

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
JNANA SANGAMA, BELAGAVI – 590018

KARNATAKA



**A Mini-Project Report
On
“TELECOM BILLING MANAGEMENT SYSTEM”**

**SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE FILE STRUCTURES LABORATORY WITH MINI PROJECT (18ISL67)
COURSE OF VI SEMESTER**

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DEPARTMENT OF INFORMATION SCIENCE & ENGINEERING



Channabasaveshwara Institute of Technology

(Affiliated to VTU, Belgaum & Approved by AICTE, New Delhi)

(ISO 9001:2015 Certified Institution)

NH 206 (B.H. Road), Gubbi, Tumkur – 572 216. Karnataka.



2022-23



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2022-23

CERTIFICATE

This is to certify that the project entitled “**TELECOM BILLING MANAGEMENT SYSTEM**” has been successfully carried out by **MANOJ D M[1CG20IS026]**, **DHANUSH B V[1CH20IS011]**, **HARSHA D P[1CG20IS017]** and **DEEPIKA B[1CG20IS010]** in partial fulfillment for the VI semester during the academic year **2022 - 23**. It is certified that all the corrections / suggestions indicated for internal assessment have been incorporated in the report. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the VI semester.

Signature of guide

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DECLARATION

I, **MANOJ D M, DHANUSH B V, HARSHA D P** and **DEEPIKA B** students of VI Semester, **B E.**, in Information Science and Engineering, **C.I.T, Gubbi**, hereby declare that the dissertation work entitled “**TELECOM BILLING MANAGEMENT SYSTEM**”, embodies the report of our project work carried out independently by us under the guidance of **Mr. Arun Kumar M S**, Assistant Professor Department ISE, CIT, Gubbi, as partial fulfillment of requirements for the VI Semester during the academic year **2022-23**. I further declare that the project has not been submitted for the award of any other degree.

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ABSTRACT

The system aims at the maintenance and management of the Hotels. It mainly takes care of the Telecom billing management at the core area of the database. The Guests are scheduled with the information of the availability of the units for they have requested the time. The total front end was dominated using C++ standards applied. At all proper levels high care was taken to check that the system manages the date consistency with proper business validations. This system offers a number of choices, like reserving a room, reviewing customer information, changing or removing any client, and seeing all rooms that have been assigned. Two key C++ concepts-classes and file handling-are used in the project's development.

With the development of the tourism industry, the competition of the hotel industry is becoming more and more intense. Effective integration of all kinds of resources inside the hotel can improve the efficiency of labor in the hotel, reduce the transaction cost, and improve the operating profit of the telecom. Besides, the innovation of management is an important factor to form the competitiveness of the hotel. Therefore, the idea of Telecom billing management system is put forward.

ACKNOWLEDGEMENT

A great deal of time and lot of effort has gone into completing this project report and documenting it. The number of hours spent in getting through various books and other materials related to this topic chosen by me have reaffirmed its power and utility in doing this project.

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Thanks to **Dr. Thara D K**, head of the Department of Information Science and Engineering for his guidance on how to approach an engineering problem and come up with a solution in an organized manner.

I wish to express my deep sense of gratitude to **Mr. Arun Kumar M S and Dr. Thara D K**, Department of Information Science and Engineering for all the guidance and who remains a constant driving force and motivated through innovative ideas with tireless support and advice during the course of project to examine and helpful suggestions offered, which has contributed immeasurably to the quality of the final report.

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CHAPTER 1

INTRODUCTION

1.1 File structure

- * File Structure is the organization of data in secondary storage device in such a way that minimize the access time and the storage space.
- * A file Structure is a combination of representations for data in files and of operations for accessing the data.
- * A file Structure allows applications to read, write and modify data. It might also support finding the data that matches some search criteria or reading through the data in some particular order.
- * It helps us to getting the information that we need with one access to the disk.
- * Group information so that we are likely to get everything we need with only one trip to the disk.
- * It is relatively easy to come up with file structure designs that meet the general goals when the files never change.
- * Indexes make it possible to keep a list of keys and pointers in a small file that could be searched very quickly.
- * Primary Indexing is the concept of using the unique key with this unique the particular record is stored, and it can be retrieved.

1.2 About the Programming Language C++

In the program “Time Complexity of Search and Traverse of a Key in primary indexing”, we have used C++ as a medium to compile and run the program because of its versatile uses in the industry. It was designed with a bias toward system programming and embedded, resource constrained and large systems, with performance, efficiency and flexibility of use as its design highlights. C++ has also been found useful in many other contexts, with key strengths being software infrastructure and resource-constrained applications, including desktop applications, servers (e.g., e-commerce, web search or SQL servers), and performance-critical applications. C++ is a compiled language, with implementations of it available on many platforms. Many vendors provide C++ compilers, including the Free Software Foundation, Microsoft, Intel, and IBM.

1.3 Telecom Billing Management System

The telecom billing system file structure project report presents a comprehensive analysis of the file organization and data management techniques employed in a telecom billing system. The report highlights the significance of efficient file structures in managing vast amounts of customer data and transaction records. It examines various file organization methods such as sequential, indexed, and hash-based structures, discussing their advantages and limitations. Additionally, the report delves into the implementation of data validation and error handling mechanisms within the file structure, ensuring data integrity and accuracy. Furthermore, it explores techniques for optimizing file access and retrieval operations, enhancing system performance and responsiveness. The report also addresses the security aspects of the file structure, emphasizing the importance of access controls and encryption techniques. Overall, this project report offers valuable insights into designing an effective and scalable file structure for a telecom billing system.

CHAPTER 2

OBJECTIVE

During the past several decades personnel function has been transformed from a relatively obscure record keeping staff to central and top-level management function. There are many factors that have influenced this transformation like technological advances, professionalism, and general recognition of human beings as most important resources.

