HOTEL MANAGEMENT SYSTEM

21CSS101J – PROGRAMMING FORPROBLEM-SOLVING

Mini Project Report

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BONAFIDE CERTIFICATE

Certified that Mini project report titled _____is the bonafide work of Reg.No. _____Name_____who carried out the minor project under my supervision. Certified further, that to the best of my knowledge, the work reported here in does not form any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

SIGNATURE   **SIGNATURE**

   (GUIDE)(HEAD OF THE DEPARTMENT)

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1. Problem Statement

The goal is to design and implement a robust Hotel Management System that addresses the complex requirements of modern hotels. This system should streamline day-to-day operations, enhance guest experience, and provide management with insightful data for informed decision-making.

2. Methodology / Procedure/ Algorithm

☐ **Global Variables-name ,phno ,add, checkin,checkout ,room ,price ,rc ,**
p ,roomno, custid ,day
☐ **Home Function**
☐ **Booking Function**
☐ **Rooms_Info Function**
☐ **Restaurant Function**
☐ **Record Function**

Global Variables
name ,phno ,add,checkn,checkout ,room ,price ,rc ,p ,roomno,custid ,day

Home Function
The Home function serves as the main menu of the application, allowing users to navigate to different functionalities.

Booking Function
The Booking function is used for booking hotel rooms. It collects customer information, room type selection, generates a unique room number, and records the booking.

Rooms_Info Function
The Rooms_Info function provides information about the types of rooms available in the hotel.
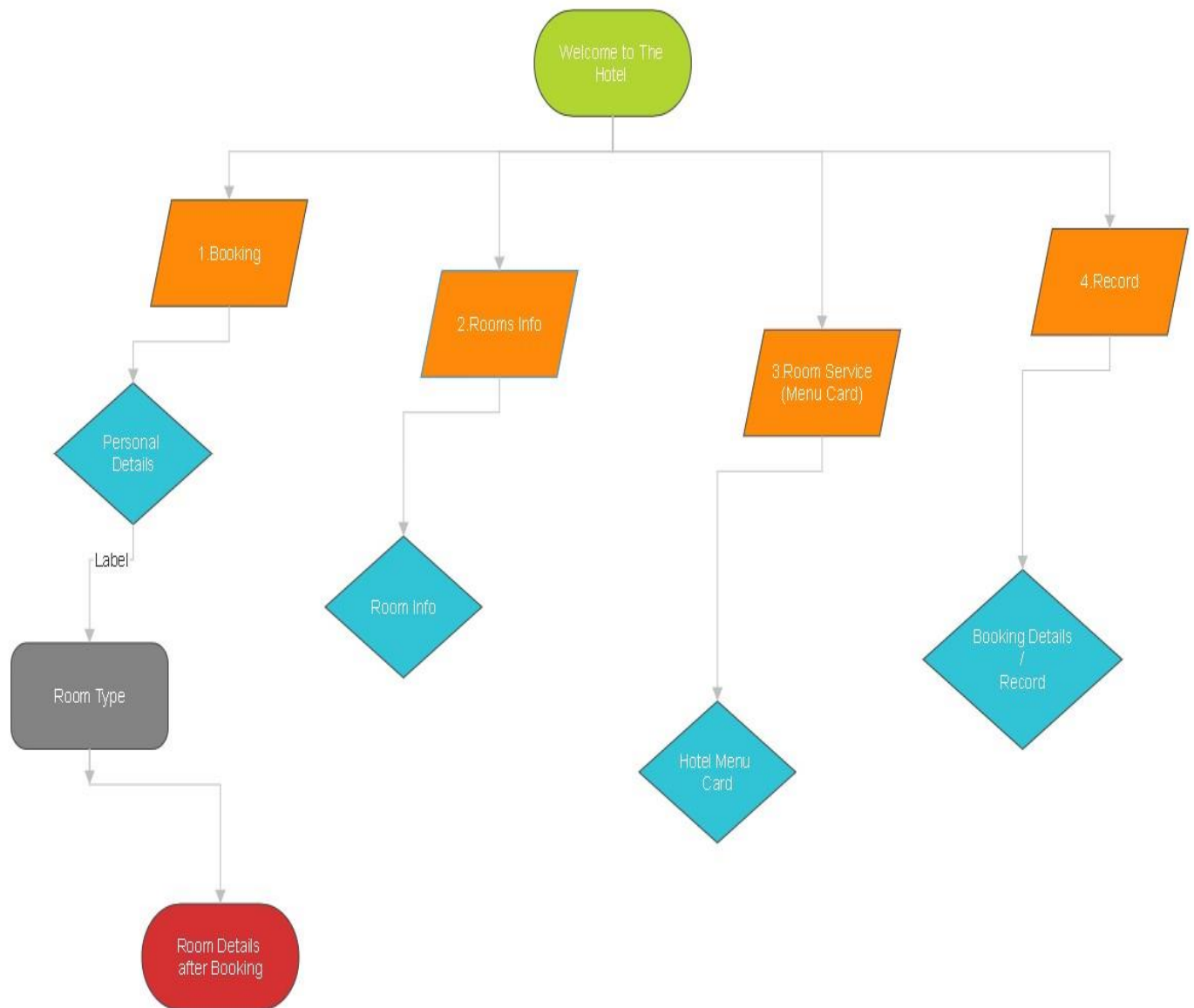
Restaurant Function
The Restaurant function allows customers to place food orders from the menu. It calculates the total bill For the customer.

