

Department of Computer Science and Engineering

**National Institute of Technology,Warangal**

*DBMS Project*

Topic: - HOTEL MANAGEMENT SYSTEM

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Submitted By : -

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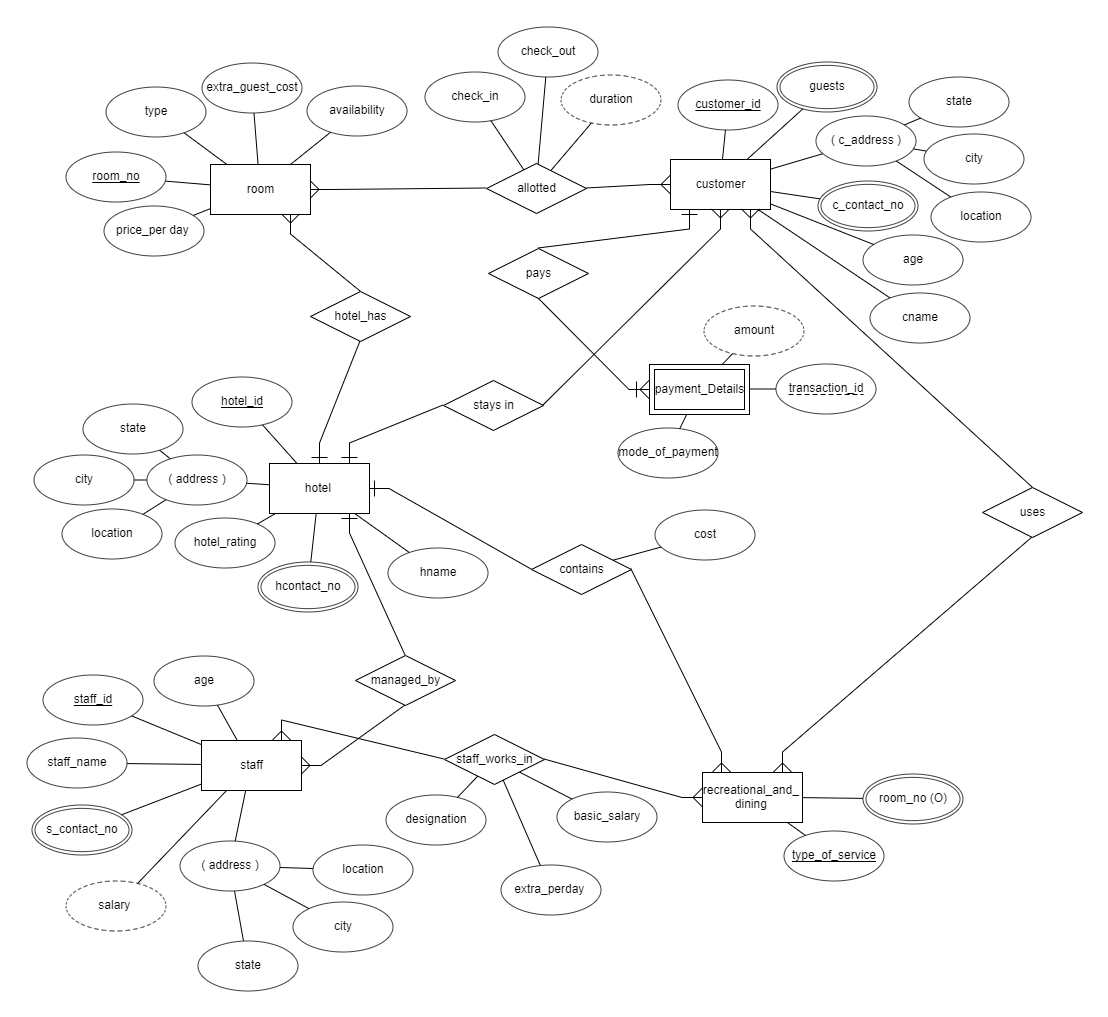
ACKNOWLEDGEMENT

I would like to thank Dr.T.Ramakrishnudu for giving me the opportunity to do the project as a part of the Database Management System course. Through this project I have gained deeper insight in Database Design,Relational Model,ER Model and Normalization.

OVERVIEW

The main aim of this project is to manage the data of the hotel, finding out information about the availability of the rooms in the hotel, customer and staff details. Moreover the project tells about the recreational activities like gym, swimming etc. provided by the hotel.

ER DIAGRAM



ASSUMPTIONS

* No two hotels have the same room number, customer id or staff id. Hence the relationships between hotel and room, customer, staff are one to many relations
* One hotel can have many recreational activities and dining facilities and the same facilities can be present in many hotels. Hence the relationship between hotel and recreational\_and\_dining table is many to many.
* One customer can stay in only one room and one room can have many customers living in it. Hence the relationship is many to many.
* Every member living in the same room has the same customer id.
* The recreational activities and dining of the hotel can be used only by the customers of the hotel.
* One customer can use as many recreational activities that he wants to and every recreational activity has facility to accommodate many customers. Hence the relation between customer and recreational\_and\_dining table is many to many.
* One staff member can work for many recreational activities and one recreational activity can have many staff members. Hence the relation between staff table and recreational\_and\_dining table is a many to many relationship.
* The entity payment detail is weak because there can be no payment without a customer booking the room. Hence there is a total participation from the payment\_detail table.