- A computer-based management system is designed to handle all the primary information required to calculate monthly statements. Separate database is maintained to handle all the details required for the correct statement calculation and generation.
- This project intends to introduce more user friendliness in the various activities such as record updating, maintenance, and searching.
- The searching of record has been made quite simple as all the details of the customer can be obtained by simply keying in the identification of that customer.
- Similarly, record maintenance and updating can also be accomplished by using the identification of the customer with all the details being automatically generated. These details are also being promptly automatically updated in the master file thus keeping the record up to date.
- The entire information has maintained in the database or Files and whoever wants to retrieve can't retrieve, only authorization user can retrieve the necessary information which can be easily accessible from the file.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 System Requirements

The basic requirements for the development of this mini project are as follows

3.1.1 Hardware Configuration

1. Processor: Intel core i3 or above
2. Ram: 4 Gb or above
3. Hard disk or SSD: 250 Gb or above

3.1.2 Software Configuration

1. Operating System: Windows 10 or above
2. Development tools: DEV C++
3. Documentation tool: Microsoft office 2021 or above

3.2 Development Environment

DEV-C++

DEV-C++ is a full-featured C and C++ Integrated Development Environment (IDE) for Windows platforms. Millions of developers, students and researchers use Dev-C++ since the first version was released in 1998. It has been featured in dozens of C++ and scientific books and remains one of the favorite learning tools among universities & schools worldwide.

CHAPTER 4

SYSTEM IMPLEMENTATION

4.1 Features of Telecom Billing Management System

- Add record
- Display record
- Delete record
- Search record
- Modify record
- Make payment

4.2 Classes and Functions Description used in the project

```
#include<fstream>
#include<stdlib.h>
#include<conio.h>
#include<stdio.h>
#include<string.h>
#include<cstring>
#include<ctype.h>
#include<windows.h>
#include<ctime>
```

We will going to include all the necessary library files to avoid any kind of error and pre defining max to be 100.

```
class subscriber
{
public:
char phonenumber[11];
string name;
int amount;
int planamt;
string status;
}s;
```

We have created a class for customer having variables like name of size 100, address of size 100, phone of character up to 12, from date of size 20, to_date of size 20, a float payment_advance variable and a booking_id of type int.

```
class subscriber
{
    public:
    char phonenumber[11];
    string name;
    int amount;
    int planamt;
    string status;
}s;

void gotoxy(short x, short y) {
    COORD pos = {x, y};
    SetConsoleCursorPosition(GetStdHandle(STD_OUTPUT_HANDLE), pos);
}
```

We have declared a class room having the variables like type, stype, ac, phoneNumber of type int, rent of type int and status of type int. We have created a object of the customer class cust.

```
class addrecord [max];
int count = 0;
```

We have declared class as global and count as 0;

```
void userdetails()
{
    int m=31,n=31;
    gotoxy(0,0);
    changeColour(WHITE);
    cout<<"DETAILS:";
    gotoxy(0,1);
    cout << char(218);    for(int i=0; i<30; i++){cout << char(196);}    cout << char(191)
<< endl;gotoxy(0,2);
    cout << char(179) << "    Phone Number: "<<s.phonenumber;gotoxy(m,2);cout<<
char(179) << endl;
    gotoxy(0,3);
```

```
cout << char(179) << " Name: "<<s.name;
gotoxy(m,3);
cout<<char(179);
gotoxy(0,4);
cout <<char(179) << " Plan: "<<s.planamt;
gotoxy(n,4);
cout<< char(179);
gotoxy(0,5);
cout <<char(179) << " Amount: "<<s.amount;
gotoxy(n,5);
cout<< char(179);
gotoxy(0,6);
cout <<char(179) << " Payment Status: "<<s.status;
gotoxy(n,6);
cout<< char(179);
gotoxy(0,7);
cout << char(192);    for(int i=0; i<30; i++){cout << char(196);}    cout << char(217)
<< endl;
```

}In the function add plans, an object of class room is created which will be responsible to add the rooms according to customer need and will ask for type yearly plan or monthly then ask for comfort and rate of plan 257 or 1290 and monthly which we will going to set as per need. Telecom plans added successfully.

```
void addrecords()
{
    fstream file;
    char test;
    file.open("subscribe.txt",ios::app);
    if(!file)
    {
        cout<<"Error opening file! \n";
        exit(1);
    }
    while(1)
    {
        changeColour(WHITE);
        cout<<"Enter the Phone Number: ";
        cin>>s.phonenumber;
```

```
    cout<<"Enter the Name: ";
    getline(cin >> ws, s.name);
    cout<<"Select the Subscription Term: ";
    plans();
    s.status = "PENDING";
    file.write((char*)&s,sizeof(s));
    cout<<"\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" RECORD EN-
TERED SUCCESSFULLY ";for(int i=0; i<10; i++){cout << char(176);}
    changeColour(GREEN);
    cout<<"\n\n Press Y/y key to add another record or any other key to GO BACK.";
    test=getche();
    system("cls");
    if(!(test==89 | test==121))
        break;
    }
    file.close();
}
```

This function search room will help in finding existed room if available. The customer will enter the plan number, if the phone number is found it will show the details of the user.

void displayrecord()

```
{
    fstream file;
    int counter=1;
    int a=5,b=3,num=0;
    file.open("subscribe.txt",ios::in);
    if(!file)
    {
        cout<<"\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" NO RECORD
FOUND ";for(int i=0; i<10; i++){cout << char(176);}
        cout<<"\n\n";
    }
    cout << char(201);for(int i=0; i<10; i++){cout << char(205);} cout<< char(203);
    for(int i=0; i<18; i++){cout << char(205);} cout<< char(203);for(int i=0; i<24; i++){cout
    << char(205);} cout<< char(203);for(int i=0; i<12; i++){cout << char(205);} cout<<
    char(203);for(int i=0; i<16; i++){cout << char(205);} cout<< char(203);for(int i=0; i<22;
    i++){cout << char(205);} cout<<char(187)<< endl;
}
```

```
cout << char(186)<<" Sl.no "<<" "<<char(186)<<" Phone No. "<<char(186)<<"
Name"<<" "<<char(186)<<" Plan"<<" "<<char(186)<<" Amount"<<"
"<<char(186)<<" Payment Status"<<" "<<char(186)<< endl;
cout << char(200); for(int i=0; i<10; i++){cout << char(205);} cout<< char(202);
for(int i=0; i<18; i++){cout << char(205);} cout<< char(202);for(int i=0; i<24;
i++){cout<< char(205);} cout<< char(202);for(int i=0; i<12; i++){cout << char(205);}
cout<< char(202);for(int i=0; i<16; i++){cout << char(205);} cout<< char(202);for(int i=0;
i<22; i++){cout << char(205);}cout<< char(188);
cout<<"\n";
while((file.read((char*)&s,sizeof(s))))
{
    gotoxy(a,b);
    cout<<counter<<". ";

    gotoxy(a+11,b);
    cout<<s.phonenumber;
    //a=a+10;
    gotoxy(a+28,b);
    cout<<s.name;
    //a=a+10;
    gotoxy(a+54,b);
    cout<<"Rs."<<s.planamt;
    //balance
    gotoxy(a+68,b);
    cout<<"Rs."<<s.amount;
    //status
    gotoxy(a+89,b);
    cout<<s.status;
    a=5;
    b=b+2;
    counter++;
    num=b;
}
if(counter>1)
{
    for(int i=0;i<num-2;i++){gotoxy(0,i+3);cout<<char(186);}
    for(int i=0;i<num-2;i++){gotoxy(11,i+3);cout<<char(186);}
    for(int i=0;i<num-2;i++){gotoxy(30,i+3);cout<<char(186);}
```



```
for(int i=0;i<num-2;i++){gotoxy(55,i+3);cout<<char(186);}
for(int i=0;i<num-2;i++){gotoxy(68,i+3);cout<<char(186);}
for(int i=0;i<num-2;i++){gotoxy(85,i+3);cout<<char(186);}
for(int i=0;i<num-2;i++){gotoxy(108,i+3);cout<<char(186);}

gotoxy(0,num);
cout << char(200); for(int i=0; i<10; i++){cout << char(205);} cout<< char(202);
for(int i=0; i<18; i++){cout << char(205);}      cout<< char(202);for(int i=0; i<24;
i++){cout<< char(205);} cout<< char(202);for(int i=0; i<12; i++){cout << char(205);}
cout<< char(202);for(int i=0; i<16; i++){cout << char(205);} cout<< char(202);for(int i=0;
i<22; i++){cout << char(205);} cout<< char(188);
}

file.close();
changeColour(GREEN);
cout<<"\n"<<char(174)<<" Press any key to go back";
_getch();
system("cls");
}
```

