SYNOPSIS

ONLINE HOTEL MANAGEMENT SYSTEM

SUBMITTED BY:

NAME:
ENROLLMENT NO:

(Dynamic Site using JSP, SERVLETS and My SQL)
ONLINE HOTEL MANAGEMENT SYSTEM

Under Supervision of : 

Submitted By:

Name : 
Address : 
Phone No : 
Programme : 
Enrolment No. : 

ONLINE HOTEL MANAGEMENT SYSTEM

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A complete structure Which includes :

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(ii) Data Structures as per the project requirements for all the modules.

(iii) Process Logic of each module.

(iv) Report generation.

Tools / Platform, Hardware and Software Requirement specification

Security and Validation Checks.

Scope of future application.

Conclusions

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Title of the Project

ONLINE HOTEL MANAGEMENT SYSTEM
1.1 INTRODUCTION

This is a Project work undertaken in context of partial fulfillment of MCA. I have tried my best to make the complicated process of Online Hotel Management System as simple as possible using Structured & Modular technique & Menu oriented interface. I have tried to design the software in such a way that user may not have any difficulty in using this package & further expansion is possible without much effort. Even though I cannot claim that this work to be entirely exhaustive, the main purpose of my exercise is perform each Employee’s activity in computerized way rather than manually which is time consuming.

I am confident that this software package can be readily used by non-programming personal avoiding human handled chance of error. This project is used by two types of users

i. Online Users.

ii. Administrator (management of the Hotel).

Online users can see the required articles or news

Administrator can maintain daily updates in the hotel records. Administrator is must be an authorized user. He can further change the password. There is the facility for password recovery, logout etc.

The main aim of the entire activity is to automate the process of day to day activities of Hotel like Room activities, Admission of a New Customer, Assign a room according to customer’s demand, checkout of a computer and releasing the room and finally compute the bill etc.

The limited time and resources have restricted us to incorporate, in this project, only a main activities that are performed in a HOTEL Management System, but utmost care has been taken to make the system efficient and user friendly. “HOTEL Management System” has been designed to computerized the following functions that are performed by the system:

Room Detail Functions
   Opening a New Room
   Modification to room assigned
Check-in and check-out Detail Functions
   Admission of New customer
   Check-out of customer
   Room assigning related to customer’s need.
Statement of Customer Details
  Check-in customer
  Check-out customer
  Room Details
Total number of Customers in the Hotel
  Individual customer Report
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 updation, 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 updation 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 absolutely 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 be accessible from the file.
- The main objective of the entire activity is to automate the process of day to day activities of Hotel like:
  1. Room activities,
  2. Admission of a New Customer,
  3. Assign a room according to customer’s demand,
  4. Checkout of a computer and releasing the room
  5. Finally compute the bill etc.
  6. Packages available.
  7. Advance online bookings.
  8. Online Cancellation.
  9. List of Regular customers.
  10. Email facility.
  11. Feedbacks

This project have some more features:

- System Connectivity
- No data duplication
• No Paper Work Required
• Time Efficient
• Cost Efficient
• Automatic data validation
• User friendly environment
• Data security and reliability
• Fast data insertion & retrieval
• Easy performance check
ADVANTAGE:

I have designed the given proposed system in the JSP to automate the process of Hotels. This project is useful for the authorities which keep track of all the users registered in a particular state. The authority can add hotel packages, room details, availability of rooms, online booking etc.

The following steps that give the detailed information of the need of proposed system are:

Performance: During past several decades, the records are supposed to be manually handled for all activities. The manual handling of the record is time consuming and highly prone to error. To improve the performance of the Hotel Management System, the computerized system is to be undertaken. This project is fully computerized and user friendly even that any of the members can see the report and status of the company.

Efficiency: The basic need of this website is efficiency. The website should be efficient so that whenever a new user submits his/her details the website is updated automatically. This record will be useful for other users instantly.

