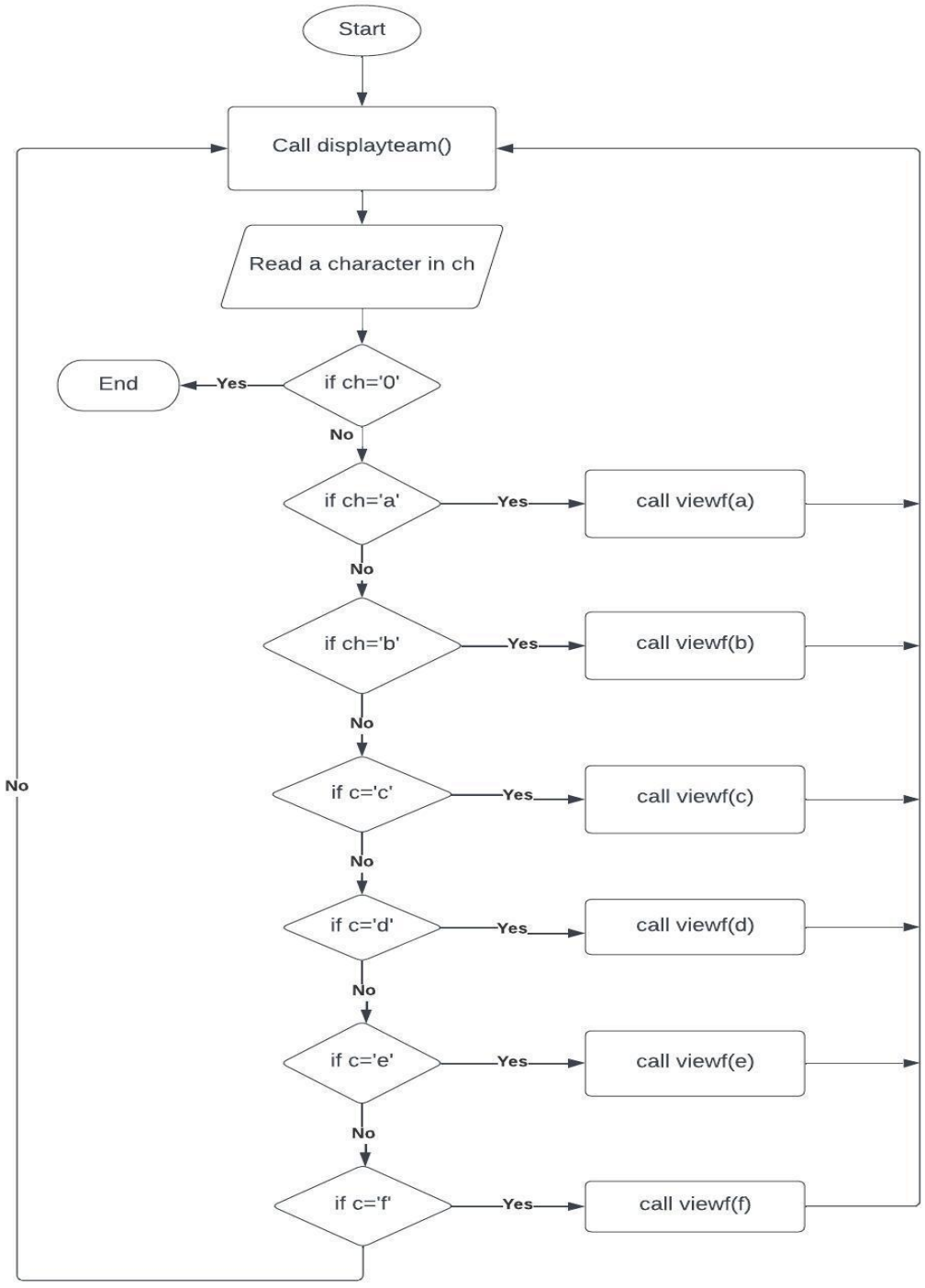


Fig 4.5 Flowchart for department

4.4 DATA FLOW DIAGRAM

4.4.a Context Diagram

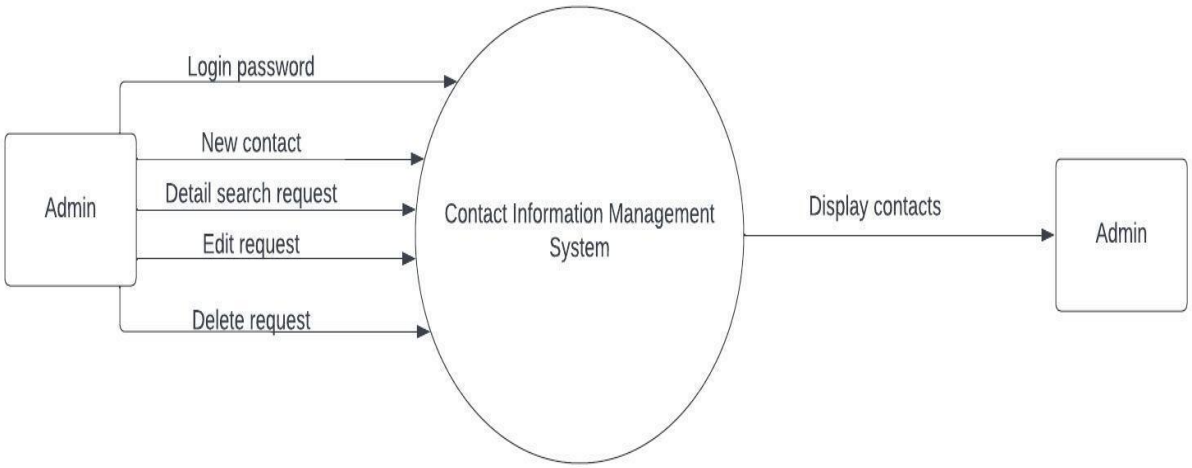


Fig 4.5: Context Diagram

4.4.b Data Flow Diagram

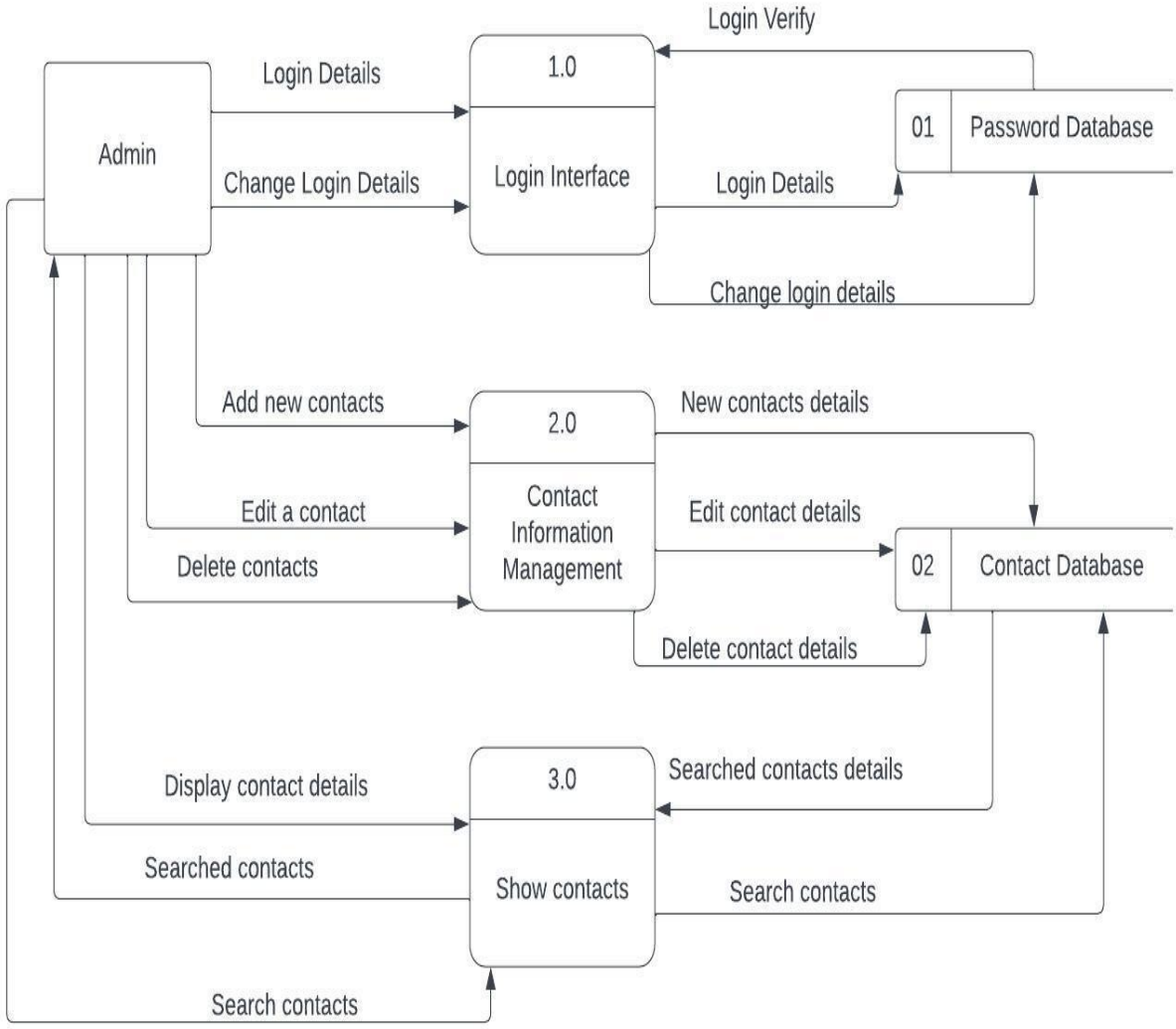


Fig 4.7: Data Flow Diagram