The above piece of code will go to search for a customer. The user will enter the customer name and if the customer doesn't exist it will show person not found

```
void searchrecord()
{
    fstream file;
    int i=0,animate=0;
    char phone[11];
    file.open("subscribe.txt",ios::out|ios::in);
    if(!file)
    {
        cout<<"can not able to open file\n";
        exit(0);
    }
    cout<<"Enter the phone number to be searched: ";
    cin>>phone;

    while/animate<2)
```

```
{
    system("cls");
    cout<<"\n"<<char(179);
    Sleep(500);
    system("cls");
    cout<<char(196)<<char(196);
    Sleep(500);
    system("cls");
    cout<<"\n"<<" "<<char(179);
    Sleep(500);
    system("cls");
    cout<<"\n\n"<<char(196)<<char(196);
    Sleep(500);
    system("cls");
    animate=animate+1;
}

while((file.read((char*)&s,sizeof(s))))
{
    if(!(strcmp(s.phonenumber,phone)))
    {
        i++;
        userdetails();
        break;
    }
}
if(i==1)
{
    cout<<"\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" RECORD FOUND
";for(int i=0; i<10; i++){cout << char(176);}
}
else
    cout<<"Record NOT FOUND.\n";
changeColour(GREEN);
cout<<"\n\nPress any key to continue...";
_getch();
system("cls");
}
```

The above piece of code is used to generate the bill of a customer.

```
void payment()
{
    fstream file;
    char phone[11];
    int amt;
    int i=0;
    file.open("subscribe.txt",ios::out|ios::in);
    if(!file){
        cout<<"Unable to open the file\n";
        exit(0);
    }
    cout<<"Enter phone number of the subscriber for payment : ";
    cin>>phone;
    while((file.read((char*)&s,sizeof(s))))
    {
        if(!(strcmp(s.phonenumber,phone)))
        {
            if(s.amount > 0)
            {
                i=1;
                billmod();
                cout<<"\nEnter amount of payment : ";
                cin>>amt;
                s.amount=s.amount-amt;
                if(s.amount == 0)
                {
                    s.status = "PAID";
                }
                file.seekg(-sizeof(s),ios_base::cur);
                file.write((char*)&s,sizeof(s));
                file.close();
                break;
            }
            else{
                i=2;
```

```
        file.close();
    }
}

}

if(i==1)
{
    cout<<"\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" PAYMENT SUC-
CESSFUL ";for(int i=0; i<10; i++){cout << char(176);}
    cout<<"\n\n";
}
else if(i==2)
{
    billmod();
    cout<<"\n\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" PAYMENT AL-
READY DONE! ";for(int i=0; i<10; i++){cout << char(176);}
    cout<<"\n\n";
}
else
{
    cout<<"PHONE NUMBER NOT FOUND\n";
    cout<<"Please make sure you have a subscription plan.\n";
}
changeColour(GREEN);
cout<<"Press any key to continue...";
_getch();
system("cls");

}
```

The above piece of code is used to manage the telecom billing like, adding user details or search plan or back to menu.

