Purbanchal University

College of Information Technology and Engineering

Subidhanagar, Tinkune, Kathmandu

Project Report

On

BIT-I Project

Project Name: **Contact Management System**

Submitted by

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With immense please, we presenting “Contact Management System” report as part of curriculum “Bachelor of information Technology”. We wish to thank all the people who gave us unending support.

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We would also like to thank Purbanchal University as well as College of Information Technology and Engineering for the course and the project assigned which helped in our study and developing skills like code and project management.

ABSTRACT

Contact manager in cell phones is easy but it has not used C-programming. So, we came up with a project called “Contact Management System” using C-language which is same as simple console application without graphics. It is similar to the contact manager in cell phones. In this project you can view, edit, search and delete contacts. All added and edited records are saved in a file.

You can list contacts by name, phone no., address and email. File handling has been used to record all data. I have used structure to store the user’s name, email and contact. Overall, understanding the simple source of this project will teach you how to add, edit, search, list and remove data using file.

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CHAPTER 1: INTRODUCTION

1.1 Background

Contact Management System is the software that you can use for the keeping details of the phone number with the details of the person. It allows you to keep records, delete records, edit records, search records and view the list of saved records.

Register user is a feature that provides a security to the software records as it needs password to login into the software.

1.2 Proposed System

This application will be extremely beneficial to the user as it provides security to the user privacy and allows easy search of records and also it gives the saved date and time of the contact details.

"Contact Management System" is a simple application which fulfills the drawbacks of the previously existing systems. The project is basically aimed at providing rights to the user to keep the detailed record of the contact.

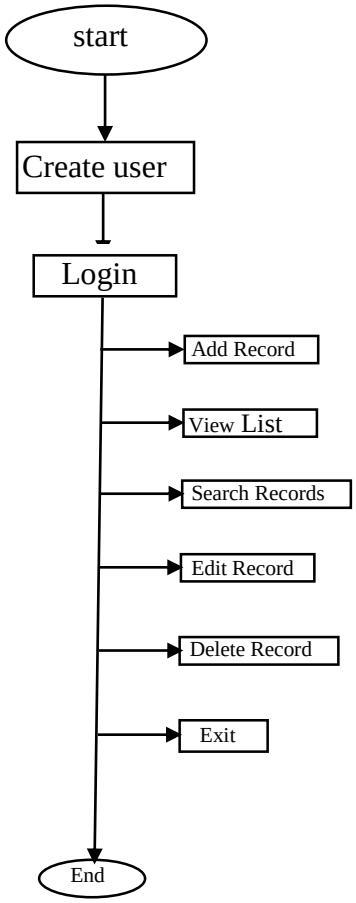


Fig 1: Block Diagram

1.3 Objectives

Followings are the major objectives behind the new proposed system:

- To make familiar with resource reusability by making user defined functions.
- To make contact management system easy and faster to use.
- To provide user right to save the detailed information of contact.
- To provide security to the user privacy and data's.

1.4 Features

- More numbers of records can be saved.
- Easy way of searching records by different methods.
- It saves the date and time by reading it from the system.
- Records can be edited/ modified when needed.

CHAPTER 2: PROBLEM ANALYSIS

2.1 Problem Description

The existing contact management software's have little bit problem in searching contacts as their contacts can only be searched through phone number and name. There is also the issue in security regarding user privacy. To solve this problems, we have made the program that consist can store detailed information of the contact and makes easy to search records. It also provides the security to the user privacy by allowing users to set the user name and password to login into the software.

2.2 Aim for this Project

- To provide many features for keeping contacts.
- To make faster performance.
- To store unlimited contacts.
- To provide security for user.

CHAPTER 3: SYSTEM SPECIFICATION

3.1 Tools & Technologies

We have developed our entire project in Dev-C++, which is simple & faster IDE for C/C++ Programs.

3.2 File Extensions

The coding is stored in '.h' and '.c' file extension.

3.3 Software Developed at

Operating System:	Windows 10/11
Developing Software:	Dev-C++
Processor:	400 Series Ryzen 5
Memory:	8GB RAM
SSD:	512GB

3.4 Team Structure

Team Members	**Symbol no.**	**Task Done**
Sujan Thapa	313275	Research, Coding, Debugging and Documentation
Raman Chaudhary	313268	Research, Coding, Debugging and Documentation
Alok Poddar Baishya	313258	Research, Coding, Debugging and Documentation
Anish Chaudhary	313259	Research, Coding, Debugging and Documentation

Fig 2: Table Containing team members

CHPTER 4: DESIGN & METHODOLOGY

4.1 System Interface

The software design is simple as Contact Manager available in our phone with some features added. The software contains mainly following section:

