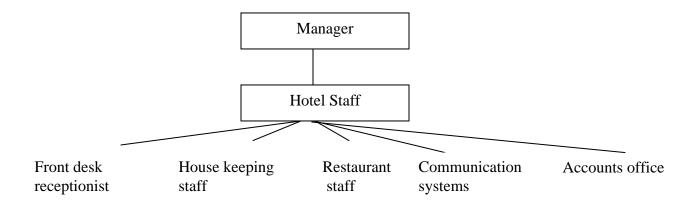# A BRIEF OUTLINE OF ANALYSIS AND DESIGN OF SYSTEM FOR ROOM BOOKING IN A HOTEL

STATEMENT OF PROBLEM

This project addresses the information required by a hotel to book rooms and clear the bills of customers. The hotel decides to computerize room booking and customer checkout formalities. The hotel has various types of rooms. It wants to allow booking online through the internet besides normal booking by phone, letter and also spot booking on arrival of the customer. The hotel management is willing to invest in a PC with internet connection. It is also willing to train the staff at the reception desk to handle computerized booking. It is unwilling to invest in local network in the hotel, which would allow on-line updating of customer charges. Customer bills are sent from restaurant, laundry etc to the reception desk accountant for manual updating of accounts. As the hotel is small with only 177 rooms, this is feasible.

A   FACT GATHERING AND REQUIREMENTS SPECIFICATION

i)   Hierarchy chart of the organization

ii) List of persons to be interviewed

Manager
Front desk receptionist
Accounts staff

a) What are the various rooms and their details?
b) What are the rates applicable to each type of room?
c) Is advance booking like booking via internet, phone etc to be allowed?
d) What are the facilities provided by the hotel?
e) Is the utilization of these considered as extra charges or is it included along with the room charges?
f) What are the functions of the front desk receptionist?
g) What communications services are provided?
h) How many days ahead of stay can a room be reserved?
i) Can companies book rooms on credit and clear the bills when sent to them?
j) Can a person extend his stay?
k) What if the customer does not turn up even after he books?
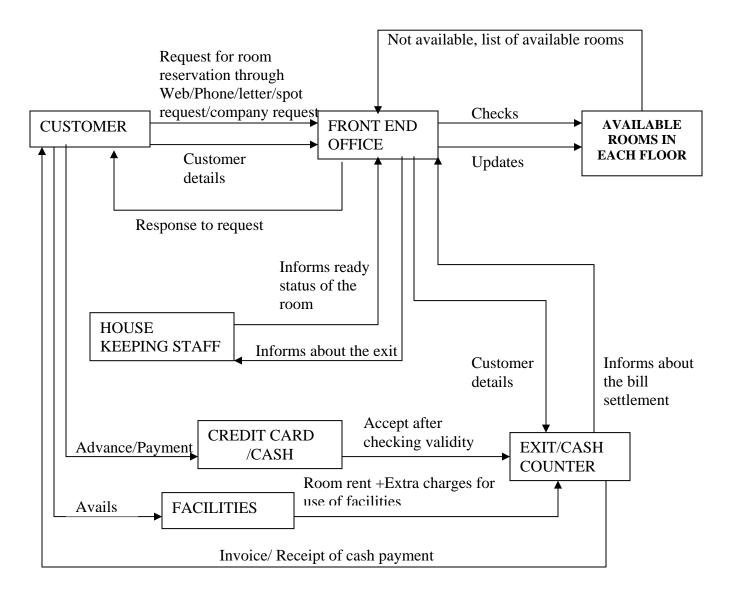
iii) Records of Discussion:

a) The hotel has rooms in the first, second and third floor.

b) Rooms may be regular/deluxe/suite type and can be either single/double/triple.

c) Suite types are double or triple occupancy.

d) Rooms may or may not be air-conditioned.

e) All deluxe/suite types are always air-conditioned

f) The no of rooms and booking rates are shown below:

