Smart Receptionist

BY

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APPROVAL

This Project titled "**Smart Receptionist**", submitted by "**SOLO PROGRAMERS**" consists of Shiddarth Dey Tusar-167, Mahinur Rahman Mahi-160, Sumaiya Oishee-161, A.S.M Rayat-162, S.M Ahad Ali Chowdhury-156 and Koushik Roy-173 to the Department of Computer Science and Engineering (CSE), Leading University, has been accepted as satisfactory for the partial fulfillment of the requirements for the course code: **"CSE-2118",** course title: **"Computer Algorithm and Complexity Lab"** and approved as to its style and contents. The presentation has been held on 25-06-2021.

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Md Saidur Rahman Kohinoor, Designation, Department of CSE** Leading University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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Firstly, I would like to thank our project supervisor **Md Saidur Rahman Kohinoor** and project guide **Md Hridoy Chowdhury.**

I would also like to thank all of my friends who have helped me through this. They shared valuable opinions and ideas during the process of this project.

ABSTRACT

Our project name is **“Smart Receptionist System”.** All the work of a receptionist will be handled by this system. The work of this receptionist system is divided into two parts. One for Hospital management and one for hotel management. All information such as doctors login, hospital details, patient information, doctor list, service list, payment, patient record, schedules will be managed by this Hospital management.

Hotel management will handle all the information and facilities of a person staying in a hotel and the cost of it. For example, room booking, special services, room service, car rental, parking of different kinds of vehicles, payment using bank or crypto currency, discount system and also administrative panel which has control over employee data and parking data. Admins can enter or delete info about employee and pay check their salaries.