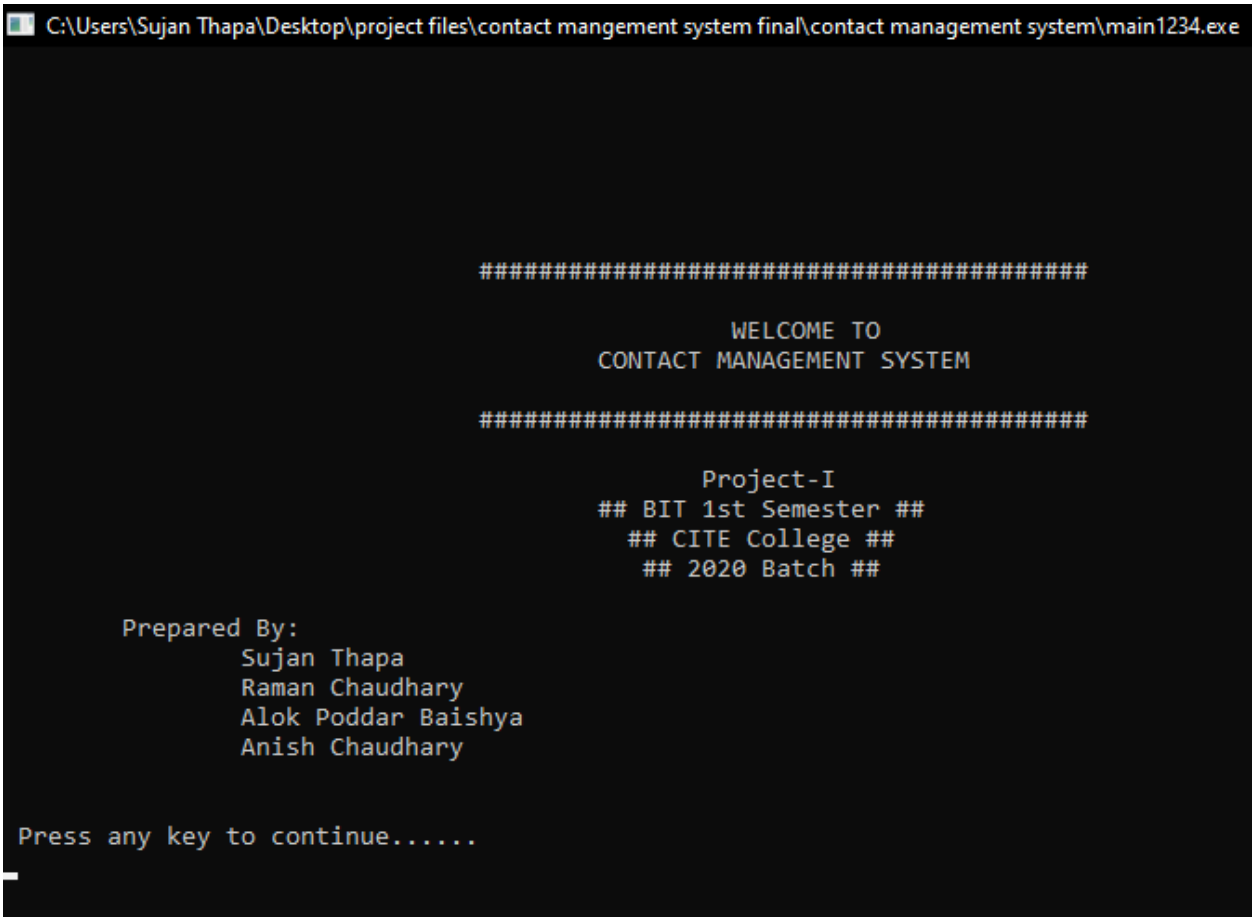


Fig 3: System Interface

4.1.1 Create User & Login

In this section user have to create a user name, password and then proceed for the login after that The window with the following options is displayed which allows user for the further processing.

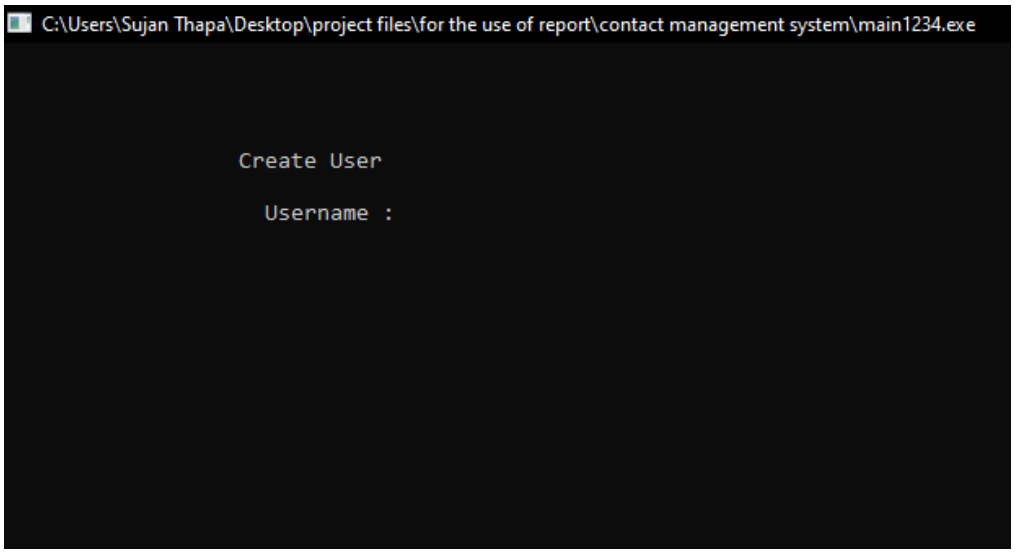


Fig 4: Create User

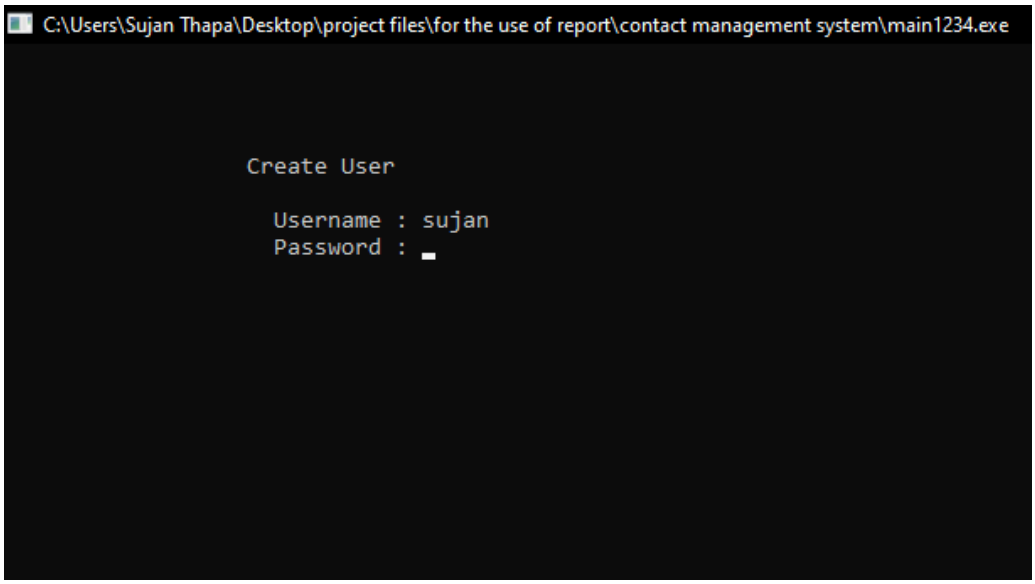


Fig 5: Create Password

4.1.1.1 Main Menu

This is the first section of the software where user can choose between (Add record, List of records, Search record, Edit record, Delete record, Exit from the software). User have to input the number of the given range to proceed further in software which are given below:

1. **Add a New Contact**

In this section user can save a new contact.