	Rates per day (Rs) and No of rooms in each floor									
	Regular				Deluxe				Suite		
	Rate	No. of rooms			Rate	No. of rooms			Rate	No. of rooms	
AC Single	150	50	30	20	250	30	40	40	-	-	-	-
Non-AC Single	100	75	-	-	-	-	-	-	-	-	-	-
AC Double	250	20	30	30	400	40	20	20	500	10	30	20
Non-AC Double	175	30	10	10	-	-	-	-	-	-	-	-
AC Triple	350	10	15	15	600	05	10	10	700	03	05	07
Non-AC Triple	275	10	05	05	-	-	-	-	-	-	-	-
Floor		G	F	S		G	F	S		G	F	S

g) Facility for online booking on the internet is to be provided. Form specifying the customer details, room request, date of arrival, duration of stay, credit card details etc has to be filled and submitted, and the hotel management should be able to respond immediately.

h) A room can be booked a week well in advance with an advance payment. Advanced booking by a company for its employees is allowed. But this requires an advance of 50% of estimated charge to be paid. The customer can cancel anytime up to 5:00 pm, the day prior to arrival. No cancellation charge applies, the advance amount is refunded, unless you cancel after this time, in which case the cancellation fee equivalent of one night's stay, is charged.

i) The check-in and checkout time for the customer is 2:00pm. He is allowed to stay 1hr after the checkout time without any charge. After that (provided the room is not booked), he is charged with a rent of ½ a day

j) Booking by phone is to be provided. In this case also credit card details are to be provided and the hotel should be able to confirm reservation immediately.

k) The customer books the room and does not turn up, he also does not intimate the hotel for canceling of rooms, then his advance amount is forfeited.

l) If the customer wants to extend his stay beyond 7 days, he needs to pay at least 50% of his current amount balance, then he is eligible for extension.

m) If the customer wants to reduce his stay, he need to inform the hotel staff 1day prior to the checkout time, otherwise his money will not be refunded.

n) If the customer is averse to giving his credit card details on the Internet he could download the reservation form and send the completed form through FAX along with credit card details.

o) The facilities provided by the hotel which the customer can avail are bar, restaurants, room services, laundry services, travel packages, swimming pool, rooms with computers and internet connection for surfing, shopping mall, parking garage for overnight or short term parking, communication systems like telephone, fax, room service, extra beds and ATM counter.

p) The modes of payments are credit card or cash or billing to companies. When the customer checks out his/her bills include in addition to room charges extra charges for facilities used by him such as telephone, telex, fax services, extra beds, laundry services and Internet surfing.

q) The customer is allowed to extend his stay provided the room is vacant and is not been booked by any other customer on the same dates.

r) The responsibility of the front office which should have access to the computer are:

   (i) Room booking

   (ii) Collating all bills (such as room rent, room service, restaurant, communications) of a customer and charging it to customers room account.

   (iii) Preparing consolidated bill for a customer and collecting amount due on departure or charging to credit card or sending it to the company booking accommodation

   (iv) After sending bill to company follow up on payment of bill.

   (v) Reconciling credit card bills with payments credited to hotel's account by credit card issuing bank (periodically normally once a month)

   (vi) When a bill is paid and a customer checks out of the hotel immediately inform housekeeping to get the room cleaned and ready for the next occupant.

