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Fall Semester 2020-21
C Application Project Report
Advance C Programming
DA-4

Project Title : TELECOM BILLING SYSTEM

Team Members:

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Project Abstract

Telecom Billing System is based on a concept to generate telecom office record just like the actual system, to add, update and maintain their daily records. Users can use this system to Add, List, Modify, delete record as well as the program contains Payment system which helps the users for the bill payments. All the records can be managed and payments can be done with in high efficiency. The program is coded in 'C' Programming language & different variables and strings have been used for the development of this project. It's easy and very well formatted to operate and understand by users. The program is very interactive and intuitive

Features of this program:

1. Login with authentication
2. Payments through the system
3. arrangement of records using file handling
4. add, modify, remove, list records

Overall description about the project

A structure with three members phonenumber, name, amount is created first to store the phone number, name and the balance of users.

MODULE 0:

Essential functions and header files are included such as windows.h, gotoxy(), sleep(),etc are used only for formatting and to make program more interactive

MODULE 1 (addRecords()):

This will take required data like phone number of the user, name of the user and amount which user initially wants to add in their account and will save all this information into a file named records_LIST.txt .

MODULE 2 (ListRecords()):

This will read the saved information in file records_LIST.txt and will show all the details of all the users.

MODULE 3 (ModifyRecord()):

This will first take the phone number (unique identifier) from the user and then will search for the exact same phone number in file records_LIST.txt if found it will redirect to add new information about that user and if not found then then it will return back to main menu.

MODULE 4(DeleteRecord()):

This will take the phone number (unique identifier) and then search for that phone number in file records_LIST.txt and if found it will delete the record and if not found it will return to main menu.

MODULE 5(SearchRecord()):

This function takes phone number as input and then search for it in the saved file that is records_LIST.txt

MODULE 6(Payment()):

This will take the phone number first and then search for that number and if found then it will show the user details and will give the option to make payment. If the user makes the payment then the amount which user paid would be deducted from the remaining balance in the user's account.

MODULE 7(Login()):

This module is used for authentication before entering into the system. User need to give login credentials and if the login credential matches then the user will be allowed to enter into the system otherwise not and if the user give wrong login credentials 4 times then the program will close.

MODULE 8(displaypictures(),print_image_professor(),print_thank_you_message(),projectdisplay())

All these are used to print welcoming screens and to convert the image to ASCII art and to read it.

Result (Output Screenshot)

Code is after Result

Project Welcome Screen:

DR. MANJULA R image is converted into ASCII art and then used

Developed By Screen:

Same method is used the image of everyone in group is converted into ASCII art and then used with their names above each image

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe

*****
-----WELCOME TO THE TELECOM BILLING MANAGEMENT SYSTEM-----
*****
Developed By:

SHIVAM CHAHAR
PRITH SHARMA
PRATHYUSH LEBAKU

image not found
image not found

Press Any Key To Continue....
```

Authentication process before entering the system:

Username is useradmins and password is passadmin

If the user passes the authentication:

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe

***** LOGIN FORM *****
ENTER USERNAME:-useradmin

ENTER PASSWORD: -******

WELCOME TO OUR SYSTEM !!!! LOGIN IS SUCCESSFUL

Press any key to continue...
```

If the authentication fails:

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe

***** LOGIN FORM *****
ENTER USERNAME:-user123

ENTER PASSWORD: -******

SORRY !!!! LOGIN IS UNSUCESSFUL
```

If authentication fails 4 times then application will close

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe

Sorry you have entered the wrong username and password for four times!!!
```

Menu After successful authentication

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe

TELECOM BILLING MANAGEMENT CONSOLE

1 : Add New Records.

2 : List Of Records

3 : Modify Records.

4 : For Payment

5 : Search Records.

6 : Delete Records.

7 : Exit

Enter Your Choice:-
```

Add New Records Menu

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe
```

Enter phone number: 9910818777

Enter name: Shivam

Enter amount: 999

Record Is Successfully Added

Press esc Key to exit or Press any other key to add other record:

List of Records Screen

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe
```

Phone Number	User Name	Amount
9599967688	Shivam	Rs. 999.00 /-
9910919755	Prith	Rs. 599.00 /-
999577789	Pyush	Rs. 799.00 /-

Press Any Key To Go Back

Modify Record Screen

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe
```

Enter phone number of the subscriber to modify: 9910919745

Payments Screen

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe
Enter phone number of the subscriber for payment: 9996667778
```

```
***DETAILS***
Phone No.: 9996667778
Name: Shivam
Current amount: 899.000000
```