2. **List of Person Record**

In this section user can view list of all contacts that are saved by him/her with full details.

3. **Search Persons Record**

In this section user can search individual contact record by the (first name, last name & mobile no) and view the details saved.

4. **Edit Persons Record**

In this section user can search the record which he/she wants to edit, change its details and save again.

5. **Delete Persons Record**

In this section user can search record and delete the record from the software.

6. **Exit**

This option allows the user to close the whole application at once.

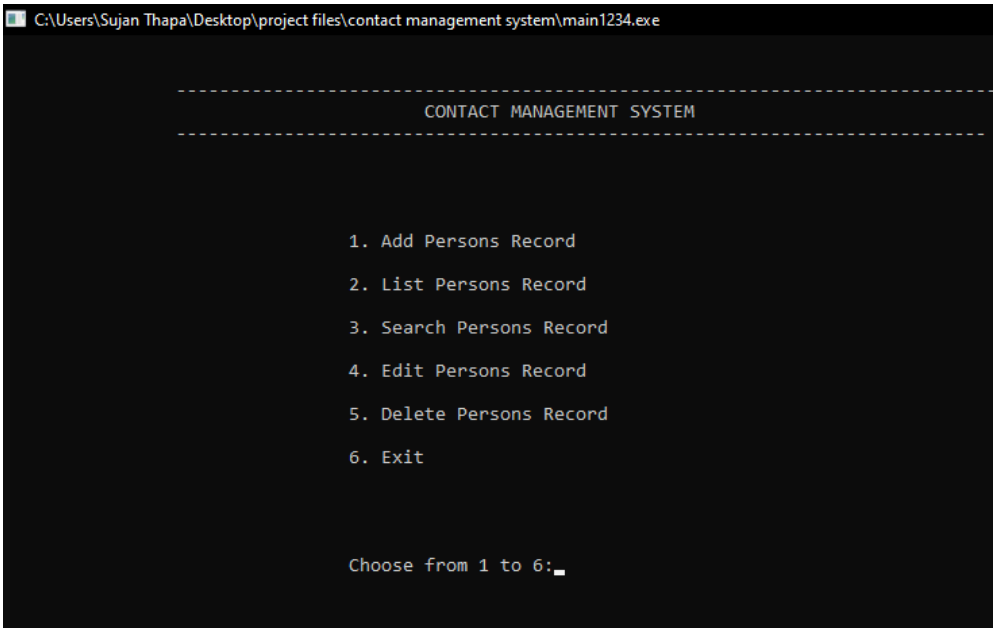


Fig 6: Main Menu

4.2 Algorithm

Steps

I. Start with create account (username and password)

Enter password again:

If password match, then account creation successful and go to step II

If password doesn't match, then password didn’t match go to step I

II. Display Login Window

Enter username and password:

If both are correct then go to step III

If one or both are incorrect then (please enter correct username and password) go to step II

III. Display Main Menu as below

1. Add a New contact
   First Name:
   Last Name:
   Gender[F/M]:
   Age:
   Address:
   Mobile no:
   Email:
   Notes:
   Any Relationships:
   (…Information Record Successful… date &time)
   Do you want to add more [Y/N]??
   If 'Y' then Repeat step 1
   If 'N' then (Thank You) ->exit
2. List of Persons Record
   Shows all saved record

3. Search Persons Record

   Please choose any option to search records:

   a) Search by first name.

      Enter the first name:

      (shows record of the first name entered by the user)

      Do you want to view more [Y/N]??

      If 'Y' then Repeat step 3

      If 'N' then (Thank You) ->exit

   b) Search by last name.

      Enter the last name:

      (shows record of the last name entered by the user)

      Do you want to view more [Y/N]??

      If 'Y' then Repeat step 3

      If 'N' then (Thank You) ->exit

   c) Search by Mobile no.

      Enter the Mobile no:

      (shows record of the Mobile no entered by the user)

      Do you want to view more [Y/N]??

      If 'Y' then Repeat step 3

      If 'N' then (Thank You) ->exit

4. Edit Persons Record

   Please choose any option to search records:

   a) Search by first name.

      Enter the first name:

      (shows record of the first name entered by the user)

   b) Search by last name.

      Enter the last name:

      (shows record of the last name entered by the user)

   c) Search by Mobile no.

      Enter the Mobile no:

      (shows record of the Mobile no entered by the user)

      After this:

      proceed for the editing process after editing process finished (press U character for the updating records)

5. Delete Persons Record

   Enter the First name:

   Record deleted successfully.