TABLE OF CONTENTS

LIST OF FIGURES

List of Figures

Figure 1

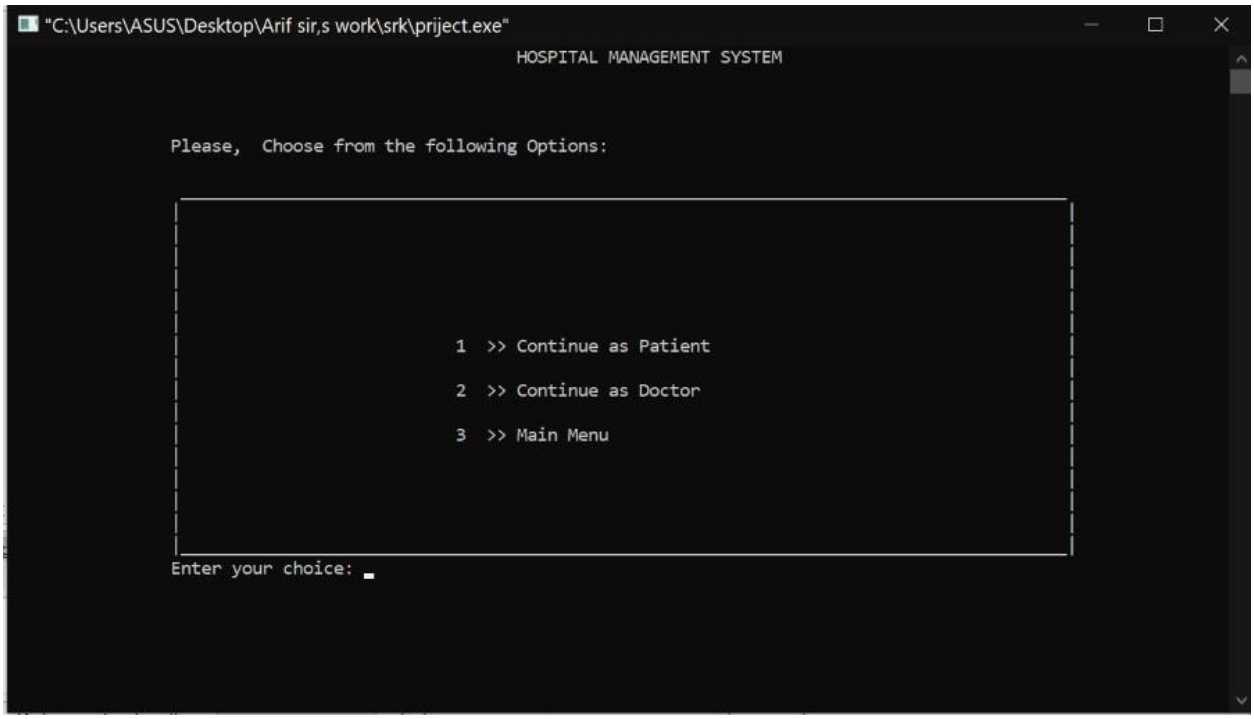

Figure 2

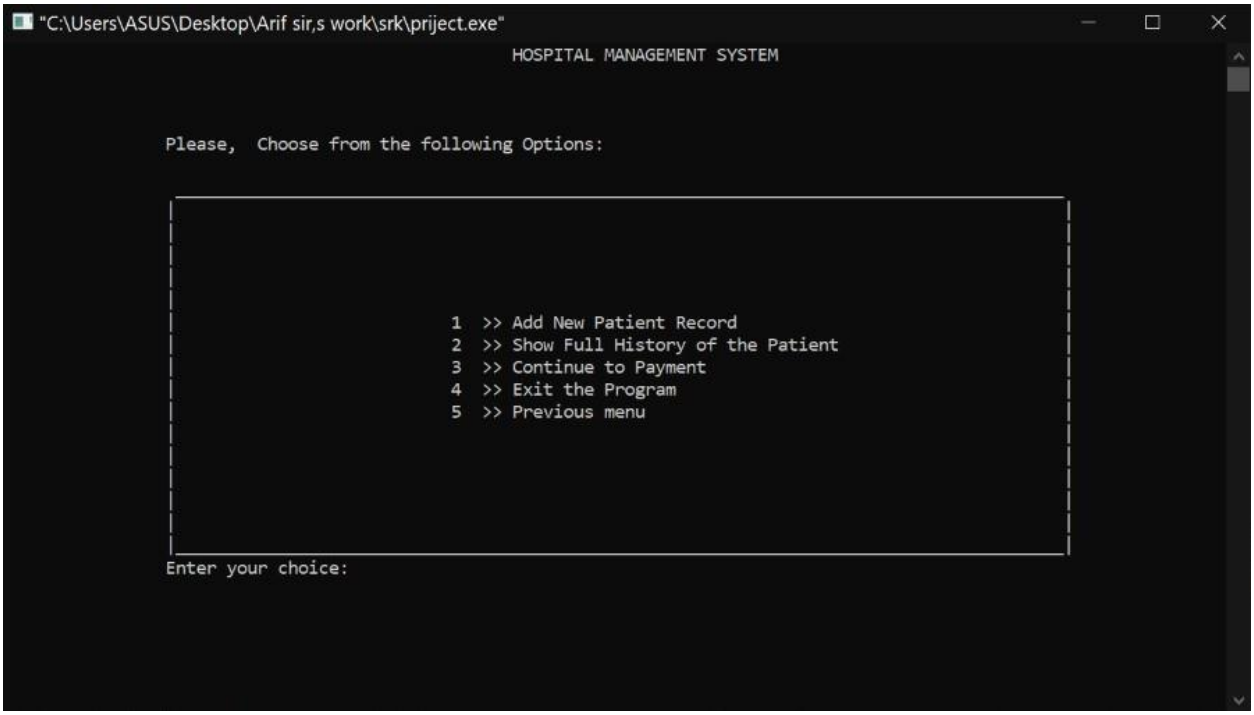

Figure 3- Patients Portal

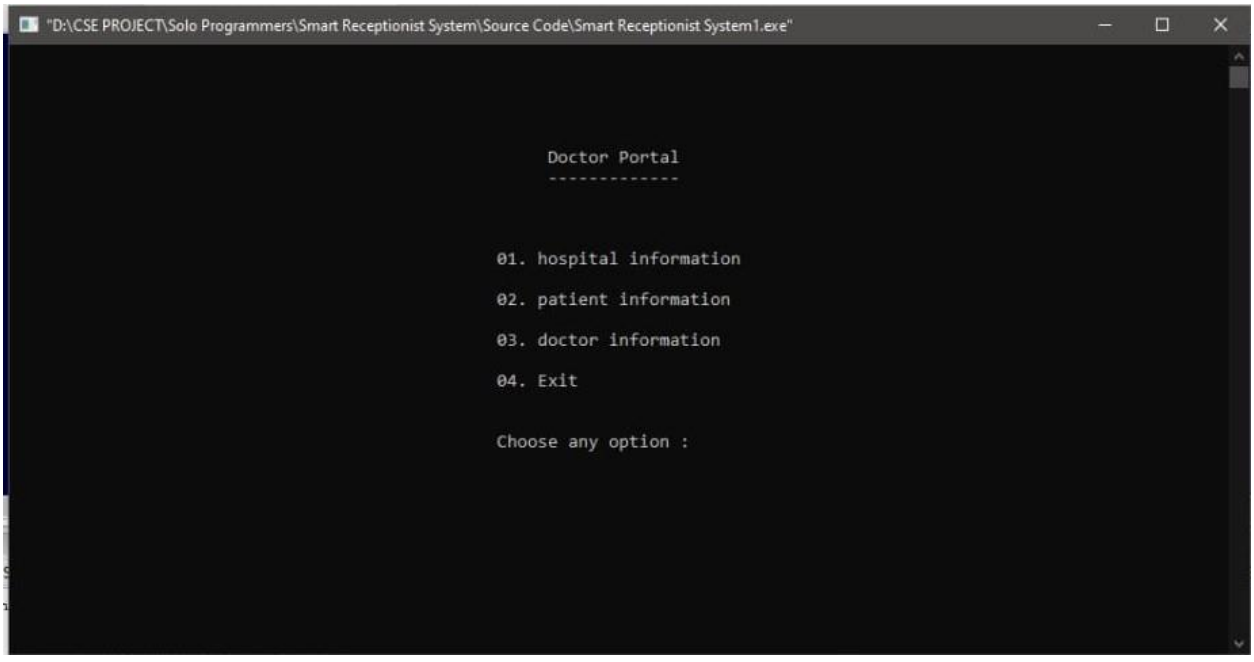

Figure 3- Doctor's Portal

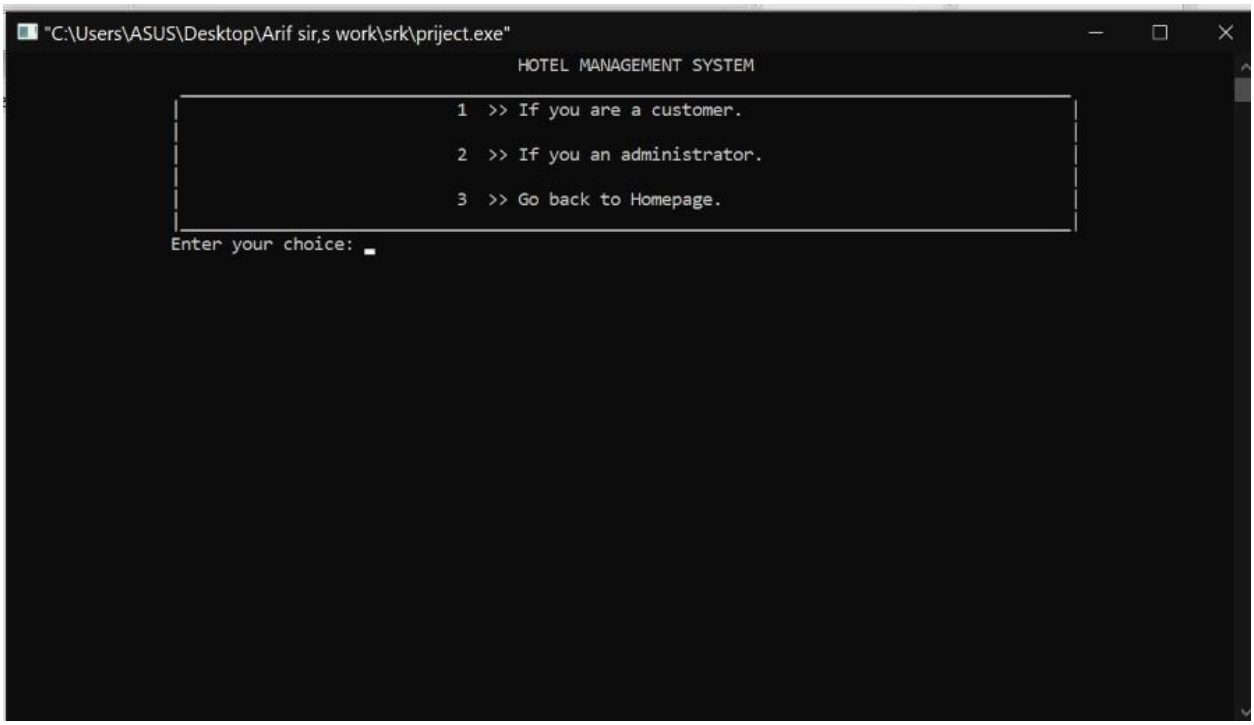

Figure 4

Customer management work lots of thing,

1.User store Information of customers

