

DATA STRUCTURES **PROJECT REPORT**

PHONE DIRECTORY MANAGEMENT SYSTEM



GROUP MEMBERS

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Secondly, we would like to thank our lab teacher, **Ms.Sherry** ma'am for helping us in gaining practical knowledge of the subject.

Finally, we would also like to thank our parents who helped us a lot in finalizing this project within the limited time frame. Despite of their busy schedules, they gave us different motivation in making this project unique

I am also thankful to all my team members who have helped me in successfully completing this project.

ABSTRACT

Purpose:

A Phone Directory is used to maintain the phone numbers of many users in a system.

The purpose of the system is to allow an end user to interact with the Phone Directory system which provides some basic features such as adding new entries, modifying a specific entry, viewing all the available entries and deleting a particular entry.

Scope:

1. Saving the phone numbers along with the names
2. Modifying the names and phone numbers
3. Deleting the contact numbers
4. Viewing all contact numbers one after another
5. Searching for a particular contact number

Drawbacks Of Existing System-

Before this Phone Directory System users maintained the required phone numbers in a book which has various drawbacks:

1. If in case the book is lost then along with that all the contact numbers will also be lost.
2. It is a time consuming process to search for a particular contact number.
3. If some person changes his/her contact number then changing the old entry is not possible in the book.

Proposed system:

In order to eliminate the drawbacks of the existing system, a new system will be developed in which a program written using data

structures and algorithms will take care of every transaction between the records and the person thereby reducing the burden on the person.

Data Structures Used:

We have used AVL Tree to code this program.

OUTPUTS

```
PERSONAL PHONE DIRECTORY
-----
1. INSERT A NEW CONTACT
2. DISPLAY ALL CONTACTS
3. SEARCH CONTACT BY NAME
4. DELETE A CONTACT
5. UPDATE CONTACT BY NAME
6. EXIT

ENTER OPERATION NUMBER:
```

Fig1 : 5 choices the user has been provided with depending on whether the user wants to insert, delete, display, search or update a contact.

```
PERSONAL PHONE DIRECTORY
-----
1. INSERT A NEW CONTACT
2. DISPLAY ALL CONTACTS
3. SEARCH CONTACT BY NAME
4. DELETE A CONTACT
5. UPDATE CONTACT BY NAME
6. EXIT

ENTER OPERATION NUMBER:
2

DOPS!!! DIRECTORY IS EMPTY .... INSERT NUMBERS FIRST

Press any key to continue..._
```

PERSONAL PHONE DIRECTORY

-
1. INSERT A NEW CONTACT
 2. DISPLAY ALL CONTACTS
 3. SEARCH CONTACT BY NAME
 4. DELETE A CONTACT
 5. UPDATE CONTACT BY NAME
 6. EXIT

ENTER OPERATION NUMBER:

4

OOPS!!! DIRECTORY IS EMPTY INSERT NUMBERS FIRST

Press any key to continue...

PERSONAL PHONE DIRECTORY

-
1. INSERT A NEW CONTACT
 2. DISPLAY ALL CONTACTS
 3. SEARCH CONTACT BY NAME
 4. DELETE A CONTACT
 5. UPDATE CONTACT BY NAME
 6. EXIT

ENTER OPERATION NUMBER:

3

OOPS!!! DIRECTORY IS EMPTY INSERT NUMBERS FIRST

Press any key to continue...■

PERSONAL PHONE DIRECTORY

-
1. INSERT A NEW CONTACT
 2. DISPLAY ALL CONTACTS
 3. SEARCH CONTACT BY NAME
 4. DELETE A CONTACT
 5. UPDATE CONTACT BY NAME
 6. EXIT

ENTER OPERATION NUMBER:

5

OOPS!!! DIRECTORY IS EMPTY INSERT NUMBERS FIRST

Press any key to continue...■

Fig 2: If the user chooses to see, search, delete or update a contact from the directory containing no contacts stored then a message is displayed to the user

```
PERSONAL PHONE DIRECTORY
-----
1. INSERT A NEW CONTACT
2. DISPLAY ALL CONTACTS
3. SEARCH CONTACT BY NAME
4. DELETE A CONTACT
5. UPDATE CONTACT BY NAME
6. EXIT

ENTER OPERATION NUMBER:
1

Enter name to be inserted in directory: Zaheer
Enter contact number of 'Zaheer': 9784521334

Press any key to continue..._
```

Fig 3 : If the user chooses 1st option, he/she is asked to give the name and phone number of the person the contact of whom he/she wants to insert.

```
Contacts present in the directory are:
+-----+-----+
|      |      |      |      |
|      |      |      |      |
|      |      |      |      |
|      |      |      |      |
|      |      |      |      |
|      |      |      |      |
|      |      |      |      |
|      |      |      |      |
+-----+-----+
Press any key to continue...
```

aarav	7658954498
Amrit	8564433912
Amrita	4563211076
radha	3556598643
zaheer	9678511045