Control: The complete control of the project is under the hands of authorized person who has the password to access this project and illegal access is not supposed to deal with. All the control is under the administrator and the other members have the rights to just see the records not to change any transaction or entry.

Security: Security is the main criteria for the proposed system. Since illegal access may corrupt the database. So security has to be given in this project.
This Project is coupled with material on how to use the various tool, sub sets available in JSP, SERVLETS AND MY SQL.

The need of today’s software development is competence in a GUI based front-end tool, which can connect to Relational Database engines. This gives the programmer the opportunity to develop client server based commercial applications.

These applications give users the power and ease of a GUI with the multi user capabilities of Novell, UNIX or WinNT based RDBMS engines such as MY SQL .

All the important coding techniques used by programmers, in OOPS based coding is brought out in full and in great detail.
System Study & Analysis

PRINCIPLES OF SYSTEM ANALYSIS

1. Understand the problem before you begin to create the analysis model.

2. Develop prototypes that enable a user to understand how human machine interaction will occur.

3. Record the origin of and the reason for every requirement.

4. Use multiple views of requirements like building data, function and behavioral models.

5. Work to eliminate ambiguity.

ENTITY RELATIONSHIP DIAGRAM (ERD)

Entity – Relationship Diagram: This depicts relationship between data objects. The attribute of each data objects noted in the entity-relationship diagram can be described using a data object description. Data flow diagram serves two purposes:

1. To provide an indication of how data are transformed as they move through the system.

2. To depict the functions that transformation the data flow.

Data Objects: A data object is a representation of almost any composite information that must be understood by the software. By composite information, we mean something that has a number of different properties or attributes. A data object encapsulates data only there is no reference within a data object to operations that act on the data.

Attributes: Attributes define the properties of a data object and take on one of three different characteristics. They can be used to: Name an instance of data object. Describe the instance. Make reference to another instance in other table.
**Relationships:** Data objects are connected to one another in a variety of different ways. We can define a set of object relationship pairs that define the relevant relationships.

- **CARDINALITY AND MODALITY:**
  - **Cardinality:**
    The data model must be capable of representing the number of occurrences of objects in a given relationship. The cardinality of an object relationship pair is
    - One-To-One (1:1): An occurrence of object ‘A’ can relate to one and only one occurrence of object ‘B’ and vice versa.
    - One-To-Many (1:N): One occurrence of object ‘A’ can relate to one or may occurrences of object ‘B’ but an occurrence of object ‘B’ can relate to only one occurrence of object ‘A’.
    - Many-To-Many (M: N): An occurrences of ‘B’ and an occurrence of ‘B’ can relate to one or many occurrence of ‘A’.
  - **Modality:**
    The modality of a relationship is zero if there is no explicit need for the relationship to occur or the relationship is optional. The Modality is one if the occurrence of the relationship is mandatory.

The object relationship pair can be represented graphically using the Entity Relationship Diagrams. A set of primary components are identified for the Entity Relationship Diagram.

1. **Attributes.**
2. **Relationships and**
3. **Various Type Indicators.**

The primary purpose of the Entity Relationship Diagram is to represent data objects and their relationships.
E-R DIAGRAM