2.Room service (if the costumer want)

3.special services included(spa, gym, car rental if customers want)

4.Car Parking (if customers have any vehicle)

5.All Overview of customers win cost.

6. Payment (Bank transfer or Crypto currency)

Note: we couldn't use a figure for this part is step based

Figure 5

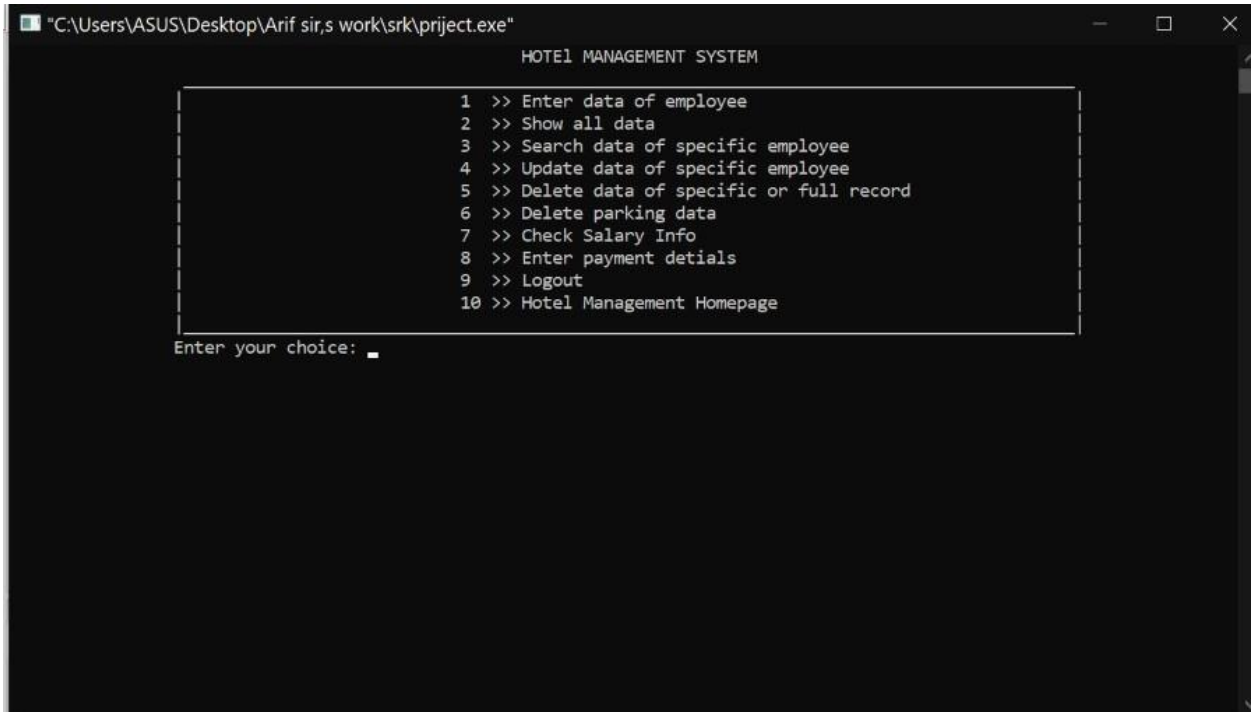
"C:\Users\ASUS\Desktop\Arif sir,s work\srk\priject.exe"
HOTEl MANAGEMENT SYSTEM
1 >> Enter data of employee
2 >> Show all data
3 >> Search data of specific employee
4 >> Update data of specific employee
5 >> Delete data of specific or full record
6 >> Delete parking data
7 >> Check Salary Info
8 >> Enter payment detials
9 >> Logout
10 >> Hotel Management Homepage
Enter your choice:

Figure 6

Chapter- 1: Introduction

Introduction

Our project name is **"Smart Receptionist System".** All the work of a receptionist of a hospital and hotel will be handled by this system. The work of this receptionist system is divided into two parts. One for Hospital management and one for hotel management.

All information of a patient such as **name, blood group, major disease, symptoms, serial** number etc. It will also handle Doctors information and its corresponding will be managed by this Hospital management.

Hotel management will handle all the information and facilities of a person staying in a hotel and the cost of it. For example, **choosing rooms, special service, room service, payment, special discount.**

Motivation

Case 1

We often see that patients have to wait a long time to get a doctor's appointment. Sometimes even after waiting for a long they fail to get an appointment. They often fall under the influence of pseudo brokers and lose their precious time and money. Sometimes they fail to get the right doctors for their disease. These scenarios helped us to approaches towards creating a system that will control all the activities of a patient's starting from registering to all other activities.

Case 2

In Hotel management we tried to make the booking system and other things related to it as much as easy as we could. We made it so that customer can do almost everything at one in one place. Moreover, the administrative panel of the hotel can also use this system to maintain their employee system and they will also have their control over parking records.

Objective

Main objective of each program is to ease the particular process, to ensure quicker results and feedback. We want the user to feel as hassle free as possible while using a certain program. Though we know that there will be different issues and difficulties.

Chapter- 2: Background

Project Planning

Our project planning went very sloppy at the beginning. We were lost most of the time. We couldn't find a precise topic to work on. Even when we did we couldn't imagine how to implement our knowledge in a particular manner.

It was very late when we decided on which topics we will work on. We started working on them at the very last moments. We do realize that it was our fault for not being able to decide. The topic that we worked on are very common so we didn't have to research too deep on how to approach to a solution. Hence there is bound to have limitations and issues in this project.

Relevant study and Findings

Challenges

The most challenging part of this project was combining the individual code snippets. We had to do so many redo and edits in orders to mix all of the six code snippets altogether. Sometimes it was too much frustrating. Our eyes and backs were hurting. Even now if we dig deep, we still find some issues related the combining process. Though the project was very easy to implement, the combining was very tough.

The testing also gave us headache. At first each step started giving errors and unrelated results. Finding where the problem is from a thousand line is very tiresome. No wonder debuggers are paid high.

Chapter- 3: Requirement Specification

In order to run this program one needs minimal but particular information which they can understand while the program is running.