6. Exit

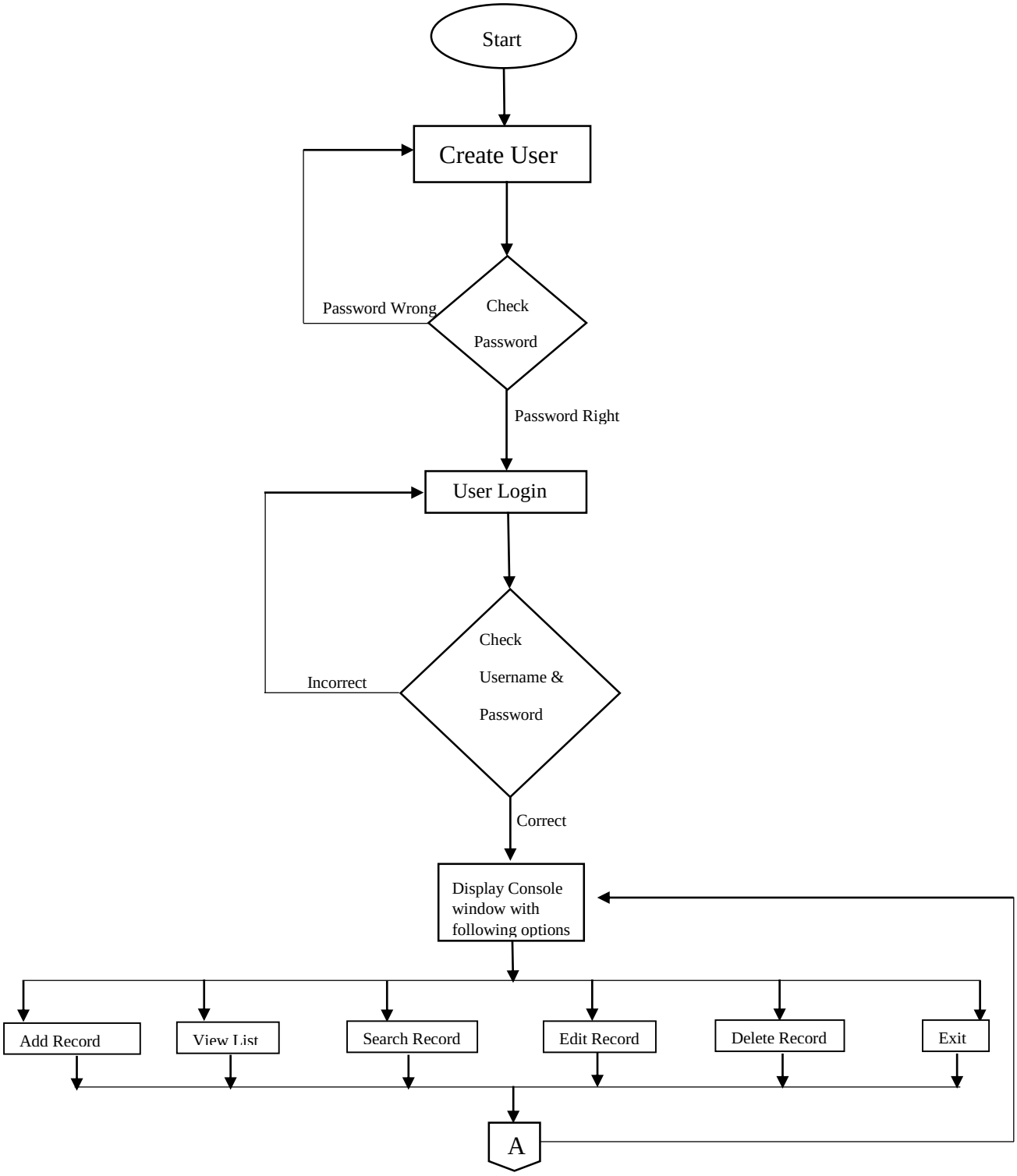
   Shows the console window having

   (CONTACT MANAGEMENT SYSTEM)

   (Thank You for Visiting

7. End

4.3 Flowchart



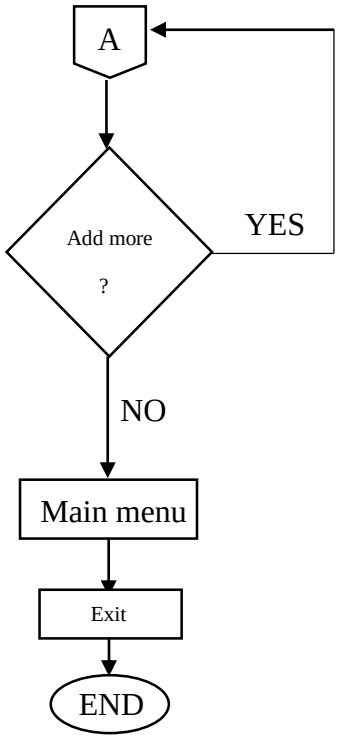


Fig 7: Flowchart

4.5 Implementation Plan

We have used '.h' header file and preprocessor directives like:

Library Functions:	Description
#include<stdio.h>	Standard input and output
#include<windows.h>	used to access the Win32 API functions
#include<stdlib.h>	used to DMA functions
#include<conio.h>	used to console MS-DOS input and output
#include<ctype.h>	used for testing and mapping characters
#include<string.h>	used for string handling functions
#include <time.h>	used to read the current time functions

4.6 Implementation Details

The function used in the program are used to maintain the program simpler and make a better program structure and work with team members.

Main1234.c	Program Initialization
Windowscreen.h	Displays the home screen
Login.h	Login screen ask for the username and password
Contactmain.h	Main program that contains all functions
Delay.h	Used to hold the screen
Global.h	Variables declaration
Time.h	Used to read the current system time

Fig 8: Table Containing Program Structure

4.6 File Structure

File management was taken into consideration while developing this project. Different source and header files are used according to their use/functionality in program. This process of working with different files makes development process easier while working in the group.

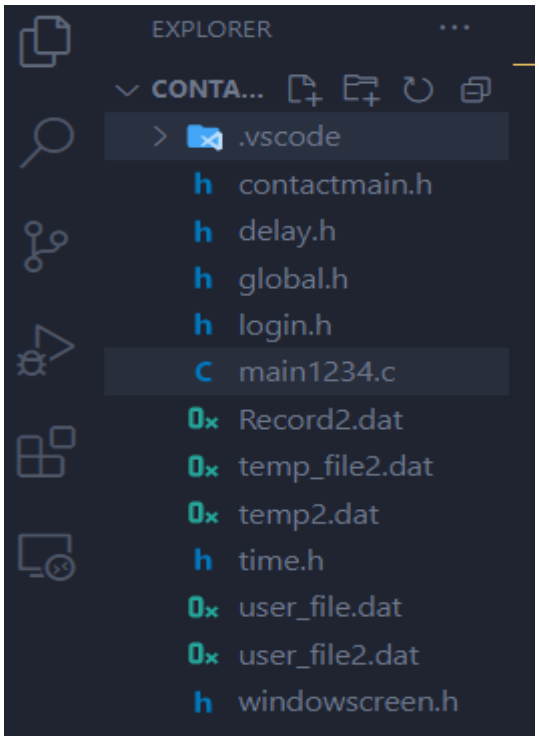


Fig 9: File Structure

4.7 File Handling

In programming, we may require some specific input data to be generated several numbers of times. Sometimes, it is not enough to only display the data on the console. The data to be displayed may be very large, and only a limited amount of data can be displayed on the console, and since the memory is volatile, it is impossible to recover the programmatically generated data again and again. However, if we need to do so, we may store it onto the local file system which is volatile and can be accessed every time. Here, comes the need of file handling in C. File handling in C enables us to create, update, read, and delete the files stored on the local file system through our C program. The following operations can be performed on a file.