```
-----
```

```
Enter amount of payment: 899
```

```
System Message: THANK YOU Shivam FOR YOUR TIMELY PAYMENTS!!
```

Search Screen after completing the payment

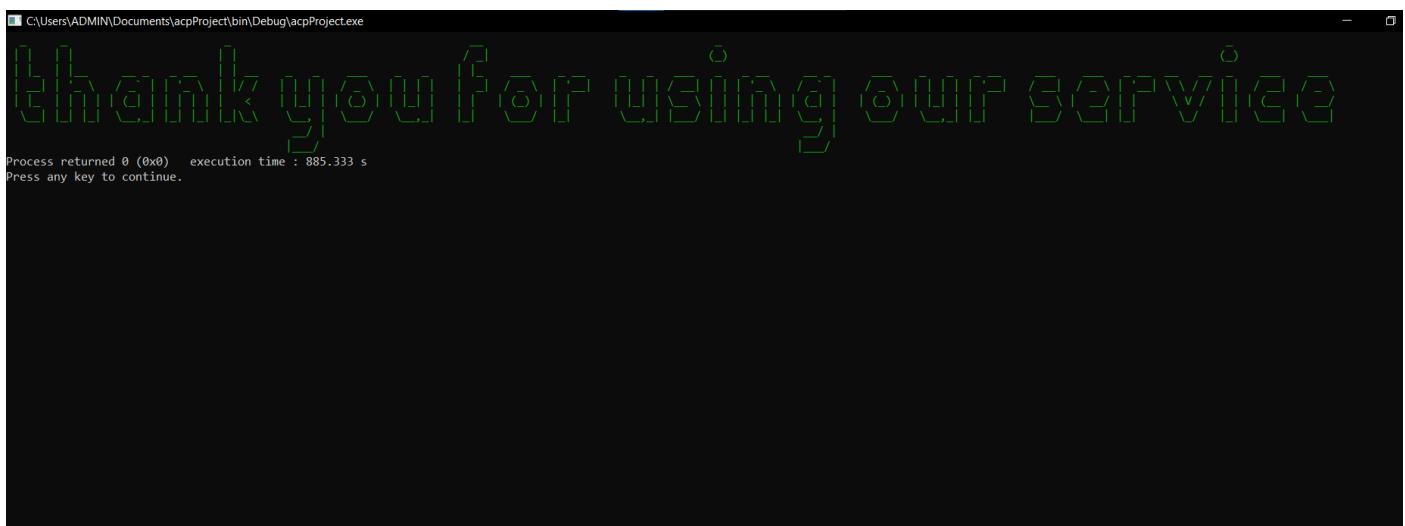
```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe
Record Found
```

```
Phonenumber: 9996667778
Name: Shivam
Amount: Rs.0.00
```

Delete Record Screen

```
C:\Users\ADMIN\Documents\acpProject\bin\Debug\acpProject.exe
Enter the phone number to be deleted from the Database: 9996667778
Record deleted successfully.
Do you want to delete another record (y/n):
```

Exit Screen



Project Code

From next page


```

96         printf("\033[0m");
97         Sleep(2000);
98         exit(0);
99         break;
100     default:
101         system("cls");
102         system("color 0F");
103         gotoxy(30,20);
104         printf("Incorrect Input");
105         printf(".....");
106         gotoxy(30,24);
107         printf("Any key to continue");
108         getch();
109     }
110 }
111 }
112 COORD coord = {0, 0};
113 // sets coordinates to 0,0
114 //COORD max_buffer_size = GetLargestConsoleWindowSize(hOut);
115 COORD max_res,cursor_size;
116 void gotoxy (int x,int y)
117 {
118     coord.X = x; coord.Y = y;
119 // X and Y coordinates
120
121     SetConsoleCursorPosition(GetStdHandle(STD_OUTPUT_HANDLE), coord);
122 }
124
125 void addrecords()
126 {
127     FILE *f;
128     char test;
129     f=fopen("records_LIST.txt","ab+");
130     if(f==0)
131     {
132         f=fopen("records_LIST.txt","wb+");
133         system("cls");
134         printf("Please wait while we configure your computer");
135         printf("\npress any key to continue");
136         getch();
137     }
138     while(1)
139     {
140         printf("\033[0;33m");
141         system("cls");
142         printf("\nEnter phone number: ");
143         scanf("%s",&s.phonenumber);
144         printf("\nEnter name: ");
145         fflush(stdin);
146         scanf("%s",&s.name);
147         printf("\nEnter amount: ");
148         scanf("%f",&s.amount);
149         fwrite(&s,sizeof(s),1,f);
150         fflush(stdin);
151         printf("\n\n Record Is Successfully Added");
152         printf("\n Press esc Key to exit or Press any other key to add other record:");
153         test=getche();
154         if(test==27)
155             break;
156     }
157     fclose(f);
158     system("cls");
159 }
160 void listrecords()
161 {
162     printf("\033[0;33m");
163     FILE *f;
164     int i;
165     if((f=fopen("records_LIST.txt","rb"))==NULL)
166         exit(0);
167     system("cls");
168     printf("Phone Number\tUser Name\tAmount\n");
169     for(i=0;i<79;i++)
170         printf("-");
171     while(fread(&s,sizeof(s),1,f)==1)
172     {
173         printf("\n%s\t%s\tRs. %.2f",s.phonenumber,s.name,s.amount);
174     }
175     for(i=0;i<79;i++)
176         printf("-");
177
178     fclose(f);
179     printf("\n\nPress Any Key To Go Back");
180     getch();
181     printf("\033[0m");
182     system("cls");
183 }
184 void deleterecords()
185 {
186     printf("\033[0;33m");
187     FILE *f,*t;
188     char phonenumber[20];
189     system("cls");
190     f=fopen("records_LIST.txt","rb+");

```

