

HOTEL RESERVATION SYSTEM

Database Management System Project

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1. Introduction

Hotel needs to maintain the record of guests and reserve rooms beforehand. Customers should be able to know the availability of the rooms on a particular date. They should be able to reserve the available rooms according to their need in advance. To make their stay comfortable, they are provided with food and other services. The record of the food taken by each customer and the services availed by the customer should be kept. These records help in generating bill.

2. Requirements

The hotel reservation system should be able to satisfy the following requirements :

1. The system should be able to keep the records of the guests and the room allotted to them.
2. Customers should be able to know the availability of the rooms on a particular date.
3. Guests should be able to book the available rooms online.
4. The record of food and services availed by the customer should be kept.
5. The system should be able to generate the bill for a customer.

3. Design

Entities And Attributes

1. GUEST can be of two types FAMILY and COMPANY
2. FAMILY has attributes FamilyHeadName, FamilyHeadSSN, Address, NoOfAdults, Children. It has a weak entity MEMBERS. MEMBERS have attributes Name(Weak key)and age.
3. COMPANY has attributes Name and Location. It has a weak entity MEMBERS having attributes Name(Weak Key), Age, Designation.
4. ROOM has attributes RoomNo(Key), Rate, Type and Status(vacant or occupied)
5. FOOD has attributes ProductId(Key), Rate and Type.
6. BILL has attributes BillNo(Key), Date and Time.
7. FACILITIES has attributes FacilityId(Key), Type and Rate.

Relations and their description

1. GUEST are ALLOTTED ROOM from CheckInDate to CheckOutDate. One Guest(Family or Company) can be allotted more than one room.
2. GUEST PAYS BILL. A GUEST must pay a BILL.
3. GUEST may USES FACILITIES. One GUEST can use more than one FACILITIES.
4. GUEST ORDERS FOOD at some Time on some Date. GUEST can order more than one FOOD item and one FOOD item can be ordered by one GUEST.

