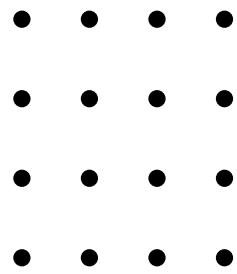


# CAR RENTAL SYSTEM



# TEAM MEMBERS



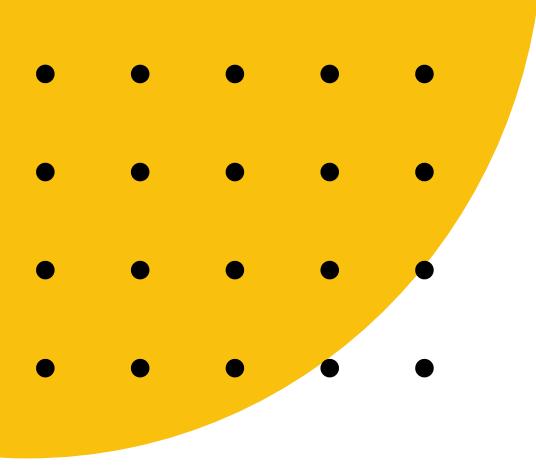
RENAD HASHIM AL-LEHYANI

ID: 442007990

SHAHAD SAED ALSUBHI

ID: 442010654



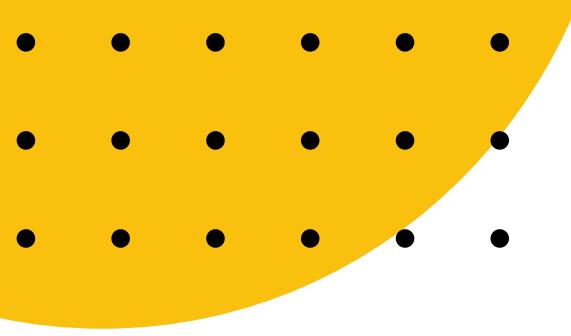


## INTRODUCTION

THE GOAL OF THE CAR RENTAL SYSTEM IS TO PROVIDE A TEMPORARY CAR FOR PEOPLE WHO NO LONGER OWN THEIR CARS, OWNERS OF DAMAGED CARS, AND THOSE TRAVELING OUT OF CITY, WHILE PAYING THE CHARGES THE RENTED CAR.

# **CAR RENTAL SYSTEM.**

- CAR RENTAL AGENCY HAVE COLLECTION OF CARS, EACH CAR BELONG TO A PARTICULAR CAR CATEGORY , EACH CAR IS LOCATED IN A SPECIFIC OFFICE.
- THERE IS MORE THAN ONE OFFICE, AND IN EACH OFFICE THERE ARE SEVERAL EMPLOYEES, AND ONE ADMIN SUPERVISING THEM.
- CUSTOMER, BASED ON HIS LOCATION AND CAR CATEGORY PREFERENCES, RENTS ONE OR MORE CARS.
- BASED ON HIS LOCATION AND CAR CATEGORY PREFERENCES, LIST OF CARS AVAILABLE TO RENT WILL BE SHOWN .
- CUSTOMER WILL SELECT A CAR FROM THE SUGGESTIONS AND SHOULD BE ABLE TO RESERVE IT FOR RENT.
- THE EMPLOYEES WILL CHECK THAT THE CUSTOMER HAS PICK UP THE CAR AND RETURENT IT FROM/TO THE OFFICE.
- BILLING IS GENERATED WHEN A CAR IS RETURNED.
- IF A CUSTOMER RETURNS A CAR AFTER THE DUE DATE, ADDITIONAL LATE FEE IS CALCULATED AND ADDED TO THE BILL
- A DEFAULT 8.25% TAX IS APPLIED ON THE AMOUNT WHICH ALSO INCLUDES THE LATE FEE AND THIS TAX IS ADDED TO OBTAIN THE TOTAL AMOUNT .
- ONCE THE CAR IS RETURNED IT BECOMES AVAILABLE FOR THE BOOKING



## **END USER**

- 1- THE CUSTOMER CAN ACCESS HIS PERSONAL INFORMATION , HIS BOOKING , BILLING, AND THE CARS AVAIILABLE FOR RENT
- 2-THE EMPLOYY CAN ACCESS TO HIS PERSONAL INFORMATION AND TO THE CUSTOMER BOOKING
- 3-THE ADMIN CAN ACCESS TO THE INFORMATIONS OF THE EMPLOYEES UNDER HIS SUPERVISION

## **THE RISK OF LOSING THE DATA**

IT CAN BE RISKY TO LOSE DATA BECAUSE WHEN CUSTOMER DATA IS LOST FOR INSTANCE IT IS IMPOSSIBLE TO KNOW IF THE CUSTOMER RENTED A CAR OR NOT, ASLO WHETHER HE RETURNED IT IN TIME OR NOT, SO WE ARE WORKING ON TAKING A BACKUP FOR THE DATA.

**A) CUSTOMER:**

CUSTOMER WILL BE THE ONE WHO IS USING CAR RENTAL SYSTEM FOR RESERVING A CAR.

**CUSTOMER ATTRIBUTES:**

- CUSTOMER DRIVING LICENSE NUMBER
- EMAIL:THE COUSTOMER'S EMAIL SAVED IN THE ATTRIBUTE TO CONNECT THEM IF NEEDED BY THE ADMIN OR EMPLOYEES.
- NATIONAL ADDRESS
- NAME :WHEN THE CUSTOMER CREATE ACCOUNT IN THE SYSTEM HIS NAMES IS SAVED IN THIS ATTRIBUTE.
- PHONE NUMBER: THE PHON NUMBER OF EACH CUSTOMER IS SAVED IN THIS ATTRIBUTE TO CONNECT THEM IF NEEDED BY THE ADMIN OR EMPLOYEES.

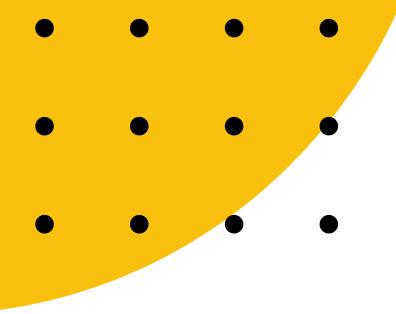
**B) CAR:**

CAR ENTITY WILL HAVE LIST OF CARS AVAILABLE IN THE SYSTEM.

EACH CAR WILL BE ASSOCIATED WITH A CAR CATEGORY AND

**CAR ATTRIBUTES:**

- MAKE : REFