

# Telecom Billing System in C

Piyush Lunawat<sup>1</sup>, Pranay Bhagat<sup>2</sup>, Vishal Bhoje<sup>3</sup>, Govind Awchar<sup>4</sup>, Prof. Dr. Rajesh Phursule<sup>5</sup>

<sup>1, 2, 3, 4, 5</sup>Dept of Information Technology Engineering,

<sup>1, 2, 3, 4, 5</sup>Pimpri Chinchwad College of Engineering Sector no. 26, Pradhikaran, Nigdi, Pune-411044.

**Abstract-** *This Telecom Billing Management System Project in C is a console based application written in C. This system is a simple little project that was created in the Code::Blocks IDE and compiled with the GCC compiler. The Telecom Billing System is a tiny project that allows you to perform and manage billing procedures in the same way as telecom companies do. Names, phone numbers, and payment amounts can all be added here. Viewing, editing, searching, and deleting existing records are all possible.*

*You can also use your phone number instead of your name to make a payment. Every piece of information that is added or changed is kept in a file. This project will teach you how to add, list, alter, search, and delete records using file handling.*

## I. INTRODUCTION

The purpose of the telephone billing system project is to demonstrate the need for computerization of the billing system. As a result, the project calculates the phone bills automatically. It does practically all tasks linked to the automatic telephone billing connection system through! new connection "customer record change" examining customer records all tasks related to bill rates" metre readings, in addition to bill computation and creation.

The purpose of the Telephone Billing System was to reduce the amount of work and enhance the speed with which it was completed, as well as to make information retrieval easier. The goal of the project is to create a system that is "user-friendly," "simple to use," and "satisfies all of the needs of the stated system's users."

The Telephone Billing System was created in response to the growing need to speed up work and adopt a new work culture.

## II. TELECOM BILLING SYSTEM FEATURES IN C

In conjunction with the data structure and file processing, simple functions have been employed. You may completely look over the entire source code because the project is quite small; this will help you comprehend data structure and file handling if you know their foundations.

You'll also learn the fundamentals of "how to construct a C small project" in a very straightforward method.

The following are the functions and features that were utilised in this project:

Add new records (A) :- update the file with new information such as name, phone number, and payment amount.

List of records to see (L) :- displays a list of all telephone billing records.

Edit the inserted records (M) :-name, phone number, and/or payment amount may all be changed.

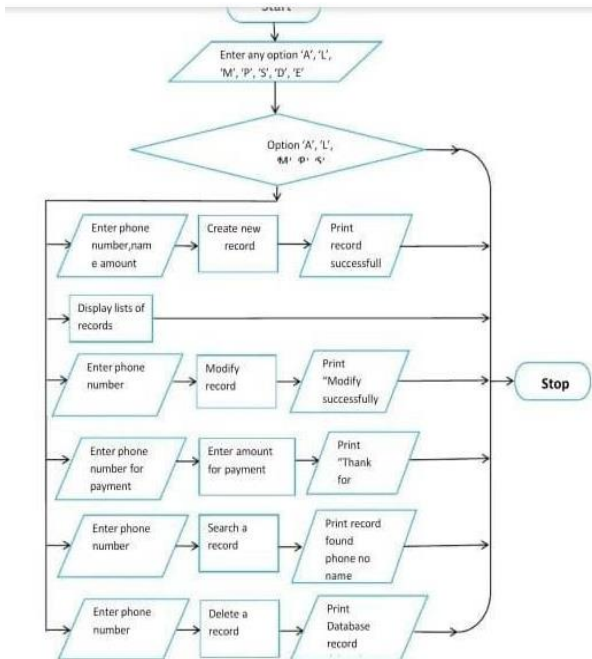
View payment (P) :- displays the amount that needs to be paid.

Records search (S) :- look for new or updated records in a file.

Delete records (D) :- permanently deletes data from a file.

This project is restricted to the aforementioned purposes. You are free to add additional features to this project as you see fit.