In our project File handling is used in this program in order to store the contacts, add new contacts, delete contact, edit contact, search contacts etc.

4.8 String

Strings are actually one-dimensional array of characters terminated by a **null** character '\0'. Thus a null-terminated string contains the characters that comprise the string followed by a **null**.

The following declaration and initialization create a string consisting of the word "Hello". To hold the null character at the end of the array, the size of the character array containing the string is one more than the number of characters in the word "Hello."

In our program we have used string functions to store name, to compare names, search names and arrange the names.

4.9 Pointers

Pointers in C are easy and fun to learn. Some C programming tasks are performed more easily with pointers, and other tasks, such as dynamic memory allocation, cannot be performed without using pointers. So it becomes necessary to learn pointers to become a perfect C programmer. Let's start learning them in simple and easy steps.

As you know, every variable is a memory location and every memory location has its address defined which can be accessed using ampersand (&) operator, which denotes an address in memory.

In our program we have used DMA functions to access the memory.

4.9.1 DMA

The concept of **dynamic memory allocation** in c language enables the C programmer to allocate memory at runtime. Dynamic memory allocation in c language is possible by 4 functions of stdlib.h header file.

1. malloc()
2. calloc()
3. realloc()
4. free()

4.10 Structures

Structure in c is a user-defined data type that enables us to store the collection of different data types. Each element of a structure is called a member. Structures ca; simulate the use of classes and templates as it can store various information. The, struct keyword is used to define the structure.

In our program we have used structures syntax:

```
struct structure_name

{
 data_type member1;
data_type member2;
-
-
data_type memeberN;
        };
```

4.11 Functions

A function is a set of statements that take inputs, do some specific computation and produces output.

The idea is to put some commonly or repeatedly done task together and make a function so that instead of writing the same code again and again for different inputs, we can call the function.

In our project we have used functions to joint multiple parts of the program i.e; main1234.c, windowscreen.h, login.h, delay.h, global.h, time.h, contactmain.h, void add_rec(), void viewlist(), void Search_rec(), void Edit_rec() etc.

4.12 Gantt Chart

A Gantt chart is a project management tool assisting in the planning and scheduling of projects of all sizes, although they are particularly useful for simplifying complex projects. Project management timelines and tasks are converted into a horizontal bar chart, showing start and end dates, as well as dependencies, scheduling and deadlines, including how much of the task is completed per stage and who is the task owner.

We have showed our efforts in every sector to make this program. At the first stage we have planned as well as we have researched about the projects done by c programming. After completing the research, we have started little coding taking the help of our seniors and teachers. After completing our project up to half we have started testing our code and we have made documentation according to our project. At last we have finished our code and submitted to the college.

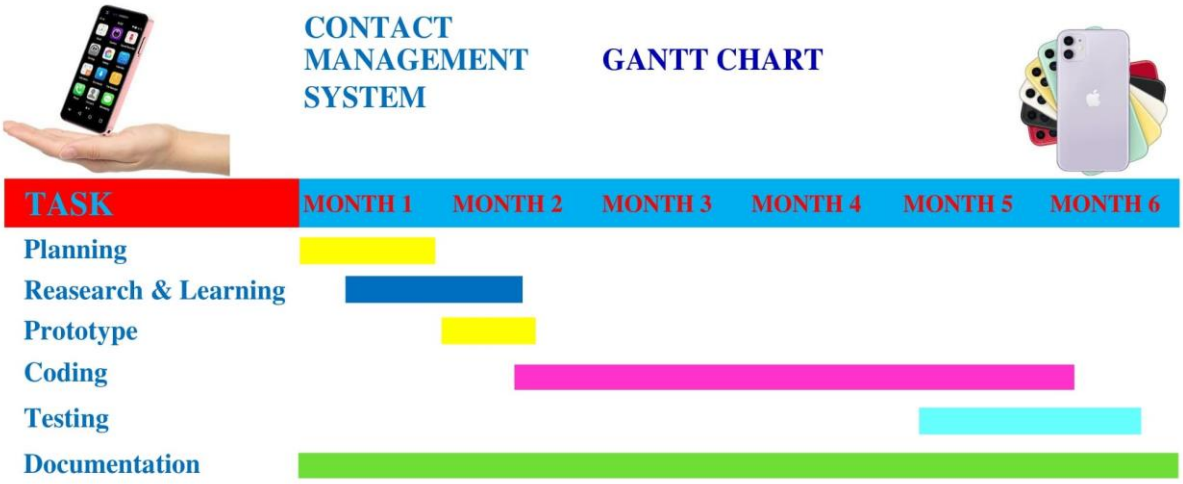


Fig 10: Gantt Chart

CHPTER 5: TESTING

Testing in a project development is a very important task to find out the possible mistakes made by the developers. The system cannot give the correct output until the project contains no errors at all. This project has checked the possible errors by using the following approaches.

5.2 Code Compilation & Run

Entire code as well as all coding parts of the project is compiled and run for many times. It has not shown any errors and all the process has been finished smoothly.