Figure 1: Hotel Reservation Database Schema

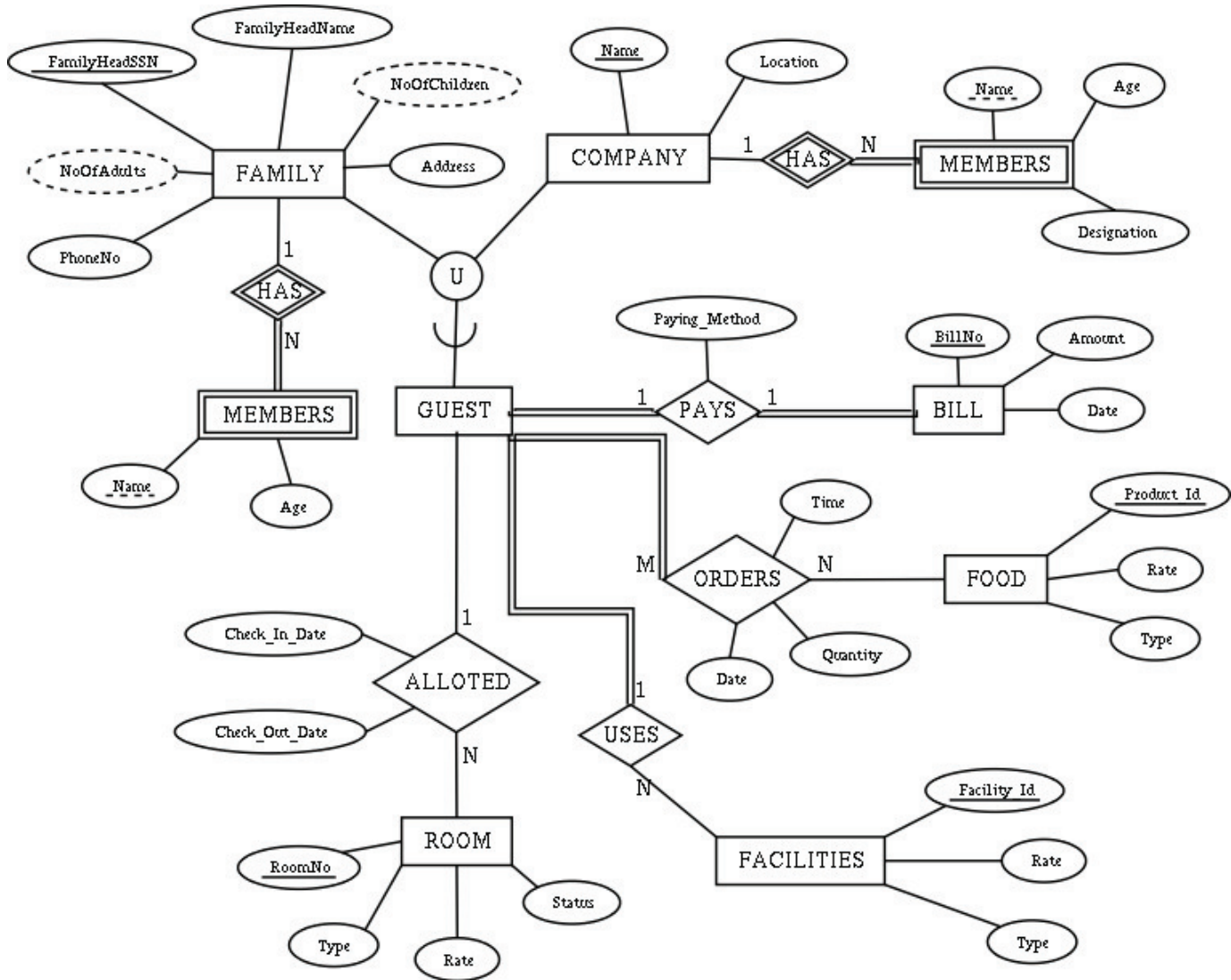



Fig 2. Schema diagram for the Hotel Reservation Database schema


FAMILY

<u>Family_Head_SSN</u>	Family_Head_Name	Address	Phone_No	No_Of_Adults	No_Of_Children
------------------------	------------------	---------	----------	--------------	----------------




FAMILY MEMBERS

<u>Family_Head_SSN</u>	Name	Age
------------------------	------	-----




COMPANY

<u>Name</u>	Location
-------------	----------



COMPANY MEMBERS

<u>CName</u>	Name	Age	Designation
--------------	------	-----	-------------

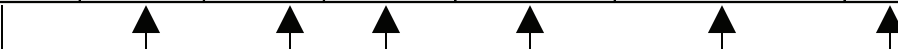


GUEST

<u>Guest_ID</u>

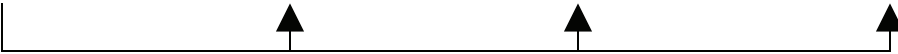
ROOM

<u>Room_No</u>	Type	Rate	Status	Guest_ID	Check_In_Date	Check_Out_Date
----------------	------	------	--------	----------	---------------	----------------




FACILITIES

<u>Facility_ID</u>	Rate	Type	Guest_ID
--------------------	------	------	----------




BILL

<u>Bill_No</u>	Amount	Date	Paying_Method	Guest_ID
----------------	--------	------	---------------	----------




FOOD

<u>Product_ID</u>	Rate	Type
-------------------	------	------



ORDERS

<u>Guest_ID</u>	<u>Product_ID</u>	Date	Time	Quantity
-----------------	-------------------	------	------	----------



The Functional Dependencies are shown in the figure. According to the figure:

1. In all Tables attribute values are atomic hence they are in **1NF**.
2. In all tables there is no partial dependency and hence they are in **2NF**.
3. There is no transitive dependency at all , so they are in **3NF**.
4. All tables are also in **BCNF** because left hand side of all FDs contain only primary key (which is of course superkey) corresponding to their respective relation.