**III. FLOWCHART**



**IV. ALGORITHM OF PROGRAM**

- 1) START
- 2) Choose any letter from "A", "L", "M", "P", "S", "D."
- 3) If the user types the letter "A," he or she can create a new record by inputting a phone number, a name, and an amount.
- 4) When the user types the letter 'L' a list of records appears.
- 5) If the user types the letter 'M,' he or she will be able to change the records using the phone number.
- 6) If the user types the letter 'P,' he or she will be able to make a payment by providing a legitimate phone number, name, and current amount.
- 7) If the user types the letter 'S,' He or she can use the phone number to look up numerous records.
- 8) If the user types the letter 'D,' he or she will be able to remove entries from the database using the phone number.
- 9) If users enters letter 'E' the program will stop its execution.
- 10) Stop

**IV.CODE**

```
#include<stdio.h>
#include<conio.h>
#include<ctype.h>
#include<windows.h>
```

```
#include<stdlib.h>
struct subscriber
{
char phonenumber[20];
char name[50];
float amount;
}s;
void addrecords();
void listrecords();
void modifyrecords();
void deleterecords();
void searchrecords();
void payment();
char get;
int main()
{
int phonenumber;
char choice;

while (1)
{
system("cls");

printf("\n
*****");
printf("\n **** TELEPHONE BILLING
MANAGEMENT SYSTEM *****");
printf("\n
*****");
printf("\n");
printf("\n\t A : Adding new records.\n \t L : Listing of
records");
printf("\n\t M : Modifying records.\n \t P :
Payments");
printf("\n\t S : Searching records.");
printf("\n\t D : Deleting records.\n\t E : Exit
Program\n");
printf("\n");
printf("\n\t PLEASE SELECT THE
LETTERS ONLY " );
choice=getche();
choice=toupper(choice);
switch(choice)
{
case 'P':
payment();break;
case 'A' :
addrecords();break;
case 'L' :
listrecords();break;
case 'M':
```

```

        modifyrecords();break;
case 'S' :
    searchrecords();break;
case 'D':
    deleterecords();break;
case 'E':
    system("cls");
    printf("\n\n\t\t\tTHANK
YOU");
    printf("\n\n\n\n:\n\tFOR
USING OUR SERVICE");
    Sleep(2000);
    exit(0);
    break;
default:
    system("cls");
    printf("Incorrect Input");
    printf("\nAny key to
continue");
    getch();
}
}
void addrecords()
{
    FILE *f;
    char test;
    f=fopen("data.dat","ab+");
    if(f==0)
    { f=fopen("data.dat","wb+");
        system("cls");
        printf("please wait while we configure your
computer");
        printf("/npress any key to continue");
        getch();
    }
    while(1)
    {
        system("cls");
        printf("\n Enter phone number:");
        scanf("%s",&s.phonenumber);
        printf("\n Enter name:");
        fflush(stdin);
        scanf("%[\n]",&s.name);
        printf("\n Enter amount:");
        scanf("%f",&s.amount);
        fwrite(&s,sizeof(s),1,f);
        fflush(stdin);
        system("cls");
        printf("1 record successfully added");
        printf("\n Press esc key to exit, any other
key to add other record:");
        modifyrecords();break;
        test=getche();
        if(test==27)
            break;
    }
    fclose(f);
}
void listrecords()
{
    FILE *f;
    int i;
    if((f=fopen("data.dat","rb"))==NULL)
        exit(0);
    system("cls");
    printf("Phone Number\t\tUser Name\t\tAmount\n");
    for(i=0;i<79;i++)
        printf("-");
    while(fread(&s,sizeof(s),1,f)==1)
    {
        printf("\n%-10s\t%-20s\t\t $. %.2f /-
",s.phonenumber,s.name,s.amount);
    }
    printf("\n");
    for(i=0;i<79;i++)
        printf("-");
    fclose(f);
    getch();
}
void deleterecords()
{
    FILE *f,*t;
    int i=1;
    char phonenumber[20];
    if((t=fopen("temp.dat","w+"))==NULL)
        exit(0);
    if((f=fopen("data.dat","rb"))==NULL)
        exit(0);
    system("cls");
    printf("Enter the phone number to be deleted from
the Database");
    fflush(stdin);
    scanf("%[^\n]",phonenumber);
    while(fread(&s,sizeof(s),1,f)==1)
    {
        if(strcmp(s.phonenumber,phonenumber)==0)
        { i=0;
            continue;
        }
        else
            fwrite(&s,sizeof(s),1,t);
    }
}