CHAPTER 5

SOURCE CODE

```
#include <iostream>
#include<fstream>
#include<stdlib.h>
#include<conio.h>
#include<stdio.h>
#include<string.h>
#include<cstring>
#include<ctype.h>
#include<windows.h>
#include<ctime>

using namespace std;

const int BLUE = 1;
const int GREEN = 2;
const int RED = 4;
const int WHITE = 15;

void addrecords();
void displayrecord();
void deleterecords();
void searchrecord();
void modifyrecord();
void payment();

class subscriber
{
public:
char phonenumber[11];
string name;
int amount;
int planamt;
string status;
}s;

void gotoxy(short x, short y) {
COORD pos = {x, y};
SetConsoleCursorPosition(GetStdHandle(STD_OUTPUT_HANDLE), pos);
}

void changeColour(int colour) {
HANDLE hConsole;

hConsole = GetStdHandle(STD_OUTPUT_HANDLE);
SetConsoleTextAttribute(hConsole, colour);
}
```

```
void landingpage()
{
    system("cls");

    gotoxy(30,6);
    for(int i=0; i<62; i++){cout << char(178);}
    gotoxy(36,8);
    cout<<"WELCOME TO THE TELECOM BILLING MANAGEMENT SYSTEM"<<endl;
    gotoxy(30,10);
    for(int i=0; i<62; i++){cout << char(178);}
    gotoxy(46,14);
    changeColour(GREEN);
    cout<<"Press any key to continue...";
    _getch();
    system("cls");
}

void userdetails()
{
    int m=31,n=31;
    gotoxy(0,0);
    changeColour(WHITE);
    cout<<"DETAILS:";
    gotoxy(0,1);
    cout << char(218);    for(int i=0; i<30; i++){cout << char(196);}    cout << char(191) <<
endl;gotoxy(0,2);
    cout << char(179) << " Phone Number: "<<s.phonenumber;gotoxy(m,2);cout<< char(179)
<< endl;
    gotoxy(0,3);
    cout << char(179) << " Name: "<<s.name;
    gotoxy(m,3);
    cout<<char(179);
    gotoxy(0,4);
    cout <<char(179) << " Plan: "<<s.planamt;
    gotoxy(n,4);
    cout<< char(179);
    gotoxy(0,5);
    cout <<char(179) << " Amount: "<<s.amount;
    gotoxy(n,5);
    cout<< char(179);
    gotoxy(0,6);
    cout <<char(179) << " Payment Status: "<<s.status;
    gotoxy(n,6);
    cout<< char(179);
    gotoxy(0,7);
    cout << char(192);    for(int i=0; i<30; i++){cout << char(196);}    cout << char(217) <<
endl;
}

void plans()
{
    int plan1,plan2;
```

```

    cout<<"\n";
    cout << char(218);for(int i=0; i<20; i++){cout << char(196);} cout<< char(194);for(int
i=0; i<24; i++){cout << char(196);} cout<< char(194);for(int i=0; i<20; i++){cout <<
char(196);} cout<<char(191)<< endl;
    cout << char(179)<<" 1. Annual Plan "<<" "<<char(179)<< " 2. Half-yearly Plan
"<<char(179)<<" 3. Monthly Plan"<<" "<<char(179)<< endl;
    cout << char(192); for(int i=0; i<20; i++){cout << char(196);} cout<< char(193);for(int
i=0; i<24; i++){cout << char(196);} cout<< char(193);for(int i=0; i<20; i++){cout<<
char(196);} cout<<char(217);
    cout<<"\nSelect subscription term -> ";
    s: cin>>plan1;
    switch(plan1){
        case 1:cout<<char(218);for(int i=0; i<14; i++){cout<<char(196);}cout<<
char(191)<<endl;
            cout<< char(179)<<" 1.Rs.2,498 "<<" "<<char(179)<<endl;
            cout<<char(179);for(int i=0; i<14;
i++){cout<<char(196);}cout<<char(179)<<endl;
            cout<< char(179)<<" 2.Rs.2,399 "<<" "<<char(179)<<endl;
            cout<<char(179);for(int i=0; i<14;
i++){cout<<char(196);}cout<<char(179)<<endl;
            cout<< char(179)<<" 3.Rs.1,999 "<<" "<<char(179)<<endl;
            cout<< char(192); for(int i=0; i<14; i++){cout<< char(196);}cout<< char(217);
            cout<<"\nSelect your plan -> ";
            s1: cin>>plan2;
            switch(plan2){
                case 1:s.amount=2498*1.18;
                    s.planamt=2498;
                    break;
                case 2:s.amount=2399*1.18;
                    s.planamt=2399;
                    break;
                case 3:s.amount=1999*1.18;
                    s.planamt=1999;
                    break;
                default:cout<<"Enter valid Plan\n";
                    goto s1;
            }
            break;

        case 2:cout<<char(218);for(int i=0; i<14; i++){cout<<char(196);}cout<<
char(191)<<endl;
            cout<< char(179)<<" 1.Rs.1,295 "<<" "<<char(179)<<endl;
            cout<<char(179);for(int i=0; i<14;
i++){cout<<char(196);}cout<<char(179)<<endl;
            cout<< char(179)<<" 2.Rs.999 "<<" "<<char(179)<<endl;
            cout<<char(179);for(int i=0; i<14;
i++){cout<<char(196);}cout<<char(179)<<endl;
            cout<< char(179)<<" 3.Rs.850 "<<" "<<char(179)<<endl;
            cout<< char(192); for(int i=0; i<14; i++){cout<< char(196);}cout<< char(217);

            cout<<"\nSelect your plan -> ";
            s2: cin>>plan2;

