DISTRIBUTED DATABASE MANAGEMENT SYSTEM LAB

FINAL PROJECT REPORT

Online Hotel Reservation System

SUBMITTED BY

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Project Summary:

Tourists are increasing rapidly in Bangladesh. It's easy to reserve a hotel online days before arriving to the place. Many popular hotels are opening new branches according to customer's demand. New branches means new customers and new data. We have designed this distributed database management system for Reservation part of a hotel.

Entity set:

- reserve - Keeps information of the check-in and check-out time of customers.
- guest - Keeps information of the guest who confirmed their reservation.
- room_type - Keeps detailed information about each type of room.
- room - Keeps information of the type of rooms and the specific room number that one customer reserves for him/her.

Global Schema:

- RESERVE (reserve_id, check_in, check_out)
- GUEST (guest_id , reserve_id , name , address , email , phone , city , payment)
- ROOM_TYPE (type_id , type_name , total, available , price)
- ROOM (id , reserve_id , room_no , room_type_id)

Fragmentation Schema:

- $reserve_1$ = reserve $JN_{reserve.reserve\_id=guest.reserve\_id}$ $SL_{guest.city='Dhaka'}$ guest
- $reserve_2$ = reserve $JN_{reserve.reserve\_id=guest.reserve\_id}$ $SL_{guest.city='Chittagong'}$ guest

- $guest_1$ = guest $SL_{guest.city='Dhaka'}$ guest
- $guest_2$ = guest $SL_{guest.city='Chittagong'}$ guest

- $room_1$ = room $JN_{room.reserve\_id=reserve.reserve\_id}$ reserve $JN_{reserve.reserve\_id=guest.reserve\_id}$ $SL_{guest.city='Dhaka'}$ guest
- $room_2$ = room $JN_{room.reserve\_id=reserve.reserve\_id}$ reserve $JN_{reserve.reserve\_id=guest.reserve\_id}$ $SL_{guest.city='Chittagong'}$ guest

Allocation Schema:

There are two sites in our project. (Named as site_link and site_link2)

– reserve$_1$ @ site_link
– reserve$_2$ @ site_link2
– guest$_1$ @ site_link
– guest$_2$ @ site_link2
– room$_1$ @ site_link
– room$_2$ @ site_link2

Procedures:

Availablity1:

This procedure shows the available room types and how many room of that specific types are available within the given check-in check-out time.

Input: check-in check-out time given by the customer.

Output: the types of room and the quantity of each types of rooms.

N.B. This procedure is written in proc_available.sql file.

Book:

This procedure books the types of rooms and the quantity of each room for the given check-in check-out time for a guest.

N.B. This procedure is written in proc_book.sql file.

Checkout:

This procedure add the room types in their specific column if today is the checkout day of any reserved room.

Input: today's date take as sysdate

Output: increment the room types that was reserved till today.

N.B. This procedure is written in proc_checkout.sql file.

Info1:

This procedure takes the information from the gust after the guest confirmed it's reservation and stored the information in the database.

Input: takes guest's name, email id, phone no, city.

Output: stored the information along with the guest id which is generated and stored them in their corresponding site according to the city they have given

N.B. This procedure is written in proc_info.sql file.

Functions:

Id_exchange:

This function returns the guest's reserve_id provide that the guest's id is given.

Date_duration:

This function returns the no of days staying in each types of rooms for any specific reserve_id. We get this reserved_id from the id_exchanged function.

Money_count:

This functions calculate the total amount of money that the customer have to pay for their night staying.

All these functions are under a package called 'mypackage' for calculating the total pay of the guest.

N.B. This package has 5 file m1pkg_spec1.sql,m1pkg_body1.sql for site1 and file n1pkg_spec1.sql,n1pkg_body1.sql, m1.proc_cost file.

Trigger:

When one guest confirmed his reservation by giving all of his information a trigger is shown whish shows the detailed information of this guest. i.e. the guest name,mail,phone no, check-in ,check-out, total cost.