4.4 TOOLS AND PLATFORM

Software

Dev C++ , Turbo C++

Platform

Windows 10

CHAPTER 5

RESULTS AND OUTCOMES

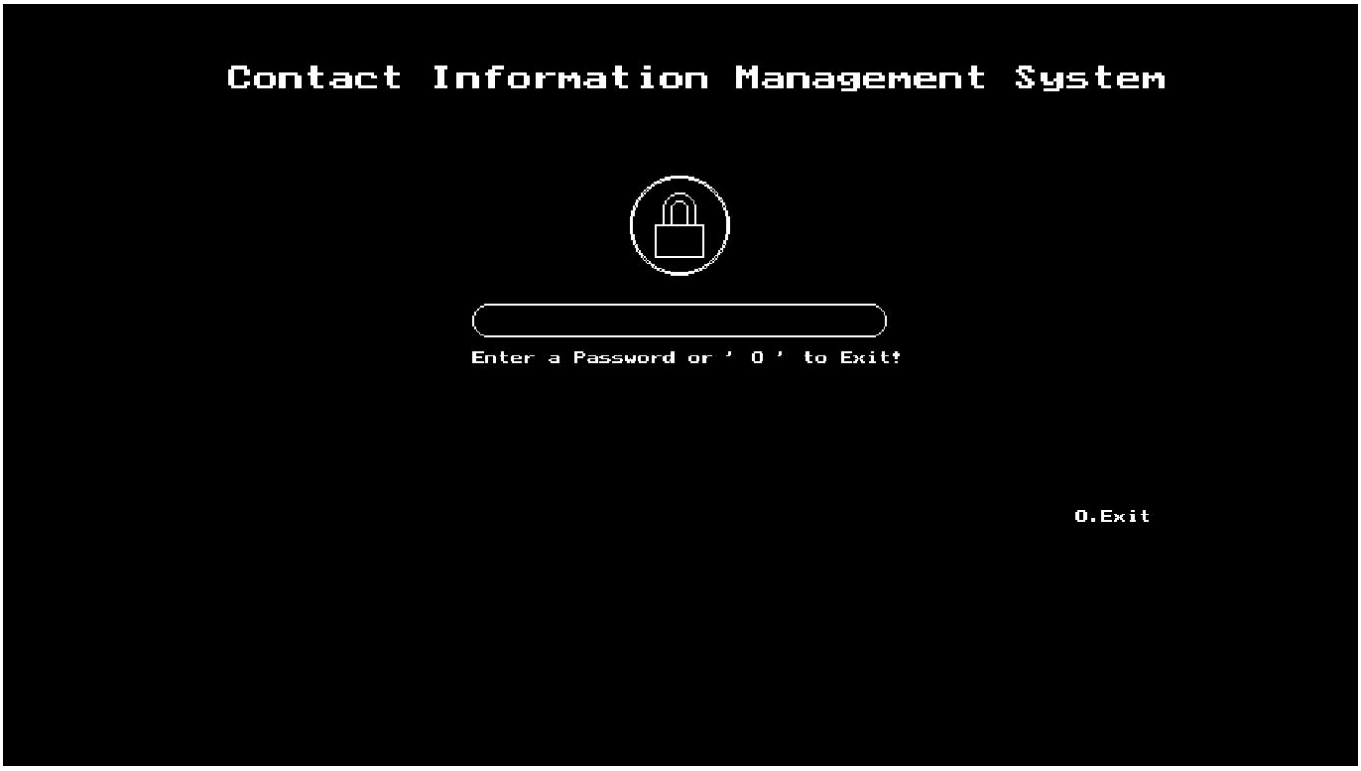
Outputs

We have developed a contact information management system for any organization where we can create password to the system for security, add new information, edit the information, delete the contacts, search the contact from the list. We have also considered about the good user interface to feel them easy and good feeling while retrieving the data so we used graphical mode in our system.