FUNCTIONAL DEPENDENCIES

*ROOM*

ROOM\_NO->TYPE

TYPE->EXTRA\_GUEST\_COST

ROOM\_NO->AVAILABILITY

TYPE->PRICE\_PER\_DAY

CANDIDATE KEY :ROOM\_NO

*CUSTOMER*

CUSTOMER\_ID->GUEST

CUSTOMER\_ID->STATE

CUSTOMER\_ID->CITY

CITY->STATE

CUSTOMER\_ID->LOCATION

CUSTOMER\_ID->AGE

CUSTOMER\_ID->CNAME

CANDIDATE KEY: CUSTOMER\_ID

*ALLOTtED*

{ROOM\_NO,CUSTOMER\_ID}->CHECK\_IN

{ROOM\_NO,CUSTOMER\_ID}->CHECK\_OUT

CANDIDATE KEY: {ROOM\_NO,CUSTOMER\_ID}

*PAYMENTDETAILS*

{CUSTOMER\_ID,TRANSACTION\_ID}->MODE\_OF\_PAYMENT

CANDIDATE KEY: {CUSTOMER\_ID,TRANSACTION\_ID}

*HOTEL*

HOTEL\_ID->HNAME

HOTEL\_ID->STATE

HOTEL\_ID->CITY

CITY->STATE

HOTEL\_ID->LOCATION

HOTEL\_ID->HOTEL\_RATING

CANDIDATE KEY: HOTEL\_ID

*STAFF*

STAFF\_ID->STAFF\_NAME

STAFF\_ID->AGE

STAFF\_ID->CITY

CITY->STATE

STAFF\_ID->STATE

STAFF\_ID->LOCATION

STAFF\_ID->HOTEL\_ID

CANDIDATE KEY: STAFF\_ID

*RECREATION\_AND\_DINING*

CANDIDATE KEY: TYPE\_OF\_SERVICE,ROOM\_NO

*STAFF\_WORKS\_IN*

{STAFF\_ID,TYPE\_OF\_SERVICE}->DESIGNATION

{TYPE\_OF\_SERVICE,DESIGNATION}->BASIC\_SALARY

{TYPE\_OF\_SERVICE,DESIGNATION}->EXTRA\_PERDAY

CANDIDATE KEY: {STAFF\_ID,TYPE\_OF\_SERVICE}

*USES*

NO FUNCTIONAL DEPENDENCIES

CANDIDATE KEY: CUSTOMER\_ID,TYPE\_OF\_SERVICE

*SCHEMA OF DECOMPOSED TABLES (IN 3NF AND BCNF )*

**PLACE**(CITY, STATE)

**HOTEL**(HOTEL\_ID, HNAME ,CITY(FK), LOC ,RATING)

**HOTEL\_CONTACT**(HOTEL\_ID (FK),H\_CONTACT\_NO)

**CUSTOMER**( CITY(FK), C\_ID ,CNAME,LOCATION, AGE, HOTEL\_ID (FK))

**C\_CONTACT**(CONTACT\_NO, C\_ID(FK), )

**GUESTS**(GUEST\_NAME ,C\_ID(FK))

**PAYMENT\_DETAILS**(C\_ID(FK),T\_ID ,PAY\_MODE)

**STAFF**(STAFF\_ID ,SNAME ,AGE,CITY(FK) ,LOC ,HOTEL\_ID(FK) )

**STAFF\_CONTACT**(STAFF\_ID(FK),CONTACT\_NO )

**STAFF\_WORK**(STAFF\_ID,SERVICE\_TYPE(FK) , DESG(FK))

**DESIGNATION\_SALARY** (DESG ,B\_SALARY, EXTRA\_PERDAY ,SERVICE\_TYPE(FK) )

**CONTAINS** (HOTEL\_ID (FK), SERVICE\_TYPE (FK), COST )

**RECREATIONAl**(SERVICE\_TYPE (FK),REC\_ROOM(FK) )

**USES**( C\_ID (FK) ,SERVICE\_TYPE(FK) )

**ROOM**\_**TYPE**(R\_TYPE ,PRICE\_PERDAY EXTRA\_GUEST\_COST)

**ROOM(**ROOM\_NO, R\_TYPE(FK) ,HOTEL\_ID(FK), AVAIL)

**ALLOTED** ( ROOM\_NO(FK) C\_ID(FK),CHECK\_IN, CHECK\_OUT,))