Chapter- 4: Implementation and Testing

Implementation and Testing

The implementation process was rather exciting than being tiresome. Its true that at times it was frustrating but right after that it was curious and funny. We all agree that the implementation period was very enjoyable. Trying different methods for certain parts, seeing them not working and trying again, sometimes expecting it not to work but it still did, looking at the screen and wondering what is it that I want to do, not knowing what we don't even know, all those moments were enjoyable. The inner peace that hits when the code runs successfully is magical.

As we have said before, testing was literally a pain in the neck. Going through all the conditions and variable, testing out the returned values of a function, adding them together, maintaining the serialization of the functions, trying to figure out what to put inside **default** or **else** was nightmare.

Chapter- 5: Team Work

Work Distribution.

We parted this **Smart Reception System** into two. One for hospital management and the other one for hotel management. As we have six members, three of us started working on each project. After that the three of us divided our work for particular project and started working. At the end we first combined the three member works first, then we combined the whole code.

Individual Contribution

Because of the individual contributions, we were able to complete this project. All of members worked best to out abilities. Six people took six different work. First I will talk about hotel management.

Shiddarth Dey Tusar, Sumaiya Oishee and M. Rahman Mahi was in responsibility of completing this part of project. They were assigned the particular task below:

Hotel Booking and Payment process.

This part of the program will take

1. Customer information such as name, contact number, NID/Passport number, total number people that will be staying and how many days they will be staying.
2. Now customer will be asked if they want to include room service. If they do a particular cost will be added.
3. In this phase the customer will be shown different kinds of room's info with prices, they have to choose a suitable room. The price will be included later.
4. In this step if they want special services and upon selecting yes they will be shown a list of services. They have to select how many and which services they want.
5. Now they will be asked if they have any vehicles with them. Upon saying yes, they will be taken to the parking process.

If they say no, they will be asked if they want to rent a car.

6. In this step they will be given a final overview of their choices and also the total cost. They will be asked to proceed to payment.
7. In payment there will be two options, one for bank transfer and another for cryptocurrency pay.

Parking Process.

Customer will be bought here if they have a vehicle with them. Here they will be

1. Shown a list with parking limit, prices for three different kinds of vehicle parking and a list for them in order to select what kind of vehicle they want to park.
2. Customer can select what kind of vehicle they want to park. After selecting a amount will be added later.
3. They can also check the parking records for availability.
4. **Sumaiya Oishee** also created a function which will allow an admin to delete the parking record at any time. This function is added to the administrative part of the code.
5. They can exit the parking process by inserting certain command.

Administrative Process.

This part of the program is for the admin panel of the hotel. In here they can,

1. Enter certain employee details like name, salary, address etc.
2. See all the employee data available.
3. Search a particular employee by using employee's designated ID number.
4. Update specific employee data.
5. Delete specific or all employee data.
6. Delete parking data.
7. They can check if a particular employee's salary has been paid or not.
8. They can also pay the employee salary.

9. They can log out to log in panel.
10. They can also go back to the homepage of hotel management.

This part of the system quite nicely implemented.

Algorithm/Pseudo code

Upon entering hotel management, 3 option

1. Enter as a customer
2. Enter as an admin
3. Go to homepage

If choice=3, takes back to homepage

If choice=1, enter customer user system

{

Step 1: customer provides info on name, contact, NID/Passport, number of people staying, number of days staying.

Step 2: program asks if room service be included

If choice=yes, particular cost added to the total cost.

If choice=no, next step.

Step 3: Different kinds of room's information is shown with serial numbers. Customer chooses a room number.

Customer choice number returns an array value that contains price for the particular room.

Step 4: customer is asked if they want special services,

If choice=yes, customer is shown a list of special service and is asked how many and which services they would choose

{

A loop runs "**how many**" times and takes input the serials of specials services. The array is returned and works as of'

```
int *spclret = SpecialService()

for(int i=0; i<n; i++)

    total2 = total2 + spclcst[spclret[i]]
```

here n=**how many** and **spclcst** is an array containing cost of special services.