Screenshots

5.1 Login page

This page is displayed initially where we have to enter our password to go to home page or enter 0 to exit.



5.1 Login page

5.2 Home page

Once we enter the password we will see the page below where we get option to select any out of 1-5.

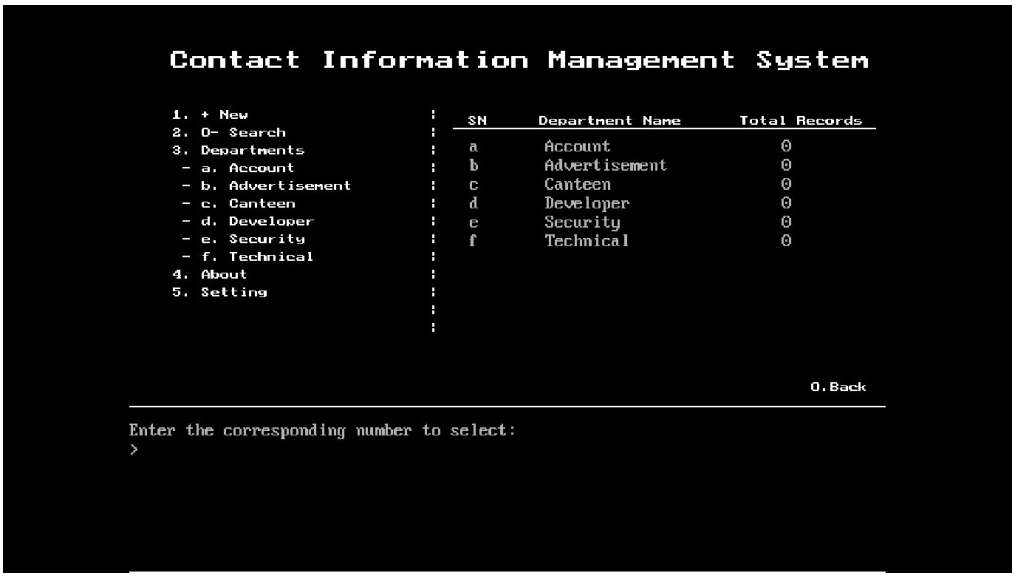


Fig 5.2: Home page

5.3 Select Department page

After selecting option 1, new contact we can see the page where we have to select department initially. The initial letter of department must be capital and other must be of small letters.

Fig 5.3: Select department page

5.4 New contact page

After selecting department, we can see new contact page where we have to insert information of a person. Here we have developed validation sequence that is while adding any data about any employee the data must be valid. While adding email the data will be taken or considered valid only if the data includes "@" and ".". Similarly, the contact number much have "9" and "8" in its first and second position respectively. Since integer array has been made in the program until you enter the 10 numbers "98……..", or "97……..", you cannot execute to the next step.