```

```
switch(plan2){
    case 1:s.amount=1295*1.18;
        s.planamt=1295;
        break;
    case 2:s.amount=999*1.18;
        s.planamt=999;
        break;
    case 3:s.amount=850*1.18;
        s.planamt=850;
        break;
    default:cout<<"Enter valid Plan\n";
        goto s2;
}
break;

case 3:cout<<char(218);for(int i=0; i<14; i++){cout<<char(196);}cout<<
char(191)<<endl;
    cout<< char(179)<<" 1.Rs.315 "<<" "<<char(179)<<endl;
    cout<<char(179);for(int i=0; i<14;
i++){cout<<char(196);}cout<<char(179)<<endl;
    cout<< char(179)<<" 2.Rs.250 "<<" "<<char(179)<<endl;
    cout<<char(179);for(int i=0; i<14;
i++){cout<<char(196);}cout<<char(179)<<endl;
    cout<< char(179)<<" 3.Rs.219 "<<" "<<char(179)<<endl;
    cout<< char(192); for(int i=0; i<14; i++){cout<< char(196);}cout<< char(217);

cout<<"\nSelect your plan -> ";
s3: cin>>plan2;
switch(plan2){
    case 1:s.amount=315*1.18;
        s.planamt=315;
        break;
    case 2:s.amount=259*1.18;
        s.planamt=259;
        break;
    case 3:s.amount=219*1.18;
        s.planamt=219;
        break;
    default:cout<<"Enter valid Plan\n";
        goto s3;
}
break;
default:cout<<"Enter valid Subscription plan\n";
goto s;
}
}

//bill generation
void billmod()
{
    system("cls");
    time_t ttime = time(0);
```



```
tm *local_time = localtime(&ttime);
int tax;
if(s.amount > s.planamt)
    tax = s.amount - s.planamt;
else
    tax = 0;

int m=61,n=61;
gotoxy(0,0);
changeColour(WHITE);
cout<<"PAYMENT DETAILS:";
gotoxy(0,1);
cout << char(219);    for(int i=0; i<60; i++){cout << char(196);}    cout << char(219) <<
endl;gotoxy(0,2);
    cout<<char(179)<<" ";for(int i=0; i<25; i++){cout << char(176);}cout<<" BILL ";for(int
i=0; i<25; i++){cout << char(176);} gotoxy(m,2);cout<<char(179)<<endl;gotoxy(0,3);
    cout<<char(179);gotoxy(m,3);cout<<char(179);gotoxy(0,4);
    cout << char(179) << " Bill To: "<<"\t\t\t Date: "<<local_time->tm_mday<<"-"<< 1 +
local_time->tm_mon<<"-"<<1900 + local_time->tm_year;;gotoxy(m,4);cout<< char(179) <<
endl;
    gotoxy(0,5);
    cout<<char(179);gotoxy(m,5);cout<<char(179);
    gotoxy(0,6);
    cout << char(179) << " NAME: "<<s.name;
    gotoxy(m,6);
    cout<<char(179);
    gotoxy(0,7);
    cout <<char(179) << " PHONE NUMBER: "<<s.phonenumber;
    gotoxy(n,7);
    cout<< char(179);
    gotoxy(0,8);
    cout<<char(179);gotoxy(m,8);cout<<char(179);
    gotoxy(0,9);
    cout<<char(179);for(int i=0; i<60; i++){cout <<char(196);} gotoxy(m,9);cout<<char(179);
    gotoxy(0,10);
    cout<<char(179);gotoxy(m,10);cout<<char(179);
    gotoxy(0,11);
    cout <<char(179) << " SUBSCRIPTION PLAN: Rs."<<s.planamt;
    gotoxy(n,11);
    cout<< char(179);
    gotoxy(0,12);
    cout<<char(179);gotoxy(m,12);cout<<char(179);
    gotoxy(0,13);
    cout <<char(179) << " TAX: Rs."<<tax;
    gotoxy(n,13);
    cout<< char(179);
    gotoxy(0,14);
    cout<<char(179);gotoxy(m,14);cout<<char(179);
    gotoxy(0,15);
    cout <<char(179) << " BALANCE AMOUNT: Rs."<<s.amount;
    gotoxy(n,15);
    cout<< char(179);
```

```
gotoxy(0,16);
cout<<char(179);gotoxy(m,16);cout<<char(179);
gotoxy(0,17);
cout <<char(179) << " PAYMENT STATUS: "<<s.status;
gotoxy(n,17);
cout<< char(179);
gotoxy(0,18);
cout<<char(179);gotoxy(m,18);cout<<char(179);
gotoxy(0,19);
cout << char(219);    for(int i=0; i<60; i++){cout << char(196);}    cout << char(219) <<
endl;

}
```

```
void addrecords()
{
    fstream file;
    char test;
    file.open("subscribe.txt",ios::app);
    if(!file)
    {
        cout<<"Error opening file! \n";
        exit(1);
    }
    while(1)
    {
        changeColour(WHITE);
        cout<<"Enter the Phone Number: ";
        cin>>s.phonenumber;
        cout<<"Enter the Name: ";
        getline(cin >> ws, s.name);
        cout<<"Select the Subscription Term: ";
        plans();
        s.status = "PENDING";
        file.write((char*)&s,sizeof(s));
        cout<<"\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" RECORD ENTERED
SUCCESSFULLY ";for(int i=0; i<10; i++){cout << char(176);}
        changeColour(GREEN);
        cout<<"\n\n Press Y/y key to add another record or any other key to GO BACK.";
        test=getche();
        system("cls");
        if(!(test==89 | test==121))
            break;
    }
    file.close();
}
```

```
void displayrecord()
{
    fstream file;
```

```

int counter=1;
int a=5,b=3,num=0;
file.open("subscribe.txt",ios::in);
if(!file)
{
    cout<<"\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" NO RECORD FOUND
";for(int i=0; i<10; i++){cout << char(176);}
    cout<<"\n\n";
}
    cout << char(201);for(int i=0; i<10; i++){cout << char(205);} cout<< char(203);    for(int
i=0; i<18; i++){cout << char(205);}    cout<< char(203);for(int i=0; i<24; i++){cout <<
char(205);} cout<< char(203);for(int i=0; i<12; i++){cout << char(205);} cout<<
char(203);for(int i=0; i<16; i++){cout << char(205);} cout<< char(203);for(int i=0; i<22;
i++){cout << char(205);} cout<<char(187)<< endl;
    cout << char(186)<<" Sl.no "<<" "<<char(186)<<" Phone No. "<< char(186)<<"
Name"<<" "<< char(186)<<" Plan"<<" "<<char(186)<<" Amount"<<" "<<
char(186)<<" Payment Status"<<" "<< char(186)<< endl;
    cout << char(200); for(int i=0; i<10; i++){cout << char(205);} cout<< char(202);    for(int
i=0; i<18; i++){cout << char(205);}    cout<< char(202);for(int i=0; i<24; i++){cout<<
char(205);} cout<< char(202);for(int i=0; i<12; i++){cout << char(205);} cout<<
char(202);for(int i=0; i<16; i++){cout << char(205);} cout<< char(202);for(int i=0; i<22;
i++){cout << char(205);}cout<< char(188);
    cout<<"\n";
    while((file.read((char*)&s,sizeof(s))))
    {
        gotoxy(a,b);
        cout<<counter<<". ";

        gotoxy(a+11,b);
        cout<<s.phonenumber;
        //a=a+10;
        gotoxy(a+28,b);
        cout<<s.name;
        //a=a+10;
        gotoxy(a+54,b);
        cout<<"Rs."<<s.planamt;
        //balance
        gotoxy(a+68,b);
        cout<<"Rs."<<s.amount;
        //status
        gotoxy(a+89,b);
        cout<<s.status;
        a=5;
        b=b+2;
        counter++;
        num=b;
    }
    if(counter>1)
    {
        for(int i=0;i<num-2;i++){gotoxy(0,i+3);cout<<char(186);}
        for(int i=0;i<num-2;i++){gotoxy(11,i+3);cout<<char(186);}
        for(int i=0;i<num-2;i++){gotoxy(30,i+3);cout<<char(186);}
    }