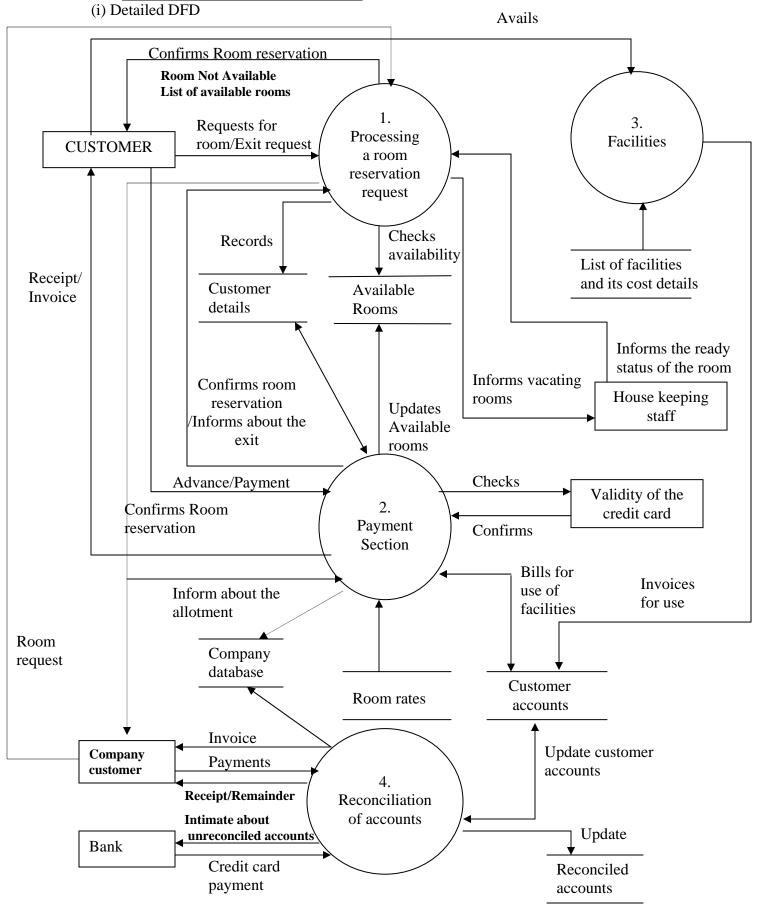   (vii) When housekeeping phones and says the room is ready include in the vacant rooms list

Not available, list of available rooms

Request for room
reservation through
Web/Phone/letter/spot
request/company request

| CUSTOMER | | FRONT END OFFICE | | AVAILABLE ROOMS IN EACH FLOOR |

Checks

Customer
details

Updates

Response to request

Informs ready
status of the
room

HOUSE
KEEPING STAFF

Informs about the exit

Customer
details

Informs about
the bill
settlement

Advance/Payment

CREDIT CARD
/CASH

Accept after
checking validity

EXIT/CASH
COUNTER

Room rent +Extra charges for
use of facilities

Avails

FACILITIES

Invoice/ Receipt of cash payment

The outputs of the Document flow diagram:
a) List of available rooms in each floor
b) Generation of invoice, including the room rent and extra charges of the facilities availed.
c) Updating of the available room list after a customer vacates.

B SYSTEM SPECIFICATIONS

(i) Detailed DFD

The functions of the each process in the DFD are as follows:

Functions of Process1

a. When a particular room request is obtained from the customer via Internet browser or phone or fax, checks if the requested room is available from the AVAILIABLE ROOM database (Room No, Type of room, Rent, Status).

b. If the requested room is available CUSTOMER DETAILS (Customer name, Type of room, Contact Address, Credit card No, Date of Arrival, Date of leaving) is recorded, saved in the database so that Process2 can access it. Inform the customer about the room allotment, after Process2 sends the confirmation of allotment.

c. If the requested room type is not available intimate the customer so that he could ask for an alternate room or try elsewhere.

d. If the customer is been sponsored by a company check for the availability of the room from the database and confirm the allotment if available. Obtain the customer details and inform about the allotment to the Process2.

e. The check-in and checkout time for the occupant is 2:00pm. The customer is allowed to stay 1 hr after the checkout time without cost, after which he is charged with ½ day charge. Inform Process2 for the transactions.

f. If there is request for exit from the customer, inform Process 2

g. Informs the house keeping staff upon exit of a customer, so that the room can be made ready for the next occupant.

h. Upon cancellation of room reservation or reducing the number of days of stay request, intimate Process2, so that it can take care of forfeit charges.

i. If the customer requires an extension, check whether the room is not allotted to some other customer and hence is vacant. If it is vacant and is not booked by any other customer, provide extension for stay, otherwise deny the request.

j. Incase of a customer's request to extend his stay after 7 days, the customer is asked to pay 50% of his current account balance, provided the room is vacant and is not booked by any other

customer. Inform Process 2. Allot the room after confirmation obtained form Process 2.

k. If the customer does not turn up after advance booking of the room and does not send and cancellation request he is forfeited with the advance amount. Inform Process 2 for payment transactions.