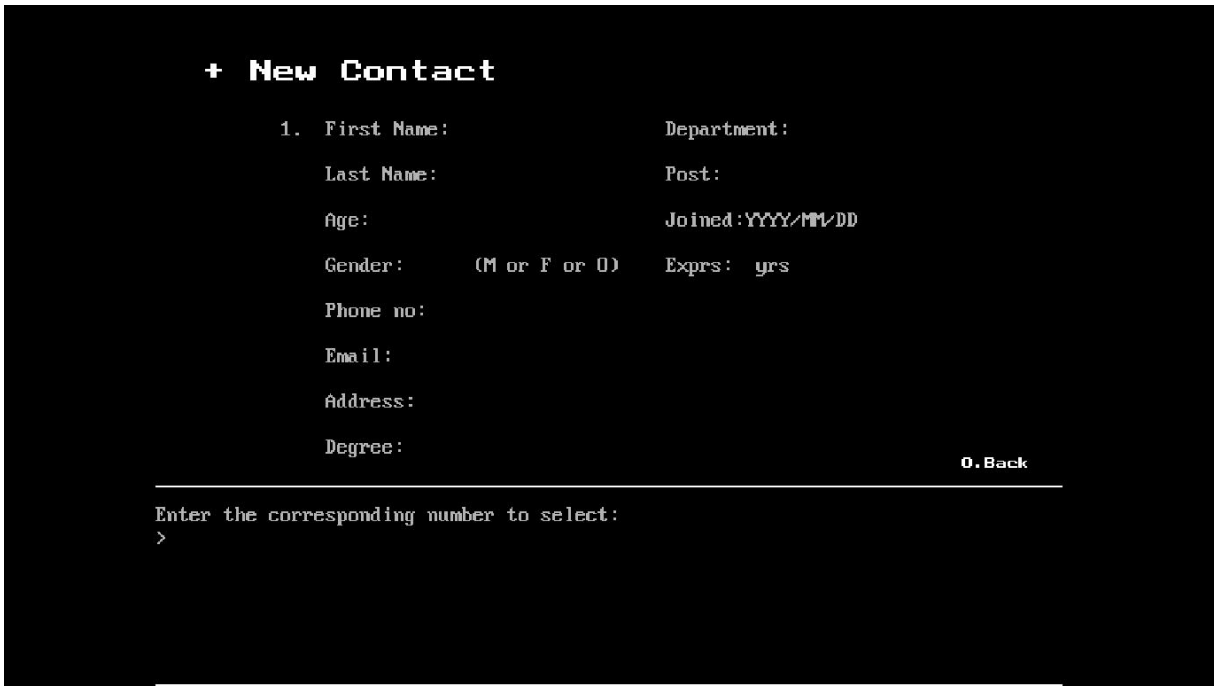


Fig 5.4 New contact page

5.5 Profile page

This is a profile page of a person created from the data we have insert in new contact. We can see edit and delete contact information option in page below.

Fig 5.5 Profile page

5.6 Edit page

This is an edit page where we can edit any information of a profile.