5.3 Some Demo Screen Shots

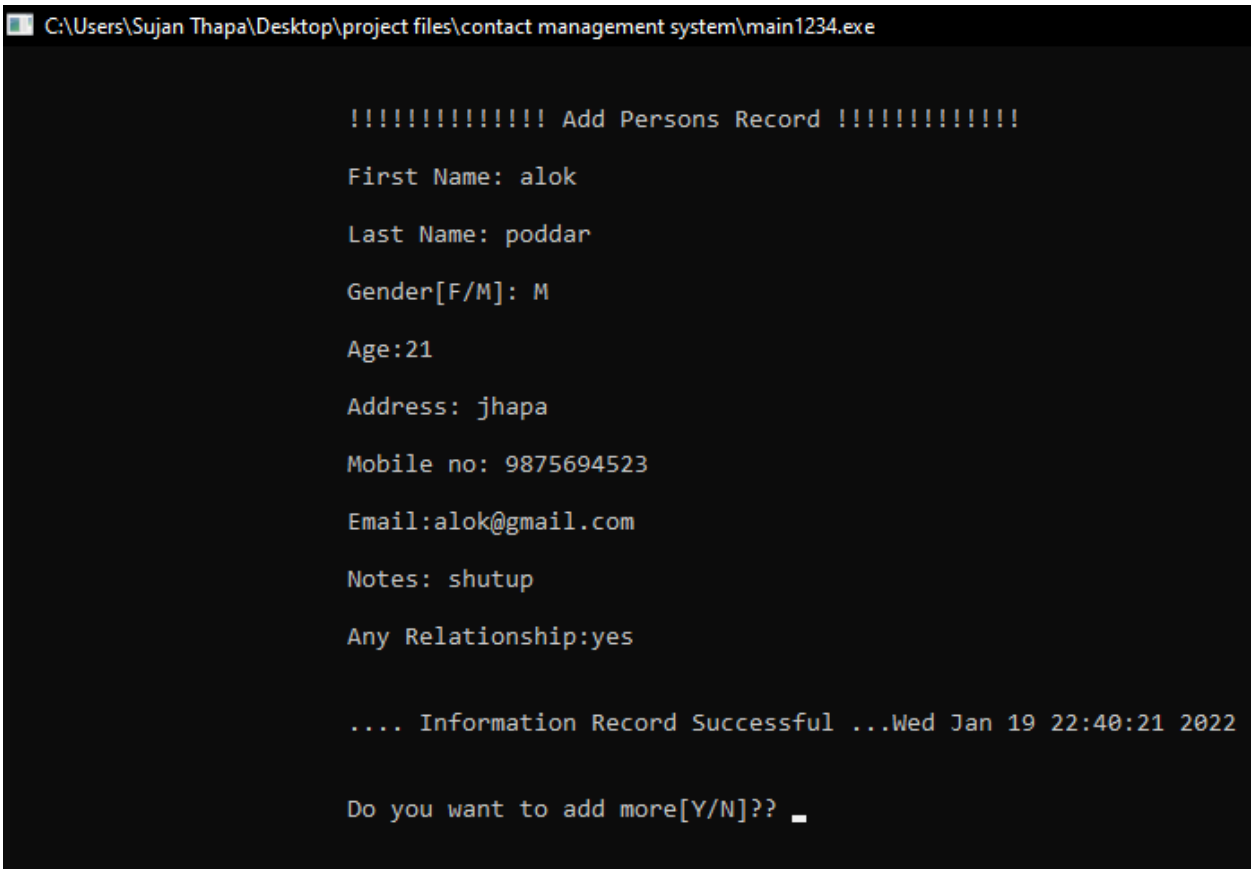


Fig 11

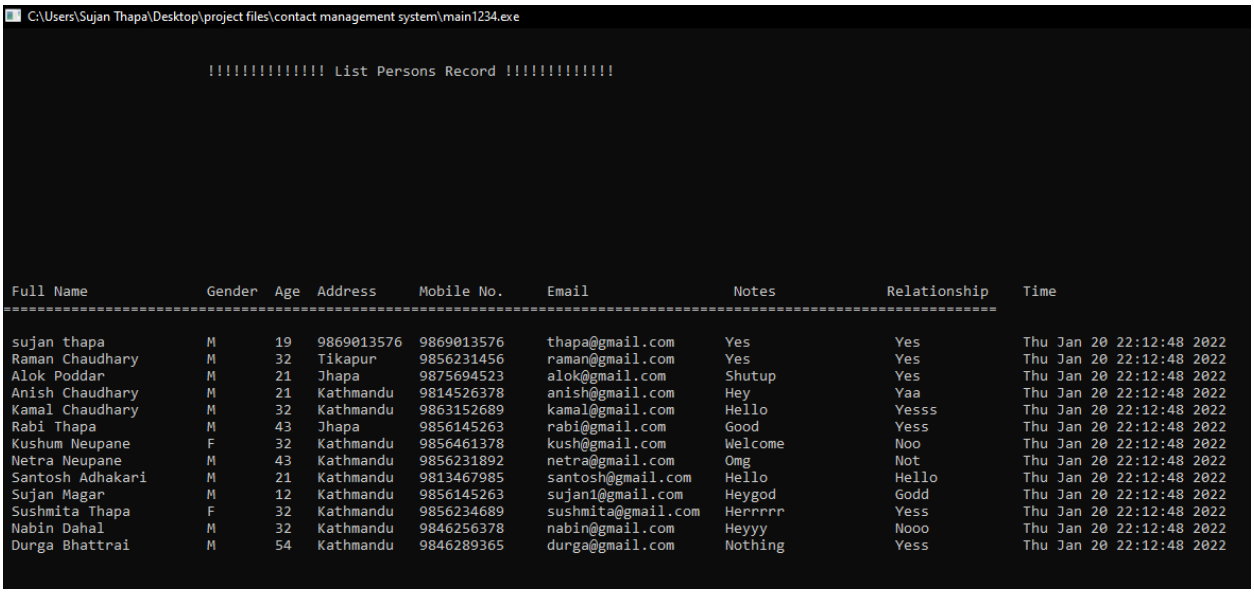

C:\Users\Sujan Thapa\Desktop\project files\contact management system\main1234.exe
!!!!!!!!!!!!! List Persons Record !!!!!!!!!!!!
Full Name Gender Age Address Mobile No. Email Notes Relationship Time
sujan thapa M 19 9869013576 9869013576 thapa@gmail.com Yes Yes Thu Jan 20 22:12:48 2022
Raman Chaudhary M 32 Tikapur 9856231456 raman@gmail.com Yes Yes Thu Jan 20 22:12:48 2022
Alok Poddar M 21 Jhapa 9875694523 alok@gmail.com Shutup Yes Thu Jan 20 22:12:48 2022
Anish Chaudhary M 21 Kathmandu 9814526378 anish@gmail.com Hey Yaa Thu Jan 20 22:12:48 2022
Kamal Chaudhary M 32 Kathmandu 9863152689 kamal@gmail.com Hello Yesss Thu Jan 20 22:12:48 2022
Rabi Thapa M 43 Jhapa 9856145263 rabi@gmail.com Good Yess Thu Jan 20 22:12:48 2022
Kushum Neupane F 32 Kathmandu 9856461378 kush@gmail.com Welcome Noo Thu Jan 20 22:12:48 2022
Netra Neupane M 43 Kathmandu 9856231892 netra@gmail.com Omg Not Thu Jan 20 22:12:48 2022
Santosh Adhakari M 21 Kathmandu 9813467985 santosh@gmail.com Hello Hello Thu Jan 20 22:12:48 2022
Sujan Magar M 12 Kathmandu 9856145263 sujan1@gmail.com Heygod Godd Thu Jan 20 22:12:48 2022
Sushmita Thapa F 32 Kathmandu 9856234689 sushmita@gmail.com Herrrrr Yess Thu Jan 20 22:12:48 2022
Nabin Dahal M 32 Kathmandu 9846256378 nabin@gmail.com Heyyy Nooo Thu Jan 20 22:12:48 2022
Durga Bhattrai M 54 Kathmandu 9846289365 durga@gmail.com Nothing Yess Thu Jan 20 22:12:48 2022