So, we can conclude that tables are in **BCNF**.

4. Coding

1. Check Availability:

```
<?php

$conn = mysql_connect("localhost", "root", "");
$db = mysql_select_db("hotel", $conn);

$stmtsql = "select * from temp";
$stmtresult = mysql_query($stmtsql, $conn);
if($stmtresult)
{
    $deltempstmtsql = "drop table temp";
    $deltempstmtresult = mysql_query($deltempstmtsql, $conn);
}
$inyear = $_POST['D3'];
$inmon = $_POST['D2'];
$inday = $_POST['D1'];
$outyear = $_POST['D6'];
$outmon = $_POST['D5'];
$outday = $_POST['D4'];
$indate = $inyear."-".$inmon."-".$inday;
$outdate = $outyear."-".$outmon."-".$outday;
$utype = $_POST['D7'];
$noofrooms = $_POST['T1'];
$count = 0;
$flag = 0;
echo "$outyear $inyear";
$check1 = check($outyear, $outmon, $outday, $inyear, $inmon, $inday);
echo "$check1";
if($check1!=1 || $noofrooms == 0)
{
    echo "check out date smaller than check in date";
    header("Location: Areservation.html");
}

$roomsql = "select * from room where type = '$utype'";
$roomresult = mysql_query($roomsql, $conn) or die(mysql_error());
$no=0;
while($rooms = mysql_fetch_array($roomresult))
{
    $roomnos[$no] = $rooms['r_no'];
    $no++;
}
for($j = 0; $j< $no; $j++)
{
    echo "<br> $roomnos[$j] ";
}
if($noofrooms > $no)
{
    header("Location: notavailable.html");
}
```

```

$allotedsql = "select room_no,dayofmonth(in_date) as
iday,month(in_date) as imonth,year(in_date) as
iyear,dayofmonth(out_date) as oday,month(out_date) as
omonth,year(out_date) as oyear from alloted order by room_no";
$allotedresult = mysql_query($allotedsql, $conn) or die(mysql_error());
$noofalloted = mysql_num_rows($allotedresult);

while($allot = mysql_fetch_array($allotedresult))
{
    echo " in while allot ";
    $aiday = $allot['iday'];
    $aimonth = $allot['imonth'];
    $aiyear = $allot['iyear'];
    $aoday = $allot['oday'];
    $aomonth = $allot['omonth'];
    $aoyear = $allot['oyear'];
    $result1 = check($aiyear,$aimonth,$aiday,$outyear,$outmon,
$outday);
    $result2 = check($iyear,$inmon,$inday,$aoyear,$aomonth,$aoday);
    echo " first check $result1 second check $result2 <br>";
    if($result1==1 || $result2 == 1)
    {
    }
    else
    {
        echo " in else loop";
        //delete those room nos., which at first don't satisfy condn. of
availability but satisfies in later record
        //Deletes those room nos., which do not satisfy condition of
availability in later record
        $cannotbealloted = $allot['room_no'];
        for($i=0; $i<$no; $i++)
        {
            if($cannotbealloted == $roomnos[$i])
            {
                echo " room no = $cannotbealloted ";
                for($j=$i; $j < $no; $j++)
                {
                    $roomnos[$j] = $roomnos[$j+1];
                }
                $no--;
                for($j = 0; $j< $no; $j++)
                {
                    echo "<br> $roomnos[$j]";
                }
                $i = $no;
            }
        }
        echo $no;
    }
}
for($j = 0; $j< $no; $j++)
{
    echo "<br> $roomnos[$j] ";
}