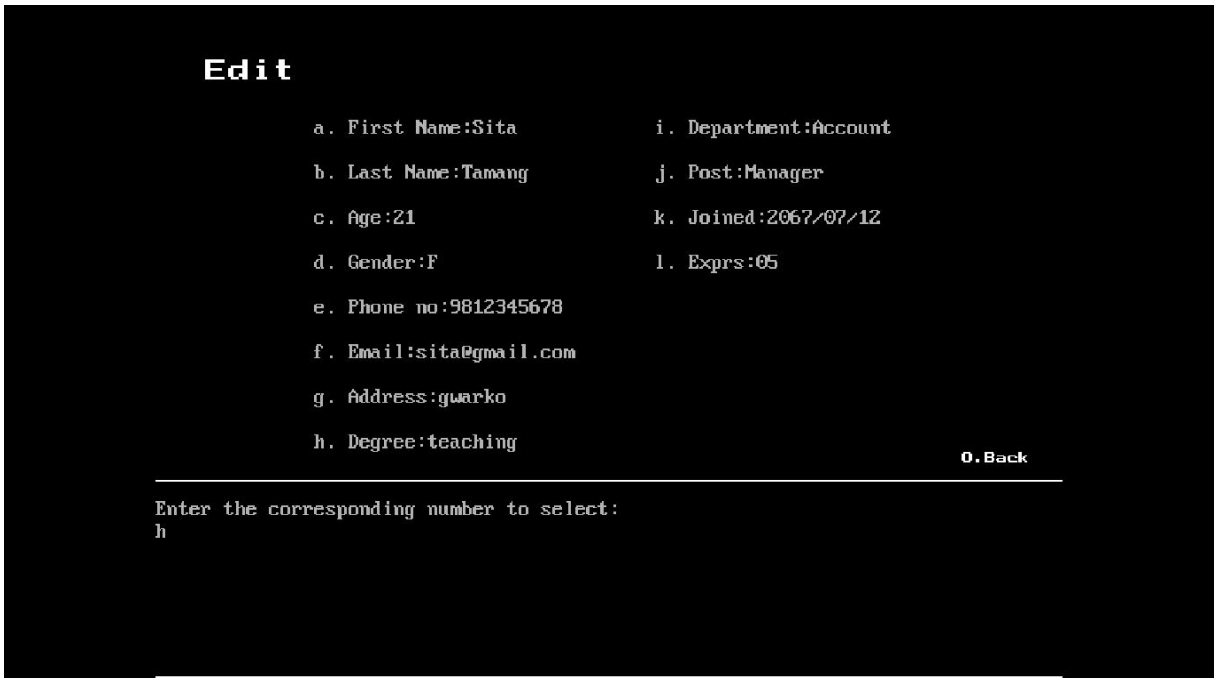


Fig 5.6 Edit page

5.7 Edited profile

Fig 5.7 Edited profile

5.8 Total no. of records

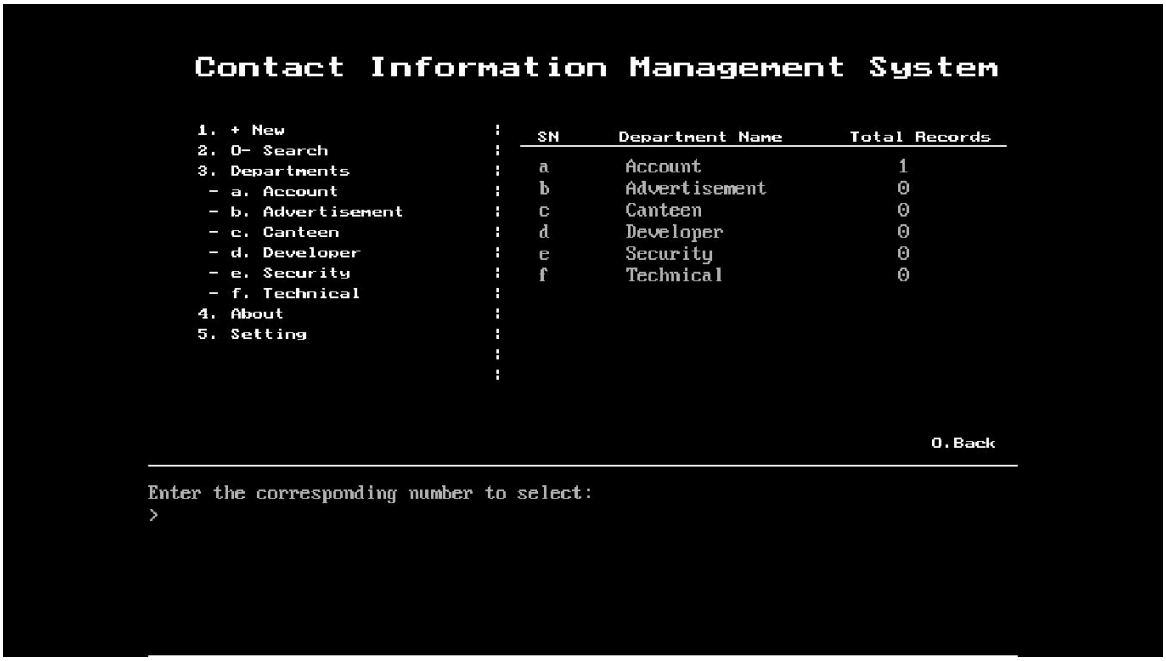


Fig 5.8 Home page with total records information

From above page we can see that we have 1 member in the account department.

5.9 Account page

When we select option 3 in home page we go to specific department and see list of members of that department.