Functions of Process 2

a. For the customer who is sponsored by a company maintain his accounts in a COMPANY DATABASE (Customer Name, Company, Type of room, Contact Address, Date of Arrival, Date of leaving).

b. Collect advance payment from the customer either by cash or by credit card based on the room rates and advance payment conditions. If credit card, checks for the validity of the credit card and confirms him about the room allocation.

c. Maintains customer's accounts in CUSTOMER ACCOUNTS database (Room no, Advance, Extra charges, Forfeited cost, Total).

d. Send the customer receipt of the current transactions.

e. Updates the AVAILABLE ROOM list in the database after allotment.

f. Inform Process 1 about the confirmation of room request.

g. At the time of the ordinary customer's checkout, give the customer the INVOICE (Customer Name, Date of Arrival, Date of Departure, Room type, Room rent, Name of facility, Date when used, Facility cost, Last Date of Payment, Total) and collect dues.

h. Incase of a customer who wants to extend his stay, even after 7 days of his stay in the hotel, provide him an invoice of the current balance account and request him to pay 50% of the dues. After payment, update the account database and inform Process1.

i. Confirm Process1 about the exit of the customer and update the available room database

j. Incase of cancellation, the customer can cancel anytime up to 5:00 pm, the day prior to arrival. No cancellation charge applies, the advance amount is refunded, unless you cancel after this time, in which case the cancellation fee equivalent of one night's stay, is charged.

k. If the customer wants to reduce his stay he has to inform the hotel staff 1 day prior to the checkout time, otherwise his money is not refunded.

l. Incase of a customer who has not turned up after advance booking of the room, he is forfeited with advance amount.

Functions of Process 3:

a. Updates the customer accounts database by the details of FACILITIES (Room no, Facility details, Cost) availed by the customer and its corresponding charges. Sends invoices to Process 2 for updating customer's accounts.

Functions of Process 4:

a) Send the invoice to the company at the time of exit of customer stating the deadline within which the due is to be settled.
b) Provide a receipt after the settlement of the dues.
c) Update the CUSTOMER ACCOUNTS database.
d) Update the RECONCILED ACCOUNTS (customer name, organization name, room number, duration of stay, total amount) database.
e) Send a remainder to company if the accounts are not settled within the specified deadline
f) Inform the bank about unreconciled credit card payments.

The structured English description of each process is given below:

Procedure for process1

(a)
for every room request obtained from a customer **do**
   check if the requested room is available
     if the requested room is available **then**
      record the customer details.
      Inform the customer of the room allotment after Process2 confirms it.
     else
      intimate the customer about the non-availability of the room
end for

(b)
for every room request obtained from a company on behalf of a customer **do**
   check if the requested room is available
     if the requested room is available **then**

       Inform the company of the room confirmation
       Record the company customer details.
       Inform Process2 about the allotment.
     else
Intimate the company about the non-availability of the room;
end for

(c)
 for every exit request by the customer **do**
  Inform process2 about exit request;
 end for

(d)
for every room exit info obtained **do**
  Inform the house keeping staff so that the room can be made ready for the next
  occupant;
end for

(e)
for every cancellation of room request obtained **do**
  Inform Process2 about the cancellation;
end for

(f)
for every request for extension obtained by the customer **do**
 Check whether the room is vacant and is not booked by any other customer;

  if the room is vacant **then**
  accept the request for extension;
  else
  deny the request;
  end if

  if the customer is been staying in the hotel for 7 days and requires extension **then**
   Inform Process2 for 50% of due settlement;
   Allot the room to the customer after confirmation obtained from Process2;
  end if

 end for

(g)
for every customer who does not turn up after advance booking of the room **do**

Inform Process2;
end for

<u>Procedure for process2</u>

(a)
    for every room allotment request obtained from a customer **do**
      receive an advance payment by the customer

       if the mode of payment is credit card **then**
         check for the validity of the card
         inform Process1 about the confirmation;
         Send the customer the receipt of current transaction;

       else if mode of payment is cash **then**
           Collect the advance cash
           Inform Process1 about the confirmation;
           Send the customer the receipt of current transaction;
      else
        State as room not allotted;
      end if
    end for

   if the room is allotted **then**
     Create the customers account to maintain the customer's transactions;
     Update the customer accounts database;
   end if

(b)
for room allotment information obtained by Process1 about the company customer **do**
  Record the details in the company database
  Update the customer accounts;
end for