```

```

if($noofrooms <= $no)
{
    for($i=0; $i < $noofrooms ;$i++)
    {
        $flag = createinsert($roomnos[$i],$indate,$outdate,
$flag);
    }
    if($flag == 1)
    {
        header("Location: Areservation2.html");
    }
    else
    {
        header("Location: notavailable.html");
    }
}

function createinsert($roomno,$indate,$outdate,$flag)
{
    //    echo "\n entered in createinsert function";
    //    echo "$roomno    $indate    $outdate";
    $conn = mysql_connect("localhost", "root", "");
    $db = mysql_select_db("hotel",$conn);
    if($flag==0)
    {
        $csql = "create table temp (room_no int(3), in_date
date,out_date date check(out_date > in_date))";
        $result = mysql_query($csql,$conn);
        if($result == 1)
        {
            $flag = 1;
        }
    }

    if($flag == 1)
    {
        $isql = "insert into temp
values('$roomno','$indate','$outdate')";
        if(mysql_query($isql, $conn))
        {
            //    echo "record inserted";
            return $flag;
        }
        else
        {
            //    echo "record not inserted";
        }
    }
}

//checks which of two dates is bigger
function check($year2,$month2,$day2,$year1,$month1,$day1)
{
    if($year2 > $year1)
    {
        return 1;
    }
}

```

```

else
{
    if($year2 == $year1 && $month2 > $month1)
    {
        return 1;
    }
    else
    {
        if($year2 == $year1 && $month2 == $month1 && $day2 > $day1)
        {
            return 1;
        }
        else
        {
            //in date is bigger
            return 0;
        }
    }
}
}
?>

```

2. Making Reservation:

```
<?php
$conn = mysql_connect("localhost", "root", "");
$db = mysql_select_db("hotel", $conn);
$name = $_POST['T1'];
$address = $_POST['S1'];
$phno = $_POST['T2'];
$cardno = $_POST['T3'];
$noofadult = $_POST['T4'];
$noofchild = $_POST['T5'];
$advance = $_POST['T6'];
$flag = 0;
if($noofadult == 0 || $name == "" || $address == "" || $advance == 0)
{
    header("Location: Areservation2.html");
}
$sql = "INSERT INTO guest values ('', '$name', '$address', $phno, $cardno,
$noofadult, $noofchild, $advance)";
if(mysql_query($sql, $conn))
{
    $flag = 1;
}
else
{
    exit;
}
$guestsql = "select max(id) as g_id from guest";
$guestresult = mysql_query($guestsql, $conn) or die(mysql_error());
while ($guest = mysql_fetch_array($guestresult))
{
    $g_id = $guest['g_id'];
}
$tempsql = "select * from temp";
$tempresult = mysql_query($tempsql, $conn) or die(mysql_error());
while($temp1 = mysql_fetch_array($tempresult))
{
    $roomno = $temp1['room_no'];
    $indate = $temp1['in_date'];
    $outdate = $temp1['out_date'];
    $insertsql = "insert into allotted values($g_id,
$roomno, '$indate', '$outdate')";
    if (mysql_query($insertsql, $conn)) {
        echo "record added!";
        $flag = 2;
    } else {
        echo "something went wrong";
    }
}
}
if($flag == 2)
{

```

```
        echo "table drop if statement";
        $dropsql = "drop table temp";
        if(mysql_query($dropsql,$conn))
        {
            $flag = 3;
        }
    }
    if ($flag == 3) {
        //      echo "record added!";
        header("Location: Areserved.php");
    } else {
        echo "something went sdf  wrong";
        //      header("Location: reservation2.html");
    }
    ?>
```

[illegible]