```

```

    }
    if(i==1)
    {
        system("cls");
        printf("Phone number not found",phonenum);
        remove("data.dat");
        rename("temp.dat","data.dat");
        getch();
        fclose(f);
        fclose(t);
        main();
    }
    remove("data.dat");
    rename("temp.dat","file.dat");
    system("cls");
    printf("The Number %s Successfully Deleted!!!!",phonenum);
    fclose(f);
    fclose(t);
    getch();
}
void searchrecords()
{
    FILE *f;
    char phonenum[20];
    int flag=1;
    f=fopen("data.dat","rb+");
    if(f==0)
        exit(0);
    fflush(stdin);
    system("cls");
    printf("Enter Phone Number to search in our database");
    scanf("%s", phonenum);
    while(fread(&s,sizeof(s),1,f)==1)
    {
        if(strcmp(s.phonenum,phonenum)==0)
        {
            system("cls");
            printf(" Record Found ");
            printf("\n\nPhonenumber: %s\nName: %s\nAmount: $ %0.2f\n",s.phonenum,s.name,s.amount);
            flag=0;
            break;
        }
        else if(flag==1)
        {
            system("cls");
            printf("Requested Phone Number Not found in our database");
        }
    }
}

getch();
fclose(f);
}
void modifyrecords()
{
    FILE *f;
    char phonenum[20];
    long int size=sizeof(s);
    if((f=fopen("data.dat","rb+"))==NULL)
        exit(0);
    system("cls");
    printf("Enter phone number of the subscriber to modify:");
    scanf("%[^\\n]",phonenum);
    fflush(stdin);
    while(fread(&s,sizeof(s),1,f)==1)
    {
        if(strcmp(s.phonenum,phonenum)==0)
        {
            system("cls");
            printf("\n Enter phone number:");
            scanf("%s",&s.phonenum);
            printf("\n Enter name: ");
            fflush(stdin);
            scanf("%[^\\n",&s.name);
            printf("\n Enter amount: ");
            scanf("%f",&s.amount);
            fseek(f,-size,SEEK_CUR);
            fwrite(&s,sizeof(s),1,f);
            break;
        }
    }
    fclose(f);
}
void payment()
{
    FILE *f;
    char phonenum[20];
    long int size=sizeof(s);
    float amt;
    int i;
    if((f=fopen("data.dat","rb+"))==NULL)
        exit(0);
    system("cls");
    printf("Enter phone number of the subscriber for payment");
    scanf("%[^\\n]",phonenum);
    fflush(stdin);
    while(fread(&s,sizeof(s),1,f)==1)
    {
        if(strcmp(s.phonenum,phonenum)==0)

```

```

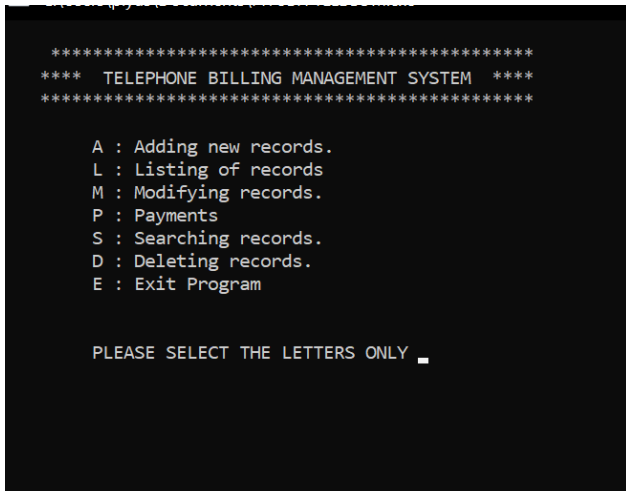
    {
        system("cls");
        printf("\n      Phone      No.:
%s",s.phonenumber);

        printf("\n Name: %s",s.name);
        printf("\n      Current      amount:
%f",s.amount);

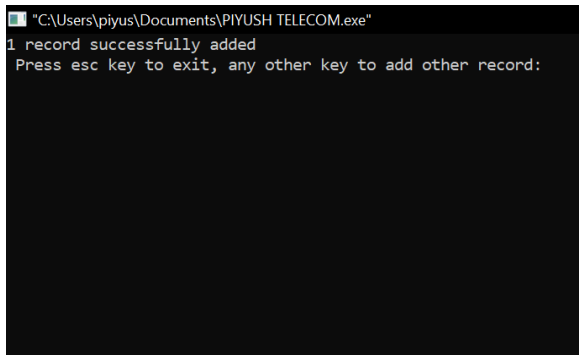
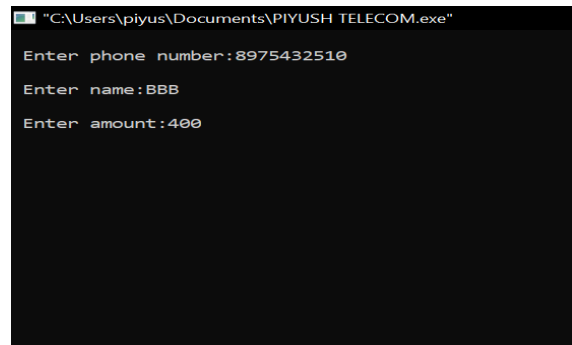
        printf("\n");
        for(i=0;i<79;i++)
            printf("-");
        printf("\n\nEnter      amount      of
payment :");

        fflush(stdin);
        scanf(" %f",&amt);
        s.amount=(amt-s.amount);
        fseek(f,-size,SEEK_CUR);
        fwrite(&s,sizeof(s),1,f);
        break;
    }
}
system("cls");
printf("THANK YOU %s FOR YOUR TIMELY
PAYMENTS",s.name);
getch();
fclose(f);
}
    
```