```

```
for(int i=0;i<num-2;i++){ gotoxy(55,i+3);cout<<char(186);}
for(int i=0;i<num-2;i++){ gotoxy(68,i+3);cout<<char(186);}
for(int i=0;i<num-2;i++){ gotoxy(85,i+3);cout<<char(186);}
for(int i=0;i<num-2;i++){ gotoxy(108,i+3);cout<<char(186);}

gotoxy(0,num);
cout << char(200); for(int i=0; i<10; i++){ cout << char(205);} cout<< char(202); for(int
i=0; i<18; i++){ cout << char(205);} cout<< char(202);for(int i=0; i<24; i++){cout<<
char(205);} cout<< char(202);for(int i=0; i<12; i++){ cout << char(205);} cout<<
char(202);for(int i=0; i<16; i++){ cout << char(205);} cout<< char(202);for(int i=0; i<22;
i++){ cout << char(205);} cout<< char(188);
}

file.close();
changeColour(GREEN);
cout<<"\n"<<char(174)<<" Press any key to go back";
_getch();
system("cls");
}

void deleterecords()
{
    fstream file,temp;
    int i=0;
    char phone[11];
    file.open("subscribe.txt",ios::out|ios::in);
    if(!file)
    {
        cout<<"can not able to open file\n";
        exit(0);
    }
    temp.open("temp.txt",ios::app);
    if(!temp)
    {
        cout<<"can not able to open file\n";
        exit(0);
    }
    cout<<"Enter the phone number to be deleted: ";
    cin>>phone;
    while((file.read((char*)&s,sizeof(s))))
    {
        if(!(strcmp(s.phonenumber,phone)))
        {
            i++;
            userdetails();
            continue;
        }
        else
            temp.write((char*)&s,sizeof(s));
    }
    if(i==1)
```

```

    {
        file.close();
        temp.close();
        remove("subscribe.txt");
        rename("temp.txt","subscribe.txt");
        remove("temp.txt");
        cout<<"\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" RECORD FOUND
";for(int i=0; i<10; i++){cout << char(176);}
        changeColour(RED);
        cout<<"\n\nRECORD DELETED SUCCESSFULLY\n\n";
        changeColour(GREEN);
        cout<<"Press any key to continue...";
        _getch();
        system("cls");
    }
else
    {
        cout<<"The Entered Phone Number is NOT FOUND\n";
        remove("temp.txt");
        changeColour(GREEN);
        cout<<"Press any key to continue...";
        _getch();
        system("cls");
    }
}

```

```

void searchrecord()
{
    fstream file;
    int i=0,animate=0;
    char phone[11];
    file.open("subscribe.txt",ios::out|ios::in);
    if(!file)
    {
        cout<<"can not able to open file\n";
        exit(0);
    }
    cout<<"Enter the phone number to be searched: ";
    cin>>phone;

    while(animate<2)
    {
        system("cls");
        cout<<"\n"<<char(179);
        Sleep(500);
        system("cls");
        cout<<char(196)<<char(196);
        Sleep(500);
        system("cls");
        cout<<"\n"<<" "<<char(179);
        Sleep(500);
    }
}

```

```
        system("cls");
        cout<<"\n\n"<<char(196)<<char(196);
        Sleep(500);
        system("cls");
        animate=animate+1;
    }

    while((file.read((char*)&s,sizeof(s))))
    {
        if(!(strcmp(s.phonenumber,phone)))
        {
            i++;
            userdetails();
            break;
        }
    }
    if(i==1)
    {
        cout<<"\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" RECORD FOUND
";for(int i=0; i<10; i++){cout << char(176);}
    }
    else
        cout<<"Record NOT FOUND.\n";
    changeColour(GREEN);
    cout<<"\n\nPress any key to continue...";
    _getch();
    system("cls");
}

void modifyrecord()
{
    fstream file,temp;
    int i=0,edit;
    char phone[11];
    file.open("subscribe.txt",ios::out|ios::in);
    if(!file)
    {
        cout<<"can not able to open file\n";
        exit(0);
    }
    temp.open("temp.txt",ios::app);
    if(!temp)
    {
        cout<<"can not able to open file\n";
        exit(0);
    }
    cout<<"Enter the phone number to edit details: ";
    cin>>phone;
    system("cls");
    while((file.read((char*)&s,sizeof(s))))
    {
```

```
if(!(strcmp(s.phonenumber,phone)))
{
    i=1;
    userdetails();
    cout<<"EDIT DETAILS: \n";
    cout<<"1. Change Name\n2. Change Plan\n3. Change both Name and Plan\n4.
Exit\n";
    cout<<"Enter your choice: ";
    a:cin>>edit;
    switch(edit)
    {
        case 1:cout<<"\nEnter new name: ";
                getline(cin >> ws, s.name);
                temp.write((char*)&s,sizeof(s));
                break;
        case 2:cout<<"\nSelect New Plan: ";
                plans();
                temp.write((char*)&s,sizeof(s));
                break;
        case 3:cout<<"\nEnter new name: ";
                getline(cin >> ws, s.name);
                cout<<"\nSelect New Plan: ";
                plans();
                temp.write((char*)&s,sizeof(s));
                break;
        case 4:file.close();
                system("cls");
                return;
        default:cout<<"Enter valid option\n";
                goto a;
    }
}
else
{
    temp.write((char*)&s,sizeof(s));
}
}
if(i==1)
{
    file.close();
    temp.close();
    remove("subscribe.txt");
    rename("temp.txt","subscribe.txt");
    remove("temp.txt");
    cout<<"\nThe entered phone number is FOUND and record MODIFIED SUCCESS-
FULLY\n";
    changeColour(GREEN);
    cout<<"Press any key to continue...";
    _getch();
    system("cls");
}
```

```
else
{
    cout<<"The Entered Phone Number is NOT FOUND\n";
    remove("temp.txt");
    changeColour(GREEN);
    cout<<"Press any key to continue...";
    _getch();
    system("cls");
}
}

void payment()
{
    fstream file;
    char phone[11];
    int amt;
    int i=0;
    file.open("subscribe.txt",ios::out|ios::in);
    if(!file){
        cout<<"Unable to open the file\n";
        exit(0);
    }
    cout<<"Enter phone number of the subscriber for payment : ";
    cin>>phone;
    while((file.read((char*)&s,sizeof(s))))
    {
        if(!(strcmp(s.phonenumber,phone)))
        {
            if(s.amount > 0)
            {
                i=1;
                billmod();
                cout<<"\nEnter amount of payment : ";
                cin>>amt;
                s.amount=s.amount-amt;
                if(s.amount == 0)
                {
                    s.status = "PAID";
                }
                file.seekg(-sizeof(s),ios_base::cur);
                file.write((char*)&s,sizeof(s));
                file.close();
                break;
            }
            else{
                i=2;
                file.close();
            }
        }
    }
}
```



```
    if(i==1)
    {
        cout<<"\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" PAYMENT SUCCESS-
FUL ";for(int i=0; i<10; i++){cout << char(176);}
        cout<<"\n\n";
    }
    else if(i==2)
    {
        billmod();
        cout<<"\n\n";for(int i=0; i<10; i++){cout << char(176);}cout<<" PAYMENT AL-
READY DONE! ";for(int i=0; i<10; i++){cout << char(176);}
        cout<<"\n\n";
    }
    else
    {
        cout<<"PHONE NUMBER NOT FOUND\n";
        cout<<"Please make sure you have a subscription plan.\n";
    }
    changeColour(GREEN);
    cout<<"Press any key to continue...";
    _getch();
    system("cls");
}
```

```
int main()
{
    int choice;
    landingpage();
    system("cls");

    while(1)
    {
        //add record
        gotoxy(50,0);
        changeColour(WHITE);
        cout << char(218);    for(int i=0; i<21; i++){cout << char(196);}    cout <<
char(191) << endl;gotoxy(50,1);
        cout << char(179) << " 1. Add record    "<< char(179) << endl;gotoxy(50,2);
        cout << char(192);    for(int i=0; i<21; i++){cout << char(196);}    cout <<
char(217) << endl;gotoxy(50,3);
        //display record
        cout << char(218);    for(int i=0; i<21; i++){cout << char(196);}    cout <<
char(191) << endl;gotoxy(50,4);
        cout << char(179) << " 2. Display record "<< char(179) << endl;gotoxy(50,5);
        cout << char(192);    for(int i=0; i<21; i++){cout << char(196);}    cout <<
char(217) << endl;gotoxy(50,6);
        //delete
        cout << char(218);    for(int i=0; i<21; i++){cout << char(196);}    cout <<
char(191) << endl;gotoxy(50,7);
```

```
cout << char(179) << " 3. Delete record " << char(179) << endl; gotoxy(50,8);
cout << char(192); for(int i=0; i<21; i++){cout << char(196);} cout <<
char(217) << endl; gotoxy(50,9);
//search
cout << char(218); for(int i=0; i<21; i++){cout << char(196);} cout <<
char(191) << endl; gotoxy(50,10);
cout << char(179) << " 4. Search record " << char(179) << endl; gotoxy(50,11);
cout << char(192); for(int i=0; i<21; i++){cout << char(196);} cout <<
char(217) << endl; gotoxy(50,12);
//modify
cout << char(218); for(int i=0; i<21; i++){cout << char(196);} cout <<
char(191) << endl; gotoxy(50,13);
cout << char(179) << " 5. Modify record " << char(179) << endl; gotoxy(50,14);
cout << char(192); for(int i=0; i<21; i++){cout << char(196);} cout <<
char(217) << endl; gotoxy(50,15);
//payment
cout << char(218); for(int i=0; i<21; i++){cout << char(196);} cout <<
char(191) << endl; gotoxy(50,16);
cout << char(179) << " 6. Make Payment " << char(179) << endl; gotoxy(50,17);
cout << char(192); for(int i=0; i<21; i++){cout << char(196);} cout <<
char(217) << endl; gotoxy(50,18);
//exit
cout << char(218); for(int i=0; i<21; i++){cout << char(196);} cout <<
char(191) << endl; gotoxy(50,19);
cout << char(179) << " 7. Exit " << char(179) << endl; gotoxy(50,20);
cout << char(192); for(int i=0; i<21; i++){cout << char(196);} cout <<
char(217) << endl;
```

```
gotoxy(50,22);
cout<<"ENTER YOUR CHOICE "<<char(45)<<char(62)<<" ";gotoxy(72,22);
cin>>choice;
system("cls");
```

```
switch(choice)
{
    case 1: addrecords();
        break;
    case 2: displayrecord();
        break;
    case 3: deleterecords();
        break;
    case 4: searchrecord();
        break;
    case 5: modifyrecord();
        break;
    case 6: payment();
        break;
    case 7: gotoxy(46,14);
        changeColour(BLUE);
        cout<<"THANK YOU FOR USING OUR SERVICE";
        Sleep(2000);
        changeColour(WHITE);
```