Hotel

Room information

Room

customer

Check-in

Hotel

Room record

Customer

Hotel

Checkout

Room

Customer

Bill generation

Hotel
CONTEXT LEVEL DFD
HOTEL MANAGEMENT SYSTEM

ROOM → CUSTOMER

HOTEL MANAGEMENT SYSTEM

CUSTOMER CHECKOUT → PRINT DEVICE
DATA FLOW DIAGRAM
OPENING A NEW ROOM

CUSTOMER

FILE

1 Generating new room number
1.1 Display Form
1.2 Get Details
1.3 Open Room
1.4 Update

Process

Update Table
customer Document
DATA FLOW DIAGRAM
CHECK-IN OF A NEW CUSTOMER

CUSTOMER

FILE

Customer Details

Update Table

1 Assigning a new room number

1.1 Display Form

1.2 Get Details

1.4 Update

1.3 Assigning a Room
DATA FLOW DIAGRAM
RECORD MODIFICATION

1. Read the customer room number
   - Scan Record

2. Show the Details of Record
   - Processing

3. Modify Details of Record
   - Update

USER

FILE
DATA FLOW DIAGRAM
CHECK-OUT OF CUSTOMER

CUSTOMER

FILE

1. Scan the customer room number

1.1 Display Form

1.2 Get Details

Update Table

Customer Details

1.4 Update

Process
DATA FLOW DIAGRAM
LISTING OF CUSTOMERS

1 Read the room number
2 Select Record from Database
3 Copy Selected Record
4 Compute Total
5 Select Record
6 Copy Selected Record
7 Compute Bill
8 Generate Total List

FILE
Scan Record
Processing

Final Output
Output
To Screen/Printer

CUSTOMER

OUTPUT UNIT
DATA FLOW DIAGRAM
GENERATING BILL OF CUSTOMER

MANAGEMENT

1 Read room number

2 Check for check out of customer

3 Compute Bill

4 Close Database

FILE

Scan RoomNo

Update

Processing

Cash

CUSTOMER
4.2 DATA MODELING

Data modeling defines primary data objects, composition of each data object, and attributes of the object, relationships between each object and other objects and between objects and the processes.

**Password Table**

<table>
<thead>
<tr>
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<td>Address</td>
<td>CHAR</td>
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<td>Email</td>
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<tr>
<td>DOJ</td>
<td>Date</td>
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<td>Status</td>
<td>CHAR</td>
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<tr>
<td>Occupation</td>
<td>CHAR</td>
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<td>Telephone</td>
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<td>CHAR</td>
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<td>Email</td>
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### Hotel Details Table

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<td>Address</td>
<td>CHAR</td>
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<td>Meeting person</td>
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<td>Phone</td>
<td>Number</td>
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<td>Email</td>
<td>CHAR</td>
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<td>Website</td>
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### Booking Details Table

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<td>Bookingdate</td>
<td>Date</td>
</tr>
<tr>
<td>Mode_of_booking</td>
<td>CHAR</td>
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<tr>
<td>From</td>
<td>Date</td>
</tr>
<tr>
<td>To</td>
<td>Date</td>
</tr>
<tr>
<td>Requirement_details</td>
<td>CHAR</td>
</tr>
<tr>
<td>State</td>
<td>CHAR</td>
</tr>
<tr>
<td>Name_of_customer</td>
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</tr>
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<td>Email</td>
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<tr>
<td>Phone</td>
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### Room Details Table

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<td>Bookingdate</td>
<td>Date</td>
</tr>
<tr>
<td>Floor</td>
<td></td>
</tr>
<tr>
<td>Package</td>
<td></td>
</tr>
<tr>
<td>Mode_of_booking</td>
<td>CHAR</td>
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<tr>
<td>From</td>
<td>Date</td>
</tr>
<tr>
<td>To</td>
<td>Date</td>
</tr>
<tr>
<td>Requirement_details</td>
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<td>State</td>
<td>CHAR</td>
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<td>Name_of_customer</td>
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<td>Email</td>
<td>CHAR</td>
</tr>
<tr>
<td>Phone</td>
<td>Number</td>
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</tbody>
</table>

### Checkout Details Table

<table>
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<tbody>
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<td>Bookingdate</td>
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<td>Floor</td>
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<tr>
<td>Package</td>
<td>CHAR</td>
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<td>------------</td>
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<tr>
<td>Mode_of_Payment</td>
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<td>Checkin_date</td>
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<td>State</td>
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<td>Name_of_customer</td>
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<td>Phone</td>
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**Package Details Table**

<table>
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<td>To</td>
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</tr>
<tr>
<td>Details</td>
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</table>

**Function Details**

The basic objective of **HOTEL MANAGEMENT SYSTEM** is to generalize and simplify the monthly or day to day activities of Hotel like Room activities, Check in of New Customer, Check out of customer, Assigning a room according to customer requirement, and finally compute the bill etc. which has to be performed repeatedly on regular basis. To provide efficient, fast, reliable and user-friendly system is the basic motto behind this exercise.