Record Function
The Record function displays records of customer bookings, including name, phone number,address, check-in, check-out, room type, and price.

3. Flow chart

4. Coding (C/Python)

```python
name = []
phno = []
add = []
checkin = []
checkout = []
room = []
price = []
rc = []
p = []
roomno = []
custid = []
day = []

# Global Variable Declaration

i = 0

# Home Function
def Home():

print("\t\t\t\t\t\t WELCOME TO HOTEL RiAl\n")
print("\t\t\t 1 Booking\n")
print("\t\t\t 2 Rooms Info\n")
print("\t\t\t 3 Room Service(Menu Card)\n")
print("\t\t\t 4 Record\n")
print("\t\t\t 0 Exit\n")

ch=int(input("->"))

   if ch == 1:
print(" ")
Booking()
```

```python
    elif ch == 2:
print(" ")
Rooms_Info()


    elif ch == 3:
print(" ")
restaurant()


    elif ch == 4:
print(" ")
Record()


    else:
exit()


# Booking function
def Booking():

    # used global keyword to
    # use global variable 'i'
    global i
print(" BOOKING ROOMS")
print(" ")

    while 1:
        n = str(input("Name: "))
        p1 = str(input("Phone No.: "))
        a = str(input("Address: "))
        cii=str(input("Check-In: "))
        coo=str(input("Check-Out: "))
noofdays= int(input("Number of Days staying:"))
        # checks if any field is not empty
        if n!="" and p1!="" and a!="" and cii!= "" and  coo!= ""  and
noofdays!= "" :
```

```
            name.append(n)
            add.append(a)
            checkin.append(cii)
            checkout.append(coo)
                    #noofdays.append(nodays)
                    break


        else:
print("\tName, Phone no.,Checkin,Checkout and number of days cant be
empty & Address cannot be empty..!!")


print("----SELECT ROOM TYPE----")
print(" 1. One bed with AC and all other necesities")
print(" 2. Two bed with AC and all other necesitites")
print(" 3. Three bed with AC and all other necsitities")
print(" 4. Four bed with AC and all other necesites")
print(("\t\tPress 0 for Room Prices"))


ch=int(input("->"))


        # if-conditions to display alloted room
        # type and it's price
        if ch==0:
print(" 1.One bed with AC and all other necesities - Rs. 6500")
print(" 2.Two bed with AC and all other necesitites- Rs. 8000")
print(" 3.Three bed with AC and all other necsitities-Rs.10000")
print(" 4.Four bed with AC and all other necesites - Rs. `14000")
ch=int(input("->"))
        if ch==1:
room.append('One bed with AC and all other necesities')
print("Room Type- One bed with AC and all other necesities")
price.append(6500)
print("Price- 6500")
elif ch==2:
room.append('Two bed with AC and all other necesitites')
```

```python
print("Room Type- Two bed with AC and all other necesitites")
price.append(8000)
print("Price- 8000")
elif ch==3:
room.append('Three bed with AC and all other necsitities')
print("Room Type- Three bed with AC and all other necsitities")
price.append(10000)
print("Price- 10000")
elif ch==4:
room.append('Four bed with AC and all other necesites ')
print("Room Type-Four bed with AC and all other necesites ")
price.append(14000)
print("Price- 14000")
    else:
print(" Wrong choice..!!")



rn = random.randrange(40)+300
cid = random.randrange(40)+10



    # checks if allotted room no. & customer
    # id already not allotted
    while rn in roomno or cid in custid:
rn = random.randrange(60)+300
cid = random.randrange(60)+10

rc.append(0)
p.append(0)

    if p1 not in phno:
phno.append(p1)
elif p1 in phno:
        for n in range(0,i):
            if p1== phno[n]:
```

```python
                if p[n]==1:
phno.append(p1)