(c)
for every extension request obtained form Process1 **then**
 Send the invoice to customer asking him to pay 50% of the current balance;
 After payment, update the customer accounts database;
 Inform Process1 to confirm allotment;
end for

(d)
for every exit request obtained **do**

    if he if not a company customer **then**
      Give the customer the invoice by getting details from the customer's account;
      Collect the payment;
      Update the available room database;
      Inform Process1 about the exit;
    else if he is an company customer **then**
      Inform Process4 about the exit
    end if

 end for

(e)
for every cancellation request obtained form Process1 **do**
 if it is within 5:00 pm and one day prior to the arrival **then**
    No cancellation fee is charged;
    Cancel the booked rooms;
    Update available room database;
 else
    Charge the customer with the cost equal to one nights stay;
    Issue the cancellation receipt;
    Update the customer account database;
  end if
 end for

(f)
for every customer who has not turned up after booking the room **do**
 forfeit his advance amount;
 Issue the receipt;
 Update the customer account database;
 Update the available room database;
end for

(g)
for every customer at the time of checkout **do**
 if the customer wants to stay 1 hr after checkout time **then**
 the customer is not charged;
 else
 charge him with ½ a days charge after 1 hour;
 Update the customer account database;
 end if
end for

Procedure for process3:

(a)
   for facilities availed by the customer **do**
     update the customer's account by the price of the facility made use of;
   end for

Procedure for process4:

(a)
   for every company customer who is exiting from the hotel **do**
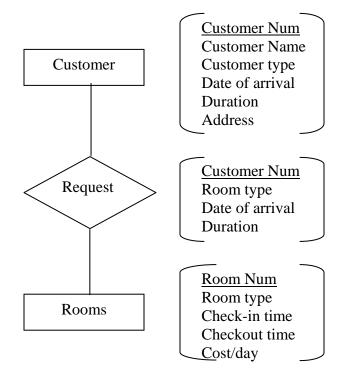   Send the invoice specifying the deadline within which the dues are to be paid to the company;

     if the mode of payment is cheque, and is within the dead line **then**
       collect the invoice payment;
       update the customer's account;
       update reconciled accounts database;
       provide a receipt of the current transaction;

     else
      Send the remainder to the company;
     end if

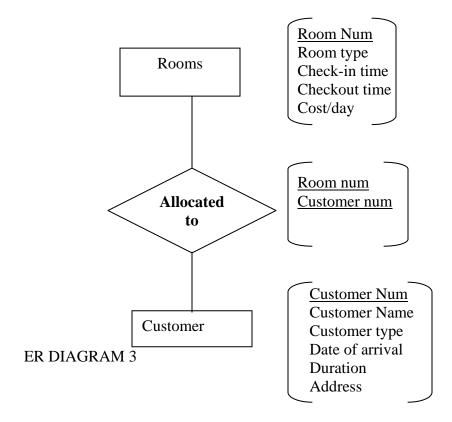   **if** the mode of payment is credit card **then**
       collect the invoice payment from Bank;
       update the customer's account;
       update reconciled accounts database;
     else if amount from the bank has not reached the hotel within the deadline **then**
        intimate the bank about the unreconciled amount
        Send a remainder to the company
     end if
   end for

ER DIAGRAM 1

Customer

Customer Num
Customer Name
Customer type
Date of arrival
Duration
Address

Request

Customer Num
Room type
Date of arrival
Duration

Rooms

Room Num
Room type
Check-in time
Checkout time
Cost/day

ER DIAGRAM 2

Rooms

Room Num
Room type
Check-in time
Checkout time
Cost/day

Allocated to

Room num
Customer num

Customer

Customer Num
Customer Name
Customer type
Date of arrival
Duration
Address

ER DIAGRAM 3

```
                              ⎧ Customer Num
                              ⎪ Customer Name
       ┌──────────────┐       ⎨ Customer type
       │   Customer    │      ⎪ Date of arrival
       └──────────────┘       ⎪ Duration
              │               ⎩ Address
              │
              │               ⎧  Customer num
          ◇───────◇           ⎨ Facility Num
         ◇  Avails  ◇         ⎩  Date of use
          ◇───────◇
              │
              │               ⎧ Facility Num
       ┌──────────────┐       ⎪ Facility name
       │  Facilities  │       ⎨ Facility Cost
       └──────────────┘       ⎩ Facility Details
```