Fig 4: If the user chooses 2nd option, all the contacts are displayed- their names and along with their phone numbers

```
PERSONAL PHONE DIRECTORY
-----

1. INSERT A NEW CONTACT
2. DISPLAY ALL CONTACTS
3. SEARCH CONTACT BY NAME
4. DELETE A CONTACT
5. UPDATE CONTACT BY NAME
6. EXIT

ENTER OPERATION NUMBER:
3
Enter name to find contact number: amrita
Contact is: 4563211076
CONTACT FOUND!!
Press any key to continue..._
```

```
PERSONAL PHONE DIRECTORY
-----

1. INSERT A NEW CONTACT
2. DISPLAY ALL CONTACTS
3. SEARCH CONTACT BY NAME
4. DELETE A CONTACT
5. UPDATE CONTACT BY NAME
6. EXIT

ENTER OPERATION NUMBER:
3
Enter name to find contact number: naman
OOPS!! CONTACT DOES NOT EXISTS

Press any key to continue...
```

Fig 5 : If the user chooses the 3rd option, he/she is asked to give the name of the person the phone number of whom he/she wants to see. But if the name doesn't match with any of the names of the contacts stored in the directory then a message is displayed to the user.


```
PERSONAL PHONE DIRECTORY
-----

1. INSERT A NEW CONTACT
2. DISPLAY ALL CONTACTS
3. SEARCH CONTACT BY NAME
4. DELETE A CONTACT
5. UPDATE CONTACT BY NAME
6. EXIT

ENTER OPERATION NUMBER:
4
Enter contact to be deleted
aarav
Contact is: 7658954498

Press any key to continue...
```

```
Contacts present in the directory are:

|          Amrit          | 8564433912 |
|          Amrita         | 4563211076 |
|           radha          | 3556598643 |
|          zaheer         | 4563687342 |

Press any key to continue...
```

```
PERSONAL PHONE DIRECTORY
-----

1. INSERT A NEW CONTACT
2. DISPLAY ALL CONTACTS
3. SEARCH CONTACT BY NAME
4. DELETE A CONTACT
5. UPDATE CONTACT BY NAME
6. EXIT

ENTER OPERATION NUMBER:
4
Enter contact to be deleted
Ram

OOPS!! CONTACT DOES NOT EXISTS

Press any key to continue...
```

Fig 6 : If the user chooses the 4th option, he/she is asked to give the name of the person the contact of whom he/she wants to delete. But

if the name doesn't match with any of the names of the contacts stored in the directory then a message is displayed to the user.

```
PERSONAL PHONE DIRECTORY
-----
1. INSERT A NEW CONTACT
2. DISPLAY ALL CONTACTS
3. SEARCH CONTACT BY NAME
4. DELETE A CONTACT
5. UPDATE CONTACT BY NAME
6. EXIT

ENTER OPERATION NUMBER:
5
Enter name to update its contact Number:
Zaheer
Enter the new contact
4563687342
Value updated

Zaheer updated

Press any key to continue...■
```

```
PERSONAL PHONE DIRECTORY
-----
1. INSERT A NEW CONTACT
2. DISPLAY ALL CONTACTS
3. SEARCH CONTACT BY NAME
4. DELETE A CONTACT
5. UPDATE CONTACT BY NAME
6. EXIT

ENTER OPERATION NUMBER:
5
Enter name to update its contact Number:
Lata

OOPS!! CONTACT DOES NOT EXISTS

Press any key to continue...■
```

Fig 7 : If the user chooses 5th option, he/she is asked to give the name of the person the phone number of whom he/she wants to change. But if the name doesn't match with any of the names of the

contacts stored in the directory then a message is displayed to the user.

Amrit	8564433912
Amrita	4563211076
radha	3556598643
zaheer	4563687342

ENTER ANY KEY....
Press any key to continue...

Fig 8: If the user chooses the 6th option, all the contacts are displayed- their names and along with their phone numbers and asks the user to press any key after which the program ceases to run.

CONCLUSION

While making the project on “**PHONE DIRECTORY MANAGEMENT SYSTEM**” we made our progress by solving a number of problems. Solution to each problem by ourselves was the most important part of the project and this provided us with experiences which will help us in future.

We came to know how we can use different concepts learnt while studying “**AVL TREE**” in designing our project “**PHONE DIRECTORY MANAGEMENT SYSTEM**”.

Some important things that we learned while doing this project includes designing a good program architecture and converting real life situations into an efficient code, and how to write a good looking, easily readable and understandable as well as time and memory efficient code.

REFERENCES

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