4. Order Food:

```
<?php

$conn1 = mysql_connect("localhost", "root", "");
$db1 = mysql_select_db("hotel", $conn1);
$gid1 = $_POST['gid'];
$flg = 0;
$sql1 = "select * from guest where id = $gid1";
$result = mysql_query($sql1, $conn1) or die(mysql_error());
while($gl = mysql_fetch_array($result))
{
    if($gid1 == $gl['id'])
    {
        $flg = 1;
    }
}
if($flg == 0)
{
    header("Location: Afoodorder.html");
    exit;
}

entry($_POST['T1'], $_POST['T2']);
entry($_POST['T3'], $_POST['T4']);
entry($_POST['T5'], $_POST['T6']);
entry($_POST['T7'], $_POST['T8']);
entry($_POST['T9'], $_POST['T10']);
entry($_POST['T11'], $_POST['T12']);
entry($_POST['T13'], $_POST['T14']);
entry($_POST['T15'], $_POST['T16']);
entry($_POST['T17'], $_POST['T18']);
entry($_POST['T19'], $_POST['T20']);

function entry($fid, $qty)
{
    if($fid != 0 && $qty != 0)
    {
        $date_array = getdate();
        $day = $date_array['mday'];
        $month = $date_array['mon'];
        $year = $date_array['year'];
        $date1 = $year.$day.$month;
        echo "$day $month $year";
        $gid = $_POST['gid'];
        $conn = mysql_connect("localhost", "root", "");
        $db = mysql_select_db("hotel", $conn);
        $flag = 0;
        $ordersql = "select guest_id, product_id, quantity, dayofmonth(date)
as oday, month(date) as omonth, year(date) as oyear from ordersfood";
        $orderresult = mysql_query($ordersql, $conn) or
die(mysql_error());
        while($order = mysql_fetch_array($orderresult))
        {
```

```

$foodid = $order['product_id'];
$guest = $order['guest_id'];
$day1 = $order['oday'];
$month1 = $order['omonth'];
$year1 = $order['oyear'];
if($day == $day1 && $month == $month1 && $year == $year1)
{
    echo "hello";
}
else
{
    echo "asdfasdf";
}
if($gid == $guest && $foodid == $fid && $day == $day1 && $month
== $month1 && $year == $year1)
{
    $flag = 1;
    echo "$flag";
    $qty += $order['quantity'];
    echo $qty;

$updateysql = "update ordersfood set quantity = $qty where guest_id =
$gid and product_id = $fid and date = current_timestamp";
    if (mysql_query($updateysql, $conn))
    {
        echo "record modified!";
        header("Location: Frecorded.html");
    }
    else
    {
        echo "something went wrong";
    }
}

}
if($flag == 0)
{
    $orderfoodsql = "insert into ordersfood values('',$gid,
$fid,$qty,current_timestamp)";
    if (mysql_query($orderfoodsql, $conn))
    {
        echo "record added!";
        header("Location: Frecorded.html");
    }
    else
    {
        echo "something went wrong";
    }
}
}
}
?>