ER DIAGRAM 4 (At the time of Exit)

Customer

Customer Num
Customer Name
Customer type
Date of arrival
Duration
Address

Pays

Customer Num
Invoice Num
Last date for
payment

Invoice

Invoice Num
Customer Num
Date of payment
Customer Name
Date of Arrival
Date of departure
Room Num
Room type
Room rent
Facility Num
Name of facility
Date when used
Facility cost
Advance paid
Total

ER DIAGRAM 5

Outstanding
Invoices

Customer Num
Invoice Num
Last Date of payment
Customer Name
Date of Arrival
Date of departure
Room Num
Room type
Room rent
Facility Num
Name of facility
Date when used
Facility cost
Advance paid
Total

Sent to

Invoice Num
Customer Num
Last date for
payment

Customer

Customer Num
Customer Name
Customer type
Date of arrival
Duration
Address

ER-DIAGRAM 6 (Incase of cancellation of room and when the customer does not turn up after booking the room, or when he is reducing his duration of stay)

Cancellation Receipt

Receipt Num
Customer Num
Customer Name
Advance paid
Check-in time
Checkout time
Forfeited cost/ Cancellation fee
Balance amount

Sent to

Receipt Num
Customer Num

Customer

Customer Num
Customer Name
Customer type
Date of arrival
Duration
Address

Normalized relations

Customer : ***Customer Num***, Customer Name, Date of arrival, Duration, Address, Customer type.

Room: ***Room Num***, Room type, Check-in time, checkout time, Room cost/day

Customer-room relation : ***Customer Num, Room Num***

Facilities: ***Facility Num***, Facility name, Facility Cost

Customer-facility relation: ***Customer Num, Facility Num,*** Date of Use

Invoice : ***Invoice Num, Customer Num,*** Customer Name, Date of Arrival, Date of Departure, Room type, Room rent, Name of facility, Date when used, Facility cost, Last Date of Payment, Total.

Customer-pays-Invoice relation: ***Customer Num, Invoice Num,*** Last date of payment

USER INTERFACE

MAIN MENU

1. MENU A: BOOKING
2. MENU B: PAYMENT SECTION
3. MENU C: FACILITIES
4. MENU D: EXIT
5. MENU E: RECONCILIATION
6. MENU F: EXTENSIONS

1. MENU A: BOOKING
   a) Types and cost of rooms
   b) Conditions for booking
   c) Request for customer details
   d) Check for the availability of the room
   e) Respond to the customer
   f) Exit from MENU A

2. MENU B: PAYMENT SECTION
   a) Accept advance payment (after checking validity if necessary)
   b) Send confirmation of room allocation
   c) Add the customer to the customer accounts database
   d) Update the Available room database
   e) Exit from MENU B

3. MENU C: FACILITIES
   a) List of Facilities and cost details
   b) Update customer account
   c) Exit from MENU C

4. MENU D: EXIT
   a) Send the invoice
   b) Accept full payment
   c) Update the Available room database
   d) Inform house keeping staff
   e) Exit from MENU D

5. MENU E: RECONCILIATION
   a) Send the invoice
   b) Accept cheque or credit card mode of payment
   c) Provide a dead line for the payment
   d) Send remainder if not paid within the dead line

6. MENU F: EXTENSIONS
   a) Forfeit amount on cancellation
   b) Display invoice
   c) Print invoice
   d) Update available room database
   e) Exit from MENU E

CONTROL AUDIT AND TEST PLAN

USE CASE: Room reservation

Goal in context: A customer requests for a room and is allocated if available.

Primary Actor: Customer

Level: User Goal level

Precondition: Advance online booking requires that the customer has a valid credit card and an advance payment is required if the booking is via phone. Booking on arrival requires, if the requested room is available, 50% of the room rent to be paid.

Success Guarantees: Room requested is available and credit card must be valid incase of advanced booking.

Failure: The requested room is not available; the Customer can select form the available list of rooms.

Trigger: Customer sends a request for room reservation.