}

If choice=no, the program continues.

Step 5: program asks if customer have any vehicle with them,

If choice=yes, taken to a parking program

{

Parking limit and cost for different vehicle parking are shown. A menu for,

1. Parking a two-wheeler
2. Parking a three-wheeler
3. Parking a four-wheeler
4. Show parking record.
5. Exit parking.

If choice=1/2/3, parking amount is added and parking data is updated.

If choice=4, updated parking data is shown

If choice=5, exits to next step

}

If choice=no, asks if customer wants to rent a vehicle

If choice=yes, a list of vehicles with prices is shown with serial number

Customer's chosen serial number is returned with an array containing the price of these vehicles.

If choice=no, proceeds next.

Step 6: shown a final overview of customer's choices and total price. Program asks to proceed to payment.

Step 7: in payment section, program asks to pay via,

1. Bank Transfer
2. Pay using crypto

If choice=1, customer taken to bank payment portal

{

1. Shown an account number
2. Shown a matrix made out of account number
3. Asked to scan the matrix
4. Upon scanning a verification code is sent and is asked to provide

If verification code=match, payment complete, room number and room lock code is given.

}

If choice=2, Customer is asked which crypto they want to pay using. After selecting a crypto they are asked if they have visited this hotel before and paid in crypto,

{

If choice=yes, they get a chance to win a discount,

1. They are asked to put the previous crypto wallet address they used to pay this hotel
2. Upon inputting the previous and the present wallet address is compared using LCS technique and given a discount based on the number of longest common subsequence of the strings.
3. If the LCS is smaller then 5, than it is multiplies by 5 to increase the discount.
4. Then the total amount is calculated by adding the discount and converting the prices into crypto equivalent.
5. A crypto wallet address and a matrix made out of it is shown.
6. Upon scanning a verification code is sent and is asked to provide

    If verification=match, payment complete, room number and room lock code is given.

}

}

If choice=2, enters a log in panel asking for username and password. Upon entering the right queries, the admin reaches a portal displaying,

{

1 >> Enter data of employee
2 >> Show all data
3 >> Search data of specific employee
4 >> Update data of specific employee
5 >> Delete data of specific or full record
6 >> Delete parking data
7 >> Check Salary Info
8 >> Enter payment details
9 >> Logout
10 >> Hotel Management Homepage

If choice=1, admin can add employee details like name, ID, contact, address, salary.

If choice=2, admin can see all the employee data he put in.

If choice=3, admin can search data of specific employee using employee ID.

If choice=4, admin can update specific employee data using employee ID.

If choice=5, admin can delete all or particular employee data using ID.

If choice=6, admin can delete parkin data that customer has entered.

If choice=7, admin can check if a specific employee's salary is paid or not using employee ID.

If choice=8, admin can pay a specific employee their salary using employee ID.

If choice=9, admin can log out to admin login page.

If choice=10, admin can go to hotel management homepage.

}

Hospital Management:

A.S.M Rayat, S.M Ahad Ali Chowdhury and Koushik Roy was in responsibility of this system. Their works are:

This part of the program will work on,

Patient's Side

1. Adding new patient records on a file such as, patient name, age, sex, blood group etc. Than a doctors list is shown from which they can choose. A time schedule choice is given from which they can choose a suitable time.
2. They can see their details using their file name.
3. They can exit to payment system where they will choose the doctor they selected before and a cost will be added according to that.

4. In this step patients can use service of the hospital by choosing particular and a fee will be added according to that.
5. Now they will be asked if they have any promo code. Having a promo code can give them discount on the total price.
6. They will have to continue to pay the final cost using bank or bkash payment.

Doctor's Side

1. Doctors have to login here in order to have access.
2. In there they can see information about the hospital such as, type, establishment, director, location, contact number, website etc.
3. Doctors can see patient's info of the previous day as list.
4. Doctors can see other doctor's info that are assigned to this hospital.