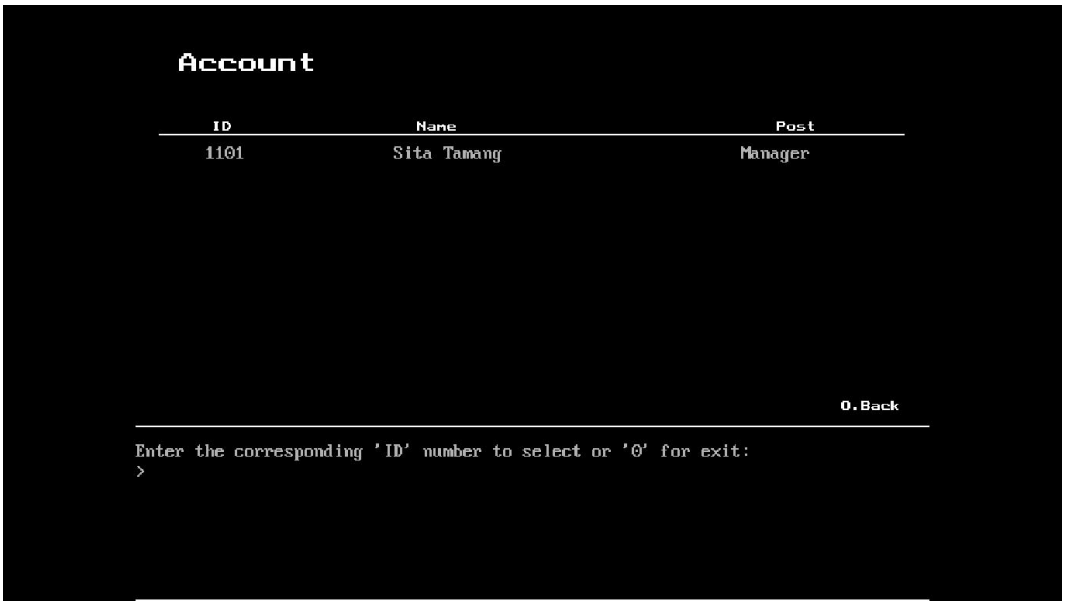


Fig 5.9 Account page

5.10 Guide page

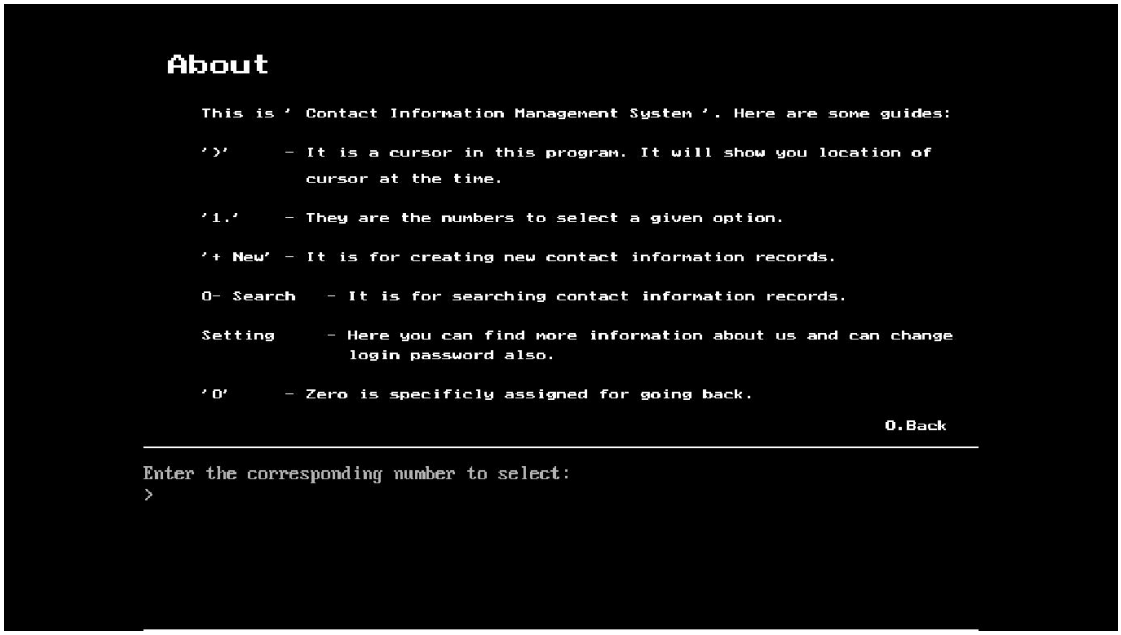


Fig 5.10 Guide page

The guide page allow the user to access information about how to use our system.

5.11 Setting page

This is the setting page of our system where we can select any of the option(1 or 2).

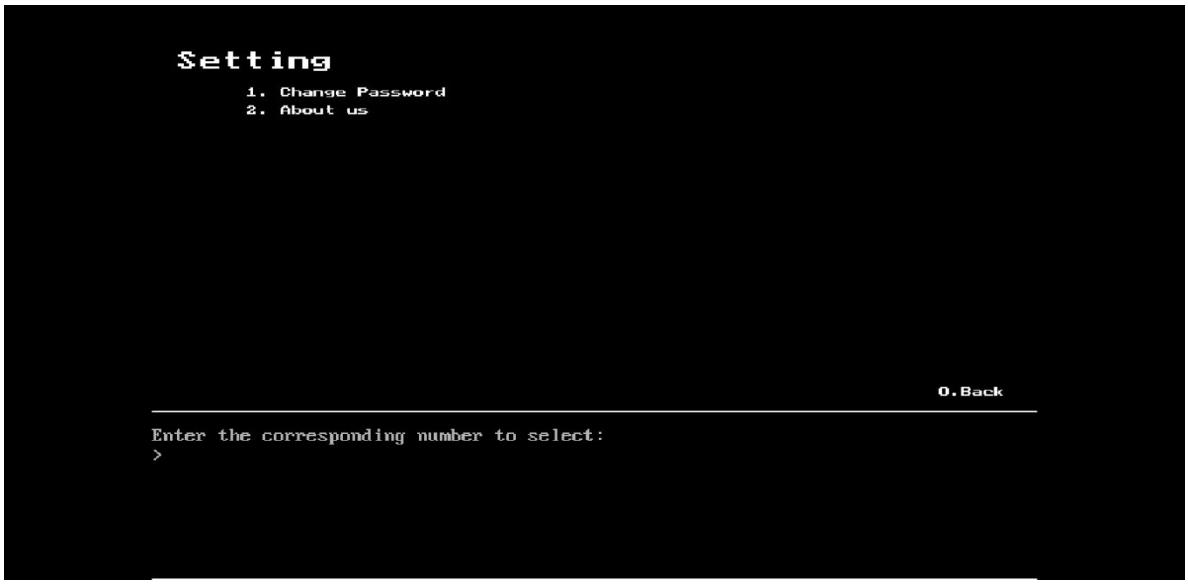


Fig 5.11 Setting page

5.12 Change password

When we select option 1,we can see change the password page where we must insert current password then new password which must be of at most 5 character.