Fig 12

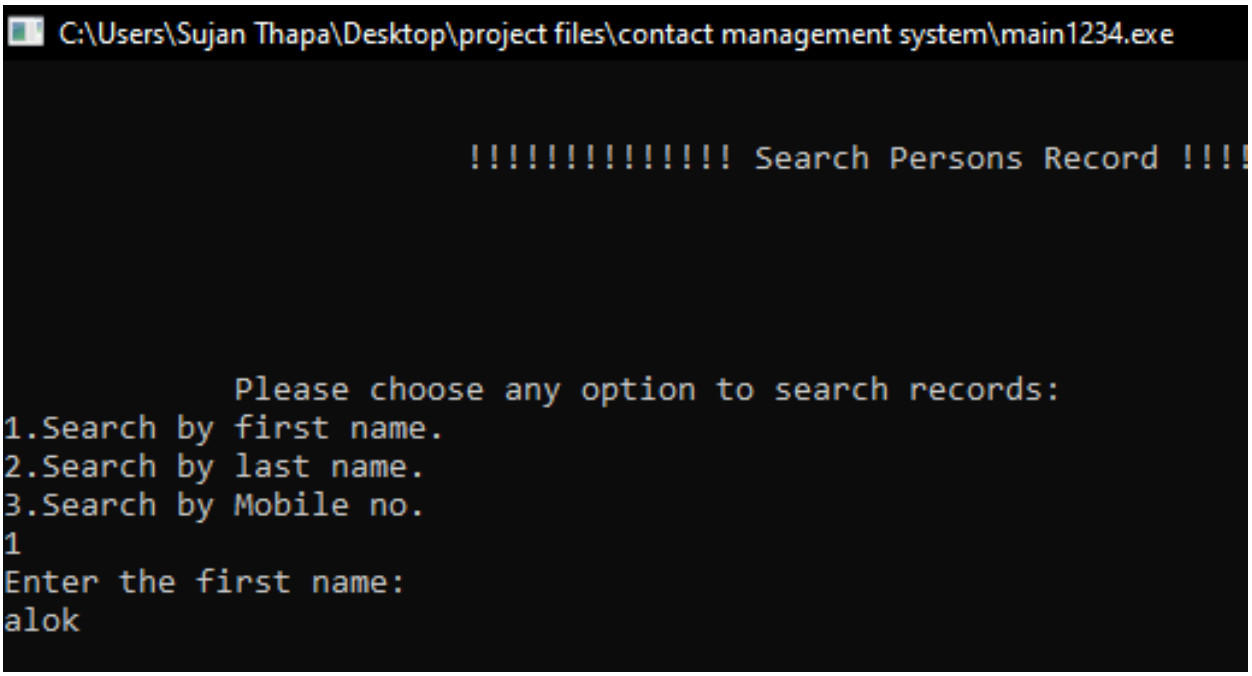

C:\Users\Sujan Thapa\Desktop\project files\contact management system\main1234.exe
!!!!!!!!!!!!! Search Persons Record !!!!
Please choose any option to search records:
1.Search by first name.
2.Search by last name.
3.Search by Mobile no.
1
Enter the first name:
alok

Fig 13

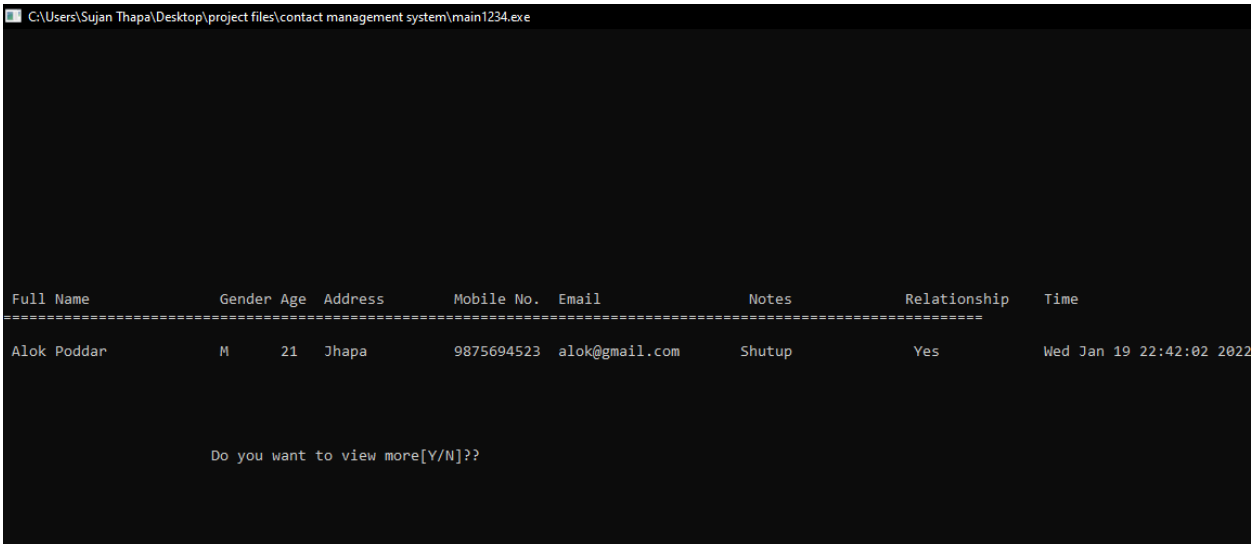

C:\Users\Sujan Thapa\Desktop\project files\contact management system\main1234.exe
Full Name Gender Age Address Mobile No. Email Notes Relationship Time
Alok Poddar M 21 Jhapa 9875694523 alok@gmail.com Shutup Yes Wed Jan 19 22:42:02 2022
Do you want to view more[Y/N]??