elif p1 in phno:
        for n in range(0,i):
           if p1== phno[n]:
              if p[n]==0:
print("\tPhone no. already exists and payment yet not done..!!")
name.pop(i)
add.pop(i)
checkin.pop(i)
checkout.pop(i)
Booking()
print("")
print("\t\t\t***ROOM BOOKED SUCCESSFULLY***\n")
print("Room No. - ",rn)
print("Customer Id - ",cid)
roomno.append(rn)
custid.append(cid)
i=i+1
    n=int(input("0-BACK\n ->"))
    if n==0:
Home()
    else:
exit()


# ROOMS INFO
def Rooms_Info():
print("        ------ HOTEL ROOMS INFO ------")
print("")
print("STANDARD NON-AC")
print("-----------------------------------------------------------------")
print("Room amenities include: 1 Double Bed, Television, Telephone,")
print("Double-Door Cupboard, 1 Coffee table with 2 sofa, Balcony and")
print("an attached washroom with hot/cold water.\n")
print("STANDARD NON-AC")
```

```python
    print("---------------------------------------------------------------")
    print("Room amenities include: 1 Double Bed, Television, Telephone,")
    print("Double-Door Cupboard, 1 Coffee table with 2 sofa, Balcony and")
    print("an attached washroom with hot/cold water + Window/Split AC.\n")
    print("3-Bed NON-AC")
    print("---------------------------------------------------------------")
    print("Room amenities include: 1 Double Bed + 1 Single Bed, Television,")
    print("Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa, 1")
    print("Side table, Balcony with an Accent table with 2 Chair and an")
    print("attached washroom with hot/cold water.\n")
    print("3-Bed AC")
    print("---------------------------------------------------------------")
    print("Room amenities include: 1 Double Bed + 1 Single Bed, Television,")
    print("Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa, ")
    print("1 Side table, Balcony with an Accent table with 2 Chair and an")
    print("attached washroom with hot/cold water + Window/Split AC.\n\n")
    print()
    n=int(input("0-BACK\n ->"))
    if n==0:
Home()
    else:
exit()


# RESTAURANT FUNCTION
def restaurant():
ph=int(input("Customer Id: "))
    global custid
    f=0
    r=0
    for n in range(0,i):
       if custid[n]==ph and p[n]==0:
          f=1
print("-------------------------------------------------------------------")
print("                        Hotel RiAl")
print("-------------------------------------------------------------------")
```

```python
print("                    Menu Card")
print("--------------------------------------------------------------------")
print("\n BEVARAGES                        26 Dal Fry................ 140.00")
print("--------------------------------       27 Dal Makhani............ 150.00")
print(" 1  Regular Tea............. 20.00      28 Dal Tadka.............. 150.00")
print(" 2  Masala Tea.............. 25.00")
print(" 3  Coffee.................. 25.00      ROTI")
print(" 4  Cold Drink............. 25.00       ---------------------------------")
print(" 5  Bread Butter............ 30.00      29 Plain Roti.............. 15.00")
print(" 6  Bread Jam............... 30.00      30 Butter Roti............. 15.00")
print(" 7  Veg. Sandwich........... 50.00      31 Tandoori Roti........... 20.00")
print(" 8  Veg. Toast Sandwich..... 50.00      32 Butter Naan............. 20.00")
print(" 9  Cheese Toast Sandwich... 70.00")
print(" 10 Grilled Sandwich........ 70.00      RICE")
print("                                -------------------------------")
print(" SOUPS                          33 Plain Rice.............. 90.00")