Scenario:

1.Customer initiates the requests.

1a.   The customer can send an online request. Form specifying the customer details, room request, date of arrival, duration of stay, credit card details etc has to be filled and submitted, and the hotel management would respond as quickly as possible after checking the validity of the credit card.

1b.   The customer can book the room via phone. But this requires a deposit of room rent for 1 or 2 nights be sent within 10 days to guarantee the reservation.

1c.   The customer can book a room by going to the hotel personally and is allocated the room if available and asked to pay an advance amount.

1d.   Advanced booking by a company for its employees is allowed. But this requires an advance of 50% of estimated charge to be paid.
2.   Front desk receptionist checks for the list of available rooms, if available records customer details.

2a.   If the requested room is not available the customer is intimated and he could book a room from the available list.

2b.   Intimate the Payment section when there is request from the customer for exit.

2c.   If the customer request for an extension check if the room is not booked by any other customer, agree for the extension for not allotted otherwise deny the request for extension.

2d.   Incase of the customer who would like to extend his stay after staying for 7 days in the hotel, he has to pay 50% of his current account balance.

2e.   Incase of cancellation, the customer can cancel anytime up to 5:00 pm, the day prior to arrival. No cancellation charge applies, the advance amount is refunded, unless you cancel after this time, in which case the cancellation fee equivalent of one night's stay, is charged.

2e.   For a customer who has booked the room in advance but has not occupied, advance amount is forfeited.

3.   Accounts staff in the payment section manages/accepts the advance payment and confirms room allocation after checking the validity of the credit card, if the payment was via credit card.

3a.   The Payment section maintains the customer accounts and this includes along with room charges and advance payment, the extra charges of the facilities the customer has availed, such as telex, telephone, fax services, extra beds, laundry services, internet surfing, shopping mall and bar and restaurant.

3b.   Upon intimation about the customers exit, sends invoice to him, after deducting his advance payment.

3c.   Cheque or Credit card mode of payment is accepted if the customer is from a company

3d.   A deadline is mentioned within which the payment has to be made, otherwise a remainder is sent.

4.   The House keeping staff is informed so that the room can be made ready for the next occupant, after the customers exit.

5.   If the customer wants to reduce his stay, he need to inform the hotel staff 1day prior to the checkout time, otherwise his money will not be refunded.

Extensions:

1.   The check-in and checkout time for the customer is 2:00pm. He is allowed to stay 1hr after the checkout time without any charge. After that (provided the room is not booked), he is charged with a rent of ½ a day

2.   The customer is informed if the room requested is not available and he could book another from the available list.

3.   If the customer finds unsafe to book via internet he could download the reservation form and send the completed form through FAX along with photocopy of both sides of the credit card.

4.   Bookings made must be guaranteed immediately with a credit card to reserve the room.

Channel to Primary Actor: The customer can book the room personally. Advanced booking can be made via Internet browser, Phone or FAX.

Test plan:

1. Enter a room number, which is already allotted, during booking and see the response.
2. Enter a room number, which is not allotted and see the response.
3. Enter an invalid credit card number and check the response.
4. Create payment transactions scenarios and see the result.
5. Use the facilities options and see if it's updating the customer accounts.
6. Check the response when the customer exits
7. Check if the remainder is sent, when the deadline for payment is not met.

IMPLEMENTATION PLAN

1. Design the input screen
2. Create a database of available rooms, their cost and their status
3. Create a database for customer details
4. Create customer accounts database
5. Integrate all database and processes designed
6. Test each process designed using sample data
7. Create transactions to check the various processes mentioned in the test plan.
8. Create user manual
9. Create systems manual
10. Design user's feedback form and system review plan

DATA DICTIONARY

Customer

Customer Num: **Num(10), Primary Key**
Holds the Unique Customer Number

Customer Name:
 First Name: char (50)
 Last Name: char (50)
Holds the name of the Customer

Customer Address**:**
Has information about the customers address
 Street: char (50)
 City: char (50)
 State: char (50)
 Zip: num (50)
 Phone: num (50)
 Email: varchar (50)

Date of arrival: **Varchar (10)**
Has the date when the customer arrived to the hotel in the form DD/MM/YYYY

Duration: **Num(3)**
This field contains the duration of the customers stay

Customer Type: **Num(1), Not Null**
 Two types of customers
1→ Company Customer
2→ Ordinary Customer

Facilities

Facility Num: **Num(2), Primary Key**
Holds the serial number of each facility

Facility Name: **Char(50)**
Holds the name of the facility provided by the hotel.
[The list of facilities provided by the hotel is as follows:
Telephone, telex, fax services, extra beds, laundry services, internet surfing and
Restaurant].