Let us now discuss how different functions handle the structure and data files:

1 **Password**

In this module, this website is for multiple users. If a User enters a password and the software checks its validity. If the password is valid then option is given to change the password, otherwise “Invalid User/Password” message is displayed. There is an option for password recovery, log out, login, new users sign in. The Administrator can also update changes in the site after login.

2 **Creating new Entity (Hotel, Room, Customers, Members etc.)**

This is used to add a new employee details, delete entity details and view the details. In that screen, the automatic item is created.

In this function, whenever a new entity is required to be added the corresponding forms are opened and the database is manipulated to check whether the data is already existing or not. If it already exists, then it prompts that “Entry already existing” and if not than the data is entered with the various validation checks.
3. Function NEW_ROOM()

   This is the function used to open a new room for a customer so that he/she can assign a separate room. In that screen, the automatic room number is created. After opening a new room for the customer, finally a room is assigned to a customer and the room records are appended in the data file.

4. Function CHECKIN_CUSTOMER()

   This function is used to admit a customer in our Hotel after entering his all personal details like Name, Address, Phone, Sex and then he/she is assigned a room from NEW_ROOM() function.

5. Function CHECKOUT_CUSTOMER()

   This function is used to checkout the customer details from database. When the user inputs his room number, the same room number will be checked in the database, if the room number is matched in the database, then the customer will be check-out from the database and transferred the record of the checkout to another table of database so that the Hotel Management has the record of customers who have check-out to fulfill his legal liabilities.

6. Function GENERATE_BILL()

   When any customer check-out, his/her bill is generated automatically by calculated check-out date minus check-in date and getting multiplied it by daily room charge plus other charges and the bill has to be saved in the table in the database.

7. Function DISPLAY_RECORD()

   This function is used to display all the transaction including the customer name, address, phone, bed number, and doctor assigned to him/her in the screen. This is a global report to display all the transaction records in the screen.

8 Validation of Data Entered by the User & Error Handling

   In this function, the validity of data entered by the user during the various business processes is checked through various validation checks. For example, there should not be any characters entered in the numeric fields, likewise if there is any error occurs than it should handle that particular error and give the required messages.

10 Searching
In this function, room, customer well as members can search details from the database according to their authentications.

11: Report Generation
In this function reports are generated for the following entities:

a) Customer Details.
b) Requirements of the Customers
c) Rooms Details
d) Bill Details
e) Checkin Reports
f) Booking Details
g) Online Bookings
h) Checkout Details
i) Membership Details
j) Packages Available.
Scope of Future Application

This project can be used in the hotel after adding some more useful modules in the project for which hotel are providing services.

Utmost care and back-up procedures must be established to ensure 100% successful implementation of the computerized hotel system. In case of system failure, the organization should be in a position to process the transaction with another organization or if the worst comes to the worst, it should be in a position to complete it manually.

Scope of Improvement

Now a days hotel are providing many other facilities, this project can also be improved with the improvement in the Hotels.

Utmost care and back-up procedures must be established to ensure 100% successful implementation of the computerized banking system. In case of system failure, the organization should be in a position to process the transaction with another organization or if the worst comes to the worst, it should be in a position to complete it manually.
CONCLUSION

This project is designed to meet the requirements of Online Hotel Management. It has been developed in JSP, Servlets keeping in mind the specifications of the system.

For designing the system we have used simple data flow diagrams.

Overall the project teaches us the essential skills like:

- Using system analysis and design techniques like data flow diagram in designing the system.
- Understanding the database handling and query processing.
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