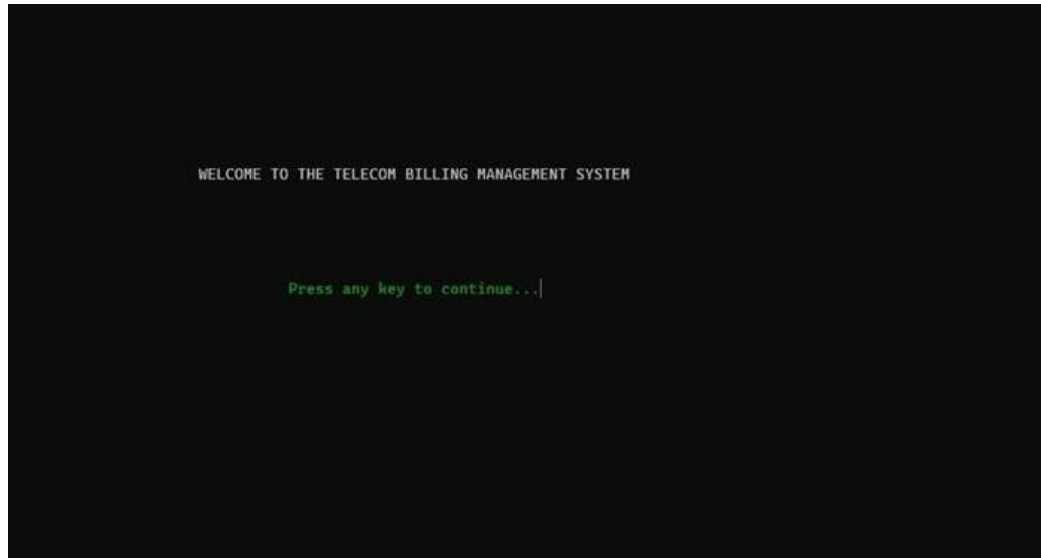
```
        exit(0);
    default:gotoxy(36,14);
        changeColour(RED);
        for(int i=0; i<21; i++){cout << char(176);} cout<<"  ERROR ! ";for(int i=0;
i<21; i++){cout << char(176);}
        Sleep(1000);
        system("cls");
        gotoxy(38,14);
        changeColour(GREEN);
        cout<<"You entered a invalid choice.Press ENTER to continue";
        _getch();
        system("cls");
    }
}
}
```

CHAPTER 6

SAMPLE OUTPUT

6.1 SCREEN SHOTS

6.1.1 Welcome Screen



6.1.2 System operations



6.1.2.1 Adding a Record

Enter the Phone Number: 9481612147
 Enter the Name: harsha
 Select the Subscription Term:

1. Annual Plan	2. Half-yearly Plan	3. Monthly Plan
----------------	---------------------	-----------------

Select subscription term -> 2

1.Rs.1,295
2.Rs.999
3.Rs.850

Select your plan -> 3

RECORD ENTERED SUCCESSFULLY

Press Y/y key to add another record or any other key to GO BACK.