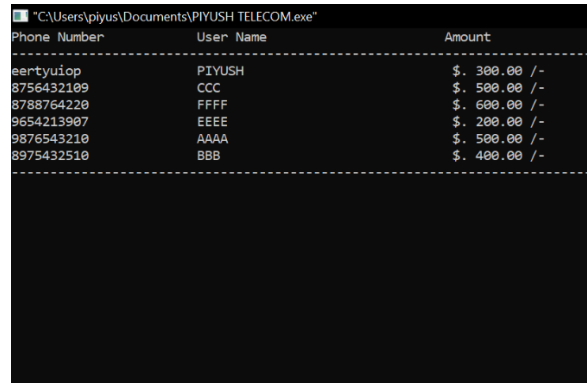
**V. OUTPUT**



**Adding new records**



**Listing of records**



**Modifying records**



**Payments**

```

"C:\Users\piyus\Documents\PIYUSH TELECOM.exe"
Phone No.: 9876543210
Name: AAAA
Current amount: 500.000000
-----
Enter amount of payment :500_

```

```

"C:\Users\piyus\Documents\PIYUSH TELECOM.exe"
THANK YOU

:
FOR USING OUR SERVICE
Process returned 0 (0x0)   execution time : 1474.588 s
Press any key to continue.

```

```

"C:\Users\piyus\Documents\PIYUSH TELECOM.exe"
THANK YOU AAAA FOR YOUR TIMELY PAYMENTS_

```

## VI. THE PROJECT'S OBJECTIVE

The major goal of the Telephone Billing System project was to reduce the amount of work while increasing the pace with which it was completed.

This new system was created with the following goals in mind:

- 1) Retrieval of data will be simple.
- 2) The database, as well as the whole project, will be easier to maintain.
- 3) A security precaution will be implemented by retaining the username and password login.
- 4) data redundancy will be considerably minimised. It comprises looking at duplication of efforts, bottlenecks, and current procedures that are inefficient.

## VII. CONCLUSION

Customers can now receive a little statement of bills, based on the computer programme source code and output, that contains the customer's name, town name, town code, call length, and amount, shortly after calls.

This study has the potential to improve the security of GSM calls while simultaneously improving the efficiency of the billing system. This assignment taught us how to create a bills of customers report in C. Many of the course goals are also met through these types of projects, as indicated in the course curriculum. Such a project helps us to improve our talents so that we can carry it out in the future.

### Searching records

```

"C:\Users\piyus\Documents\PIYUSH TELECOM.exe"
Record Found

Phonenumber: 9876543210
Name: AAAA
Amount: $ 0.00

```

### Deleting records

```

"C:\Users\piyus\Documents\PIYUSH TELECOM.exe"
Enter the phone number to be deleted from the Database9876543210_

"C:\Users\piyus\Documents\PIYUSH TELECOM.exe"
The Number 9876543210 Successfully Deleted!!!!_

```

### Exit