**TITLE OF THE PROJECT:**

CONTACT MANAGEMENT SYSTEM

**SOFTWARE USED:**

VISUAL STUDIO IDE

**PROGRAMMING LANGUAGE USED:**

C++

**AIM OF THE PROJECT**

The aim of this project is to create a Contact Management System that will enable the user to do various tasks using the records in a phonebook.

This program enables the user to select from a menu of 5 different tasks such as adding a contact, displaying all the contacts, searching for a contact, editing a contact and deleting a contact. It goes through all possible checks to avoid any sort of invalid input thus avoiding any form of errors. If the user enters an invalid number( that is a number which is not present in the menu) the program keeps asking for an input till it gets a valid response. Different tasks are performed based on the number put as an input by the user.

This program makes use of various C++ features such as **Class, arrays, pointers, functions, iteration and branching statements and extensive use of file handling.**

**REQUIREMENTS OF THE PROGRAM**

Here are a list of all the different elements( constants, variables, functions and so on) that are used within the program.

1. Header files used: <iostream>, <string.h>, <fstream>, <string>
2. Identifiers used(along with the data types):

* Character type: press, name[20], email[30]
* String type: phone, num
* Boolean type: found

1. Class:

* Name: Manage
* Private members:

phone, name[20]

email[30]

* Public members:

void menu()

void input\_press()

void check\_press()

void add\_contact()

void save\_contact()

void display()

void display\_contact()

void search\_contact(string)

void edit\_contact()

void delete\_contact()

1. Other data types used(with identifier names):

fstream fp

sizeof Manage

1. Statements used:

Branching: if-else

Iteration: while loop

Input/ Output statements: cin , cout, cin.ignore()

File Handling Statements: fp.open(), fp.close(), fp.read(), fp.write(), ios::in, ios::out, ios::app

Break statement

**FUNCTIONALITY OF THE PROGRAM**

1. The necessary header files are included at the beginning of the program. Global variables are declared.
2. The class is defined with the private and public members.
3. The menu is displayed on the screen.
4. Input is taken from the user and its validity is checked.
5. If the user presses ‘1’ then the details: name, contact number and email are taken as input and written in the text file details.txt.
6. If the user presses ‘2’ then all the contact details is read from details.txt and displayed on the screen.
7. If the user presses ‘3’, the phone number to be searched is taken as input from the user and the contact details are displayed on the screen.
8. If the user presses ‘4’ the phone number is taken as input and the new details are taken as input for editing the existing contact.
9. If the user presses ‘5’ the phone number is taken as input and all the contact details of the particular number is deleted.
10. The main function is declared. The functions menu(), input\_press() and check\_press() are looped till the user presses ‘0’ which terminates the entire program.

**FLOWCHART ILLUSTRATING THE WORKING OF THE PROGRAM**



**CHECKS UNDERTAKEN FOR MAKING THE PROGRAM EFFICIENT**

* The void check\_press() function. It checks if the number being taken as input from the user is within the range of 0 to 5 or not thus checking its validity. If the user enters an alphabet or a special character then the input is taken till it is valid.

A screenshot of a computer screen

Description automatically generated

**CRITIQUE ON THE PROGRAM**

* The contact details are taken as input in form of string and there are no checks performed to ensure that it is a valid contact number or a valid email address.
* Since the name is taken as input in form of a character array giving any space causes the program to crash.
* A check can be put to test if the contact to be edited or deleted exists or not.

Last but not the least I would like to conclude the report by stating that every project undertaken adds a new experience and each project can be improved even further if new ideas are added to it.