Fig 14

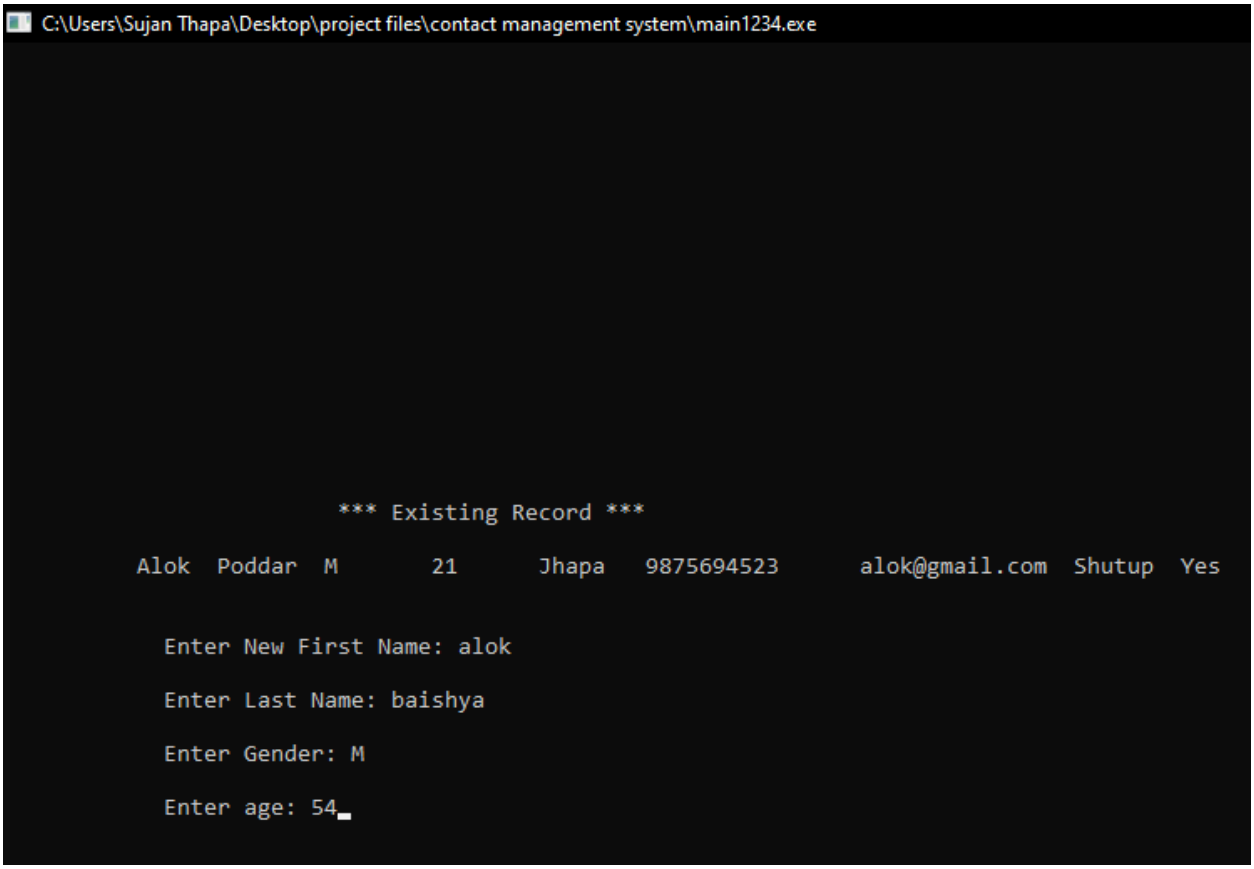

C:\Users\Sujan Thapa\Desktop\project files\contact management system\main1234.exe
*** Existing Record ***
Alok Poddar M 21 Jhapa 9875694523 alok@gmail.com Shutup Yes
Enter New First Name: alok
Enter Last Name: baishya
Enter Gender: M
Enter age: 54

Fig 15

CHAPTER 6: CONCLUSION & FURTHER WORKS

6.1 Conclusion

Hence after the completion of the project we got familiar with the C programming and its features. A complete and useful Contact management system can only be developed with lot of intensive effort and time. Due to lack of time and we are beginners in programming program that we expected can't be developed by us. Our Contact management system may not be must useful for Contact in our college, but it will be the most useful for study and programming practice using C.

As a whole, the project has been a good learning experience for us. We have gained knowledge about the various aspects of C programming. At the same time, we have developed a deep understanding about the file handling in C We still want to emphasize that the program is not complete by itself. There is still a lot of room for improvement.

6.1.1 Scope in Business field

Business communities now requires advanced CMS systems giving number of advanced options and use to access online browsing. Now a day's contact management systems have become so complicated that now different elite express communities have launched online CRM’system (customer relationship management) which control and handle data with security and ease of access.

6.1.2 Learning from Project

Basics of File handling, using of “class” and “struct” is cleared. Many statements and codes and predefined functions which our group had not used before are practically used in this project which help me to study them in detail. Our group had learned is how to restrict the user throughout the program in different areas of input.

6.1.3 Drawbacks

Any program cannot be 100% reliable and efficient. This program also has some drawbacks which are given below:

- Graphics are not used so it is less attractive.
- Cannot be used in physical world.
- Multiple users cannot access.
- Passwords cannot be changed when once created.

6.2 Further Works

A number of possible upgrades were apparent which include: -

- Graphics can be used to make it more attractive.
- It can be applied to the physical world after upgrading more features.
- It can be made to access the multiple users.
- Passwords changeable options can be given after upgrading project.

CHAPTER 7: REFERENCES

1. Code with c, April 8, 2018.

   https://www.codewithc.com/mini-project-in-c-contact-management-system/

2. Thimid Update README.md, Dec 16 ,2018.

   https://github.com/Thmid/Contact-Management-System

3. Ghems Tutor, Nov 17, 2019.

   https://www.youtube.com/watch?v=kmq3qS72kcg&ab_channel=GhemsTutor

4. Romie1995, Dec 1, 2017.

   https://www.slideshare.net/romie1995/contact-management-system-phone-book-management-system