Facility Cost: Num(7)
Contains the cost charged for each facility

Room

Room Num: **Num(3), Primary Key**

This field contains the room number

Room type: **Char(1)**
The room types can be as follows:
AC Single
Non-AC Single
AC Double
Non-AC Double
AC Triple
Non-AC Triple

Room cost/day: **Num(3)**
Contains the cost of the room charged on daily basis

Check-in time: **Varchar(7)**
Records the time when the customer checked into the room

Checkout time: **Varchar(7)**
Record the time when the customer checked out of the room

Rooms available: **Num(3)**
Has a record of Number of room currently available

Invoice

Invoice Num**: Num (10), Primary Key**
Contains a unique Invoice number

Customer Num: Num(10)
Holds the customer number

Date of arrival: Varchar (6)
Has the date when the customer arrived to the hotel

Date of departure: Varchar (6)
The date when the customer leaves the hotel

Room type**: Char (1)**
The room types can be as follows:
AC Single
Non-AC Single
AC Double
Non-AC Double
AC Triple
Non-AC Triple

Room rent: **Num (3)**
Contains the cost of the room charged on daily basis

Name of facility: **Char (2)**

Holds the name of the facility provided by the hotel.
[The list of facilities provided by the hotel is as follows:
Telephone, telex, fax services, extra beds, laundry services, internet surfing and
Restaurant].

Date when used: Varchar (10)
Holds the date when the facility was used in the format DD/MM/YYYY

Facility cost: Num(3)
Contains the cost charged for each facility

Last date of payment: Varchar (10)
The date within which the payment has to be made in the format
DD/MM/YYYY

Advance paid: **Num(6)**
Advance amount paid by the customer.

Total: **Num(8)**
The gross amount that the customer has to pay

Outstanding invoices

Customer Num: **Num(10), Primary Key**
Holds the Unique Customer Number

Invoice Num**: Num (10), Primary Key**
Contains a unique Invoice number

Last date of payment: Varchar (10)
The date within which the payment has to be made in the format
DD/MM/YYYY

Customer Name:
 First Name: char (50)
 Last Name: char (50)
 Holds the name of the Customer

Date of arrival: Varchar (6)
Has the date when the customer arrived to the hotel

Date of departure: Varchar (6)
The date when the customer leaves the hotel

Room Num: **Num(3), Primary Key**
This field contains the room number

Room type: **Char(1)**
The room types can be as follows:
AC Single
Non-AC Single
AC Double
Non-AC Double
AC Triple
Non-AC Triple

Room rent: **Num (3)**
Contains the cost of the room charged on daily basis

Name of facility: **Char (2)**
Holds the name of the facility provided by the hotel.
[The list of facilities provided by the hotel is as follows:
Telephone, telex, fax services, extra beds, laundry services, internet surfing and Restaurant].

Date when used: Varchar (10)
Holds the date when the facility was used in the format DD/MM/YYYY

Facility cost: Num(3)
<u>Contains the cost charged for each facility</u>

Advance paid: **Num(6)**
Advance amount paid by the customer.

Total: **Num(8)**
The gross amount that the customer has to pay

<u>Cancellation Receipt</u>

Receipt Num**: Num (10), Primary Key**
Contains a unique Invoice number

Customer Num: **Num(10), Primary Key**
Holds the Unique Customer Number

Customer Name:
 First Name: char (50)
 Last Name: char (50)
 Holds the name of the Customer

Advance paid: **Num(6)**
Advance amount paid by the customer.

Forfeited cost/ Cancellation fee: **Num(6)**
Contains the cost the customer will be charged upon cancellation of the booked room.

Balance: **Num(8)**
The gross amount that the customer has to pay