6.1.2.2 Display Record

Enter the Phone Number: 7975999605
 Enter the Name: deepika
 Select the Subscription Term:

1. Annual Plan	2. Half-yearly Plan	3. Monthly Plan
----------------	---------------------	-----------------

Select subscription term -> 1

1.Rs.2,498
2.Rs.2,399
3.Rs.1,999

Select your plan -> 2

RECORD ENTERED SUCCESSFULLY

Press Y/y key to add another record or any other key to GO BACK.

6.1.3 Check-In operation of a customer.

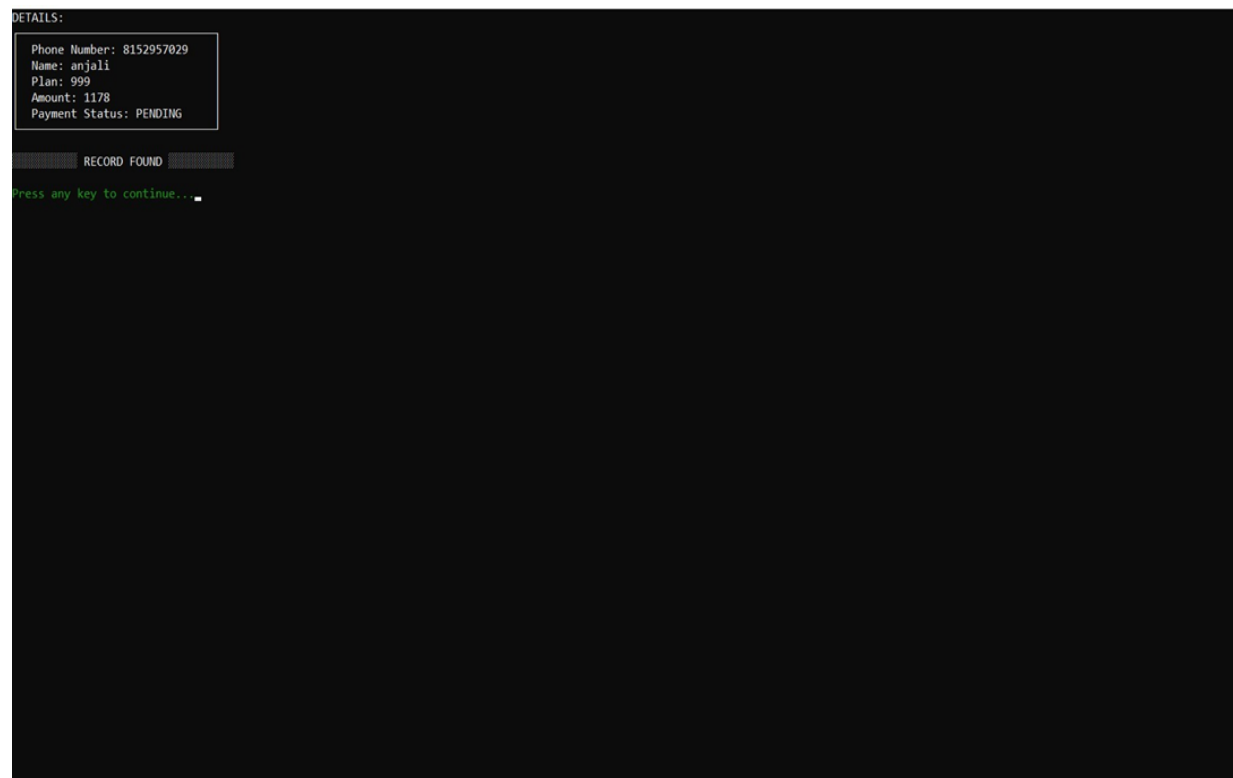
Sl.no	Phone No.	Name	Plan	Amount	Payment Status
1.	9945790448	manoj	Rs.2498	Rs.0	PAID
2.	8105750084	manoj	Rs.2498	Rs.2947	PENDING
3.	9481612147	harsha	Rs.850	Rs.1003	PENDING

« Press any key to go back|

6.1.4 Delete a Record



6.1.5 Search Record



6.1.6 Modify Record

D:\FS notes\hotel management project.exe

Hotel Management

1. Manage Rooms
2. Check-In Room
3. Available Rooms
4. Search Customer
5. Check-Out Room
6. Guest Summary Report
7. Exit

Enter Option: 6

Customer First Name : PAVAN
Room Number : 1
Address (only city) : TUMKUR
Phone : 9546727849

Customer First Name : DARSHAN
Room Number : 2
Address (only city) : BANGLORE
Phone : 6847654239

6.1.7 Modify Record

DETAILS:

Phone Number: 8152957029
Name: anjali
Plan: 999
Amount: 1178
Payment Status: PENDING

EDIT DETAILS:

1. Change Name
2. Change Plan
3. Change both Name and Plan
4. Exit

Enter your choice: 1

Enter new name: suman

The entered phone number is FOUND and record MODIFIED SUCCESSFULLY

Press any key to continue...

6.1.8 Make a Payment

PAYMENT DETAILS:

BILL	
Bill To:	Date: 20-6-2023
NAME: deepthi	
PHONE NUMBER: 8152957029	
SUBSCRIPTION PLAN: Rs.850	
TAX: Rs.152	
BALANCE AMOUNT: Rs.1002	
PAYMENT STATUS: PENDING	

Enter amount of payment : 1002

PAYMENT SUCCESSFUL

Press any key to continue...

CHAPTER 7

CONCLUSION

The “Hotel Management System” executed well without any exceptions. The total time complexity of the program could be improved with better searching techniques. The program runs well but there is always a scope for improvement. Better search techniques can be implemented and searching can be done based on other aspects too.

Hotel management system now-a-days have the advantage of modernization. Computer have done the work more easy. Computer is playing an important role in management. Reports are made on daily basis for every customer check in or check out which can easily be seen by the management. Hotel management system has also primary purpose is to provide facilities to customers. A software for computers makes the things many times easy, these are made as user friendly and to keep a check and balance in hotel management and accounts as well. So, these things are important.

This project is designed to meet the requirements of Hotel Management. It has been developed in Visual Basic keeping in mind the specifications of the system. Overall, the project teaches us the essential skills like: Understanding the File handling and query processing. This project is designed to meet the requirements of Online Hotel Management. It has been developed in C++ language keeping in mind the specifications of the system.

CHAPTER 8

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