```

191 t=fopen("pro1.txt","wb+");
192 do{
193     rewind(f);
194     printf("Enter the phone number to be deleted from the Database: ");
195     scanf("%s",phonenumbers);
196     while(fread(&s,sizeof(s),1,f)==1)
197     {
198         if(strcmp(s.phonenumber,phonenumbers)!=0)
199         {
200             fwrite(&s,sizeof(s),1,t);
201         }
202         else
203             printf("Record deleted successfully.");
204     }
205     fclose(f);
206     fclose(t);
207     remove("pro.txt");
208     rename("pro1.txt","pro.txt");
209
210     f=fopen("pro.txt","rb+");
211     t=fopen("pro1.txt","wb+");
212     printf("\nDo you want to delete another record (y/n):");
213     fflush(stdin);
214 }
215 while(getche()=='y'||getche()=='Y');
216 fclose(f);
217 getch();
218 printf("\033[0m");
219 system("cls");
220 }
221 void searchrecords()
222 {
223     printf("\033[0;33m");
224     FILE *f;
225     char phonenumbers[20];
226     int flag=1;
227     f=fopen("records_LIST.txt","rb+");
228
229     fflush(stdin);
230     system("cls");
231     printf("Enter Phone Number to search in our database: ");
232     scanf("%s", phonenumbers);
233     while(fread(&s,sizeof(s),1,f)==1)
234     {
235         if(strcmp(s.phonenumber,phonenumbers)==0)
236         {
237             system("cls");
238             printf(" Record Found ");
239             printf("\n\nPhonenumber: %s\nName: %s\nAmount: Rs.%0.2f\n",s.phonenumber,s.name,s.amount);
240             flag=0;
241             break;
242         }
243         else if(flag==1)
244         {
245             system("cls");
246             printf("Requested Phone Number Not found in our database");
247         }
248     }
249     getch();
250     printf("\033[0m");
251     fclose(f);
252     system("cls");
253 }
254 void modifyrecords()
255 {
256     printf("\033[0;33m");
257     FILE *f;
258     char phonenumbers[20];
259     long int size(sizeof(s));
260     if((f=fopen("records_LIST.txt","rb+"))==NULL)
261         exit(0);
262     system("cls");
263     printf("Enter phone number of the subscriber to modify: ");
264     scanf("%s",phonenumbers);
265     fflush(stdin);
266     while(fread(&s,sizeof(s),1,f)==1)
267     {
268         if(strcmp(s.phonenumber,phonenumbers)==0)
269         {
270             system("cls");
271             printf("\n Enter phone number: ");
272             scanf("%s",&s.phonenumber);
273             printf("\n Enter name: ");
274             fflush(stdin);
275             scanf("%[^\\n]",&s.name);
276             printf("\n Enter amount: ");
277             scanf("%f",&s.amount);
278             fseek(f,-size,SEEK_CUR);
279             fwrite(&s,sizeof(s),1,f);
280             break;
281         }
282     }
283     printf("\033[0m");
284     fclose(f);
285     system("cls");
286 }
```

File - C:\Users\ADMIN\CLionProjects\acpProject\main.c

File - C:\Users\ADMIN\CLionProjects\acpProject\main.c

```
476     char *filename = "thankmessage.txt";
477     FILE *fptr = NULL;
478
479     if((fptr = fopen(filename,"r")) == NULL)
480     {
481         fprintf(stderr,"error opening %s\n",filename);
482         return 1;
483     }
484
485     print_thank_you_message(fptr);
486
487     fclose(fptr);
488 }
489
```