print("--------------------------------       34 Jeera Rice.............. 90.00")
print(" 11 Tomato Soup............. 110.00     35 Veg Pulao.............. 110.00")
print(" 12 Hot & Sour............. 110.00      36 Peas Pulao............. 110.00")
print(" 13 Veg. Noodle Soup....... 110.00")
print(" 14 Sweet Corn............. 110.00      SOUTH INDIAN")
print(" 15 Veg. Munchow........... 110.00    ----------------------------------")
print("                                37 Plain Dosa............. 100.00")
print(" MAIN COURSE                    38 Onion Dosa............. 110.00")
print("--------------------------------       39 Masala Dosa............ 130.00")
print(" 16 Shahi Paneer........... 110.00      40 Paneer Dosa............ 130.00")
print(" 17 Kadai Paneer........... 110.00      41 Rice Idli.............. 130.00")
print(" 18 Handi Paneer........... 120.00      42 Sambhar Vada........... 140.00")
print(" 19 Palak Paneer........... 120.00")
print(" 20 Chilli Paneer.......... 140.00      ICE CREAM")
print(" 21 Matar Mushroom......... 140.00     ---------------------------------")
print(" 22 Mix Veg............... 140.00       43 Vanilla................ 60.00")
print(" 23 Jeera Aloo............. 140.00      44 Strawberry............. 60.00")
print(" 24 Malai Kofta............ 140.00      45 Pineapple.............. 60.00")
print(" 25 Aloo Matar............. 140.00      46 Butter Scotch.......... 60.00")
```

```python
print("Press 0 -to end ")
ch=1
        while(ch!=0):

ch=int(input(" -> "))

            # if-elif-conditions to assign item
            # prices listed in menu card
            if ch==1 or ch==31 or ch==32:
rs=20
            r=r+rs
elif ch<=4 and ch>=2:
rs=25
            r=r+rs
elif ch<=6 and ch>=5:
rs=30
            r=r+rs
elif ch<=8 and ch>=7:
rs=50
            r=r+rs
elif ch<=10 and ch>=9:
rs=70
            r=r+rs
elif (ch<=17 and ch>=11) or ch==35 or ch==36 or ch==38:
rs=110
            r=r+rs
elif ch<=19 and ch>=18:
rs=120
            r=r+rs
elif (ch<=26 and ch>=20) or ch==42:
rs=140
            r=r+rs
elif ch<=28 and ch>=27:
rs=150
            r=r+rs
```

```python
        elif ch<=30 and ch>=29:
rs=15
              r=r+rs
        elif ch==33 or ch==34:
rs=90
              r=r+rs
        elif ch==37:
rs=100
              r=r+rs
        elif ch<=41 and ch>=39:
rs=130
              r=r+rs
        elif ch<=46 and ch>=43:
rs=60
              r=r+rs
        elif ch==0:
              pass
           else:
print("Wrong Choice..!!")
print("Total Bill: ",r)


        # updates restaurant charges and then
        # appends in 'rc' list
        r=r+rc.pop(n)
rc.append(r)
     else:
        pass
   if f == 0:
print("Invalid Customer Id")
   n=int(input("0-BACK\n ->"))
   if n==0:
Home()
   else:
exit()
```

```python
# RECORD FUNCTION
def Record():

    # checks if any record exists or not
    if phno!=[]:
print("      *** HOTEL RECORD ***\n")
print("| Name      | Phone No.   | Address      | Check-In  | Check-Out   |
Room Type   | Price    |")
print("-------------------------------------------------------------------------
----------------------------------")

        for n in range(0,i):
            print("|",name[n],"\t
|",phno[n],"\t|",add[n],"\t|",checkin[n],"\t|",checkout[n],"\t|",room[n],"\t|",pri
ce[n])

print("-------------------------------------------------------------------------
----------------------------------")

    else:
print("No Records Found")
    n = int(input("0-BACK\n ->"))
    if n == 0:
Home()
    else:
exit()
Home()
```