Algorithm

```
Int Input()
        Input,in;
        Print" Select Your Doctor from this list"
        Scan input
        If(input==1)
                Goto case 1
Case 1:
        DoctorList();
        Goto y;
        Print"Do you use our services?"
        Scan input
        If(input==2)
```

```
        Goto case 2;
Case 2:
        ServiceList();
        Goto c;
        Print" Do you have any Promo code?"
        Scan input
        If(input==3)
        Goto case 3;
Case 3:
        PromoCode(aaa,bbb);
        Goto d;
        Print" Total amount"
        Scan input
        If(input==4)
        Goto case 4;
Case 4:
        Total();
        Goto e
        Print" Payment";
        Scan input
        If(input==5)
        Goto case 5;
Case 5:
```

```
        Payment();
        Beeak;

DoctorList()
        Input;
        Num={1,2,3,5,7,10,12,14,17,18,20};
         Num2={4,6,8,13,15,16,19};
         Num3={9,11,21};
        Open file “DoctorPay.txt”;
        Scan input
        For(i=0;i<11;i+)
         If(input=num i)
        Return 1000;
        Else(input=num2 i)
        Return 1200;
        Else(input=num3 i]
        Return 2000;

ServiceList()
        X,sum=0;
        Open file”Services.txt”;
        Print” How many service you used :”
        Scan x
```

```
Y[x]
Print”Enter number : ”
For(i=0;i<x;i+)
Scan y[i]
For(i=0;i<x;i+)

If(1=y[i])
        sum=sum+1200
Else if(2=y[i])
        Sum=sum+2000
Else if(3=y[i])
        Sum=sum+5000
Else if(4=y[i])
        Sum=sum+1000
Else if(5=y[i])
        Sum=sum+1300
Else if(6=y[i])
        Sum=sum+500
Else if(7=y[i])
        Sum=sum+800
Else if(8=y[i])
        Sum=sum+900
Return sum;
```

```
PromoCode( aaa, bbb)
        Promo =DOC5
        If(code=promo)
                Total=(aaa+bbb)*5/100
        Else
        Total=aaa+bbb;

Total()
        Print “Doctor fee”
        Print”Service fee”
        Print”Discount”
        Print”Total”

Payment()
        input
        Print” Payment Option”
        Print”Bank or Bkash”
        Scan input
        If(input==11)
                Use bank;
        If(input==12)
                Use bkash;
```

namecheck(a)

scan search

open file “name.txt”;

if(serech= name.txt)

return again

template<typename T>

string itos(T i)

s

s<I;

return s.str();

If choice=2, goes to doctors’ side of the hospital

Doctors have to log in using valid username and password.

If matches, then

1. Hospital Info.
2. Patient Info
3. Doctors Info
4. Exit

If choice=4, program terminates.

If choice=1

Program shows information about the hospital such as, type, establishment, director, location, contact number, website etc.

If choice=2

Program shows list of patients on previous day.

If choice=3

Program shows list of doctors assigned to this hospital.

Chapter- 6: Conclusion and Future Scope

Learning and Conclusion

All of the team members can agree on one that we all learned different valuable and important thing while doing this project.

We found new ways to approach a problem, we learned different techniques that rather small but might influence a code in larger scale. We learned how to maintain the productivity of a code, how to maintain teamwork.

We learned a great lesson time management and discipline. All these things will definitely benefit us in future.

Scope for further development

We can without a doubt say that there is a very large scope for development of this whole system. This system can be made way more dynamic and fluid. The file system can be used more efficiently. Different part of the program can be made contentious and can be given a simultaneous process. A record keeping and overwriting process can be added for every single task that has been done and so much more.

References

Youtube- Anisul Islam, available at, << https://rb.gy/yc81xq >>, last accessed on 01/06/2021, 8.30 PM

Geeks for Geeks, available at << https://rb.gy/c00lgy >>, last accessed on 22/06/2021, 12.40 PM.