```

5. Generate Bill:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<!-- DW6 -->
<head>
<!-- Copyright 2005 Macromedia, Inc. All rights reserved. -->
<title>Lodging - Home Page</title>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1"
/>
<link rel="stylesheet" href="mm_lodging1.css" type="text/css" />
<style type="text/css">
<!--
.style4 {
    font-size: x-large;
    font-weight: bold;
}
.style7 {color: #CC0000}
.style10 {font-size: large}
-->
</style>
<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1"
/>
<title>Untitled Document</title>
</head>
<?
$a=(int)$_POST['textfield'];
$x=mysql_connect("localhost","root","");
if($x==0)
print("unable 2 connect 2 database");
$y=mysql_select_db("hotel",$x);
if($y==0)
print("database not selected");
$q="select sum((rate*(out_date-in_date)-advance)) from (alloted join
room on alloted.room_no=room.room_no) where (guest_id=$a)";
$p="select sum(rate*(quantity)) from (ordersfood join menu on
ordersfood.product_id=menu.product_id) where (guest_id=$a)";
$r="select sum(rate*(quantity)) from (useservices natural join
services) where (guest_id=$a)";
$s=mysql_query($q);
if($s==0)
print("wrong query 1");
$t=mysql_query($p);
if($t==0)
print("wrong query 2");
$u=mysql_query($r);
if($u==0)
print("wrong query 3");
$row=mysql_fetch_row($s);
$row1=mysql_fetch_row($t);
$row2=mysql_fetch_row($u);
$total=(double)($row[0]+$row1[0]+$row2[0]);
?>
<body bgcolor="#999966">
```


5. Output

1. Reservation Form:

Reservation Form

Check In Date : DD MM YYYY

Check Out Date : DD MM YYYY

No. of Rooms :

Room Types :

2. Order Food:

FOOD ORDER

Guest Id

Product	Quantity	Product	Quantity
12	1	0	0
3	3	0	0
5	2	0	0
0	0	0	0
0	0	0	0

3. Menu:

MENU

Product_id	Name
1	Veg burger
2	Egg burger
3	Mutton burger
4	Chicken burger
5	Veg chowmien
6	Egg chowmien
7	Chicken chowmien
8	Veg manchurian
9	Egg manchurian
10	Chicken manchurian
11	Tomato cream
12	Veg hot & sour
13	Chicken hot & sour
14	Veg sweet corn soup
15	Chicken soup
16	Veg biryani
17	Egg biryani
18	Mutton biryani
19	Chiken biryani
20	Mix biryani
21	Plain rice
22	Pea pulao

Product_id	Name
23	Dhaniya rice
24	Jeera rice
25	Veg fried rice
26	Egg fried rice
27	Chicken fried rice
28	Mixed fried rice
29	Egg curry
30	Egg masala
31	Egg bhujia
32	Mutter paneer
33	Palak paneer
34	Paneer Korma
35	Shahi paneer
36	Kadai Paneer
37	Chilly paneer
38	Cheese malai kofta
39	Veg navratna
40	Dal makhani
41	Dal fry
42	Veg raita
43	Remix Salad
44	Chicken Curry

Product_id	Name
45	Butter Chicken
46	Chicken do pyaza
47	Chicken teen pyaza
48	Chicken masala
49	Chicken mughlai
50	Chiken sagwala
51	Chicken dahi waala
52	Tandoori chicken
53	Fried chicken
54	Mutton do pyaza
55	Mutton teen pyaza
56	Mutton shahi korma
57	Mutton masala
58	Tandoori roti
59	Butter roti
60	Missi roti
61	Plain naan
62	Butter naan
63	Stuff naan
64	Indian thaali veg
65	Indian thaali nonveg
66	Chinese thali Veg

4. Order Services:

Services

Guest Id	<input type="text" value="34"/>
Valet	<input type="text" value="1"/>
Tea and Coffee	<input type="text" value="5"/>
Internet	<input type="text" value="1"/>
Telephone	<input type="text" value="10"/>
Newspaper	<input type="text" value="2"/>
Car Services	<input type="text" value="1"/>
Laundry	<input type="text" value="1"/>
Bus Services	<input type="text" value="0"/>
Parking	<input type="text" value="0"/>
Beauty Parlor	<input type="text" value="1"/>
<input type="button" value="Submit"/>	

5. Bill:

Bill No.: 66

Date: 1-11-2008

Name : Varun Jain

Room Charges

Services :

- | | |
|----|----------------|
| 1 | Valet |
| 2 | Tea and Coffee |
| 3 | Internet |
| 4 | Telephone |
| 5 | Newspaper |
| 6 | Car services |
| 7 | Laundry |
| 8 | Bus services |
| 9 | Parking |
| 10 | Beauty Parlour |

Food Charges

Rate		Quantity		Amount
10000.00	*	2	=	20000.00
1500.00	*	1	=	1500.00
250.00	*	0	=	0.00
60.00	*	12	=	720.00
10.00	*	40	=	400.00
10.00	*	2	=	20.00
5500.00	*	1	=	5500.00
15.00	*	5	=	75.00
750.00	*	0	=	0.00
40.00	*	0	=	0.00
300.00	*	1	=	300.00
			=	1771.00
Total Amount=				30286.00