Fig 5.12 Change password page

5.13 About Us page

When we select option 2 in fig 5.11,we see about us page where we can see name of group members who are part of this project and some short information about our project.

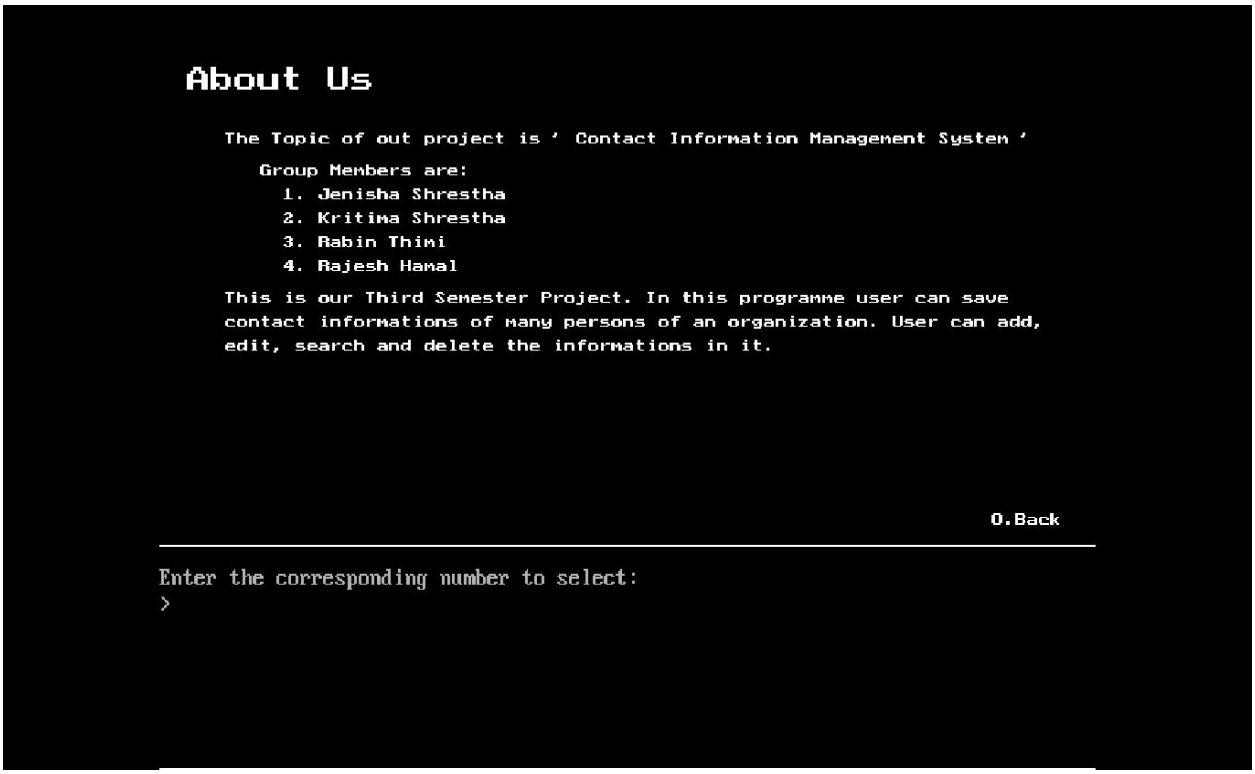


Fig 5.13 About Us Page

FUTURE ENHANCEMENT

In this program we have included more convenient features as much as possible. But there are some more works we can do to enhance more features for better performance. Like for now this program cannot handle large number of records to use, so we can make this program able to do it in future. In this project we have used keyboard as only input device. But we can also include mouse interface for more easy interaction. And most important thing is only one user can use this program at instant. We can make this program to be used by multi user.

CONCLUSION

In a nutshell, this project significantly increased our understanding on utilization of file management, data structures, pointers effectively, specifically how to record, search, edit and delete data from a file and also we have used graphics programming. This real-world project taught us about the importance of the visible part of programming as well as the various logic behind the scenes. It increased our problem-solving abilities while also teaching us time management. Our project's final objective was to build a management system that used fundamental files organization and graphics programming expertise and expanded it in order to apply it in future real-world application.

Our project is a humble venture to satisfy the needs to manage their project work. Several user friendly coding have been adopted.

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