6. Modules of the proposed work

Reservation Management:

Online booking functionality with real-time availability updates.

Guest profile creation and management.

Integration with third-party booking platforms**.**

Check-in/Check-out:

Efficient check-in and check-out processes.

Room assignment automation based on guest preferences and availability.

Seamless integration with key card systems.

Inventory Management:

Real-time tracking of room availability, rates, and promotions.

Integration with housekeeping for room status updates.

Management of additional services (e.g. restaurant) availability.

Guest Services:

Room service requests and tracking.

Integration with feedback and complaint resolution system.

Personalized guest experience features.

Reporting and Analytics:

Generation of reports on occupancy rates, revenue, and guest satisfaction.

Data analytics for identifying trends and opportunities.

Customizable dashboards for management insights.

7. Results/Screenshots

```
                        WELCOME TO HOTEL RiAl

                    1 Booking

                    2 Rooms Info

                    3 Room Service(Menu Card)

                    4 Record

                    0 Exit


->1

 BOOKING ROOMS

Name: rishi dadhwal
Phone No.: 9309380005
Address: oori,220
Check-In: 28/11/2023
Check-Out: 30/11/2023
Number of Days staying:2
----SELECT ROOM TYPE----
 1. One bed with AC and all other necesities
 2. Two bed with AC and all other necesitites
 3. Three bed with AC and all other necsitities
 4. Four bed with AC and all other necesites
            Press 0 for Room Prices
->3
Room Type- Three bed with AC and all other necsitities
Price- 10000

                ***ROOM BOOKED SUCCESSFULLY***


Room No. -  302
Customer Id -  26
0-BACK
 ->0
```

```
------ HOTEL ROOMS INFO ------
```

STANDARD NON-AC

Room amenities include: 1 Double Bed, Television, Telephone, Double-Door Cupboard, 1 Coffee table with 2 sofa, Balcony and an attached washroom with hot/cold water.

STANDARD NON-AC

Room amenities include: 1 Double Bed, Television, Telephone, Double-Door Cupboard, 1 Coffee table with 2 sofa, Balcony and an attached washroom with hot/cold water + Window/Split AC.

3-Bed NON-AC

Room amenities include: 1 Double Bed + 1 Single Bed, Television, Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa, 1 Side table, Balcony with an Accent table with 2 Chair and an attached washroom with hot/cold water.

3-Bed AC

Room amenities include: 1 Double Bed + 1 Single Bed, Television, Telephone, a Triple-Door Cupboard, 1 Coffee table with 2 sofa, 1 Side table, Balcony with an Accent table with 2 Chair and an attached washroom with hot/cold water + Window/Split AC.

Customer Id: 26

                        Hotel RiAl

                        Menu Card

  BEVARAGES   26 Dal Fry................ 140.00
---------------------------------- 27 Dal Makhani............ 150.00
                                    28 Dal Tadka.............. 150.00
  1 Regular Tea............ 20.00
  2 Masala Tea............. 25.00
  3 Coffee................. 25.00 ROTI
  4 Cold Drink............. 25.00 ----------------------------------
  5 Bread Butter........... 30.00
  6 Bread Jam.............. 30.00 29 Plain Roti............. 15.00
  7 Veg. Sandwich.......... 50.00 30 Butter Roti............ 15.00
  8 Veg. Toast Sandwich.... 50.00 31 Tandoori Roti.......... 20.00
  9 Cheese Toast Sandwich.. 70.00 32 Butter Naan............ 20.00
  10 Grilled Sandwich....... 70.00
                                    RICE

  SOUPS
---------------------------------- 33 Plain Rice............. 90.00
                                    34 Jeera Rice............. 90.00
  11 Tomato Soup........... 110.00 35 Veg Pulao............. 110.00
  12 Hot & Sour............ 110.00 36 Peas Pulao............ 110.00
  13 Veg. Noodle Soup...... 110.00
  14 Sweet Corn............ 110.00
  15 Veg. Munchow.......... 110.00 SOUTH INDIAN
                                    ----
                                    37 Plain Dosa............ 100.00
  MAIN COURSE   38 Onion Dosa............ 110.00
---------------------------------- 39 Masala Dosa........... 130.00
                                    40 Paneer Dosa........... 130.00
  16 Shahi Paneer.......... 110.00 41 Rice Idli............. 130.00
  17 Kadai Paneer.......... 110.00 42 Sambhar Vada.......... 140.00
  18 Handi Paneer.......... 120.00
  19 Palak Paneer.......... 120.00
  20 Chilli Paneer......... 140.00 ICE CREAM
  21 Matar Mushroom........ 140.00 ----------------------------------
  22 Mix Veg............... 140.00
  23 Jeera Aloo............ 140.00 43 Vanilla................ 60.00
  24 Malai Kofta........... 140.00 44 Strawberry............. 60.00
  25 Aloo Matar............ 140.00 45 Pineapple.............. 60.00
Press 0 -to end   46 Butter Scotch.......... 60.00
  -> 0

```
                         WELCOME TO HOTEL RiAl

                 1 Booking

                 2 Rooms Info

                 3 Room Service(Menu Card)

                 4 Record

                 0 Exit

->4

      *** HOTEL RECORD ***

| Name        | Phone No.   | Address    | Check-In  | Check-Out  | Room Type    | Price   |
--------------------------------------------------------------------------------------------
| rishi dadhwal        | 9309380005 | oori,220  | 28/11/2023 | 30/11/2023 | Three bed with AC and all other necsitities | 10000
--------------------------------------------------------------------------------------------
0-BACK
```

8.Conclusion

The Hotel Booking System is a simple Python program that allows customers to book rooms and place restaurant orders. It can serve as a starting point for a more complex hotel managementsystem.

9. References
https://www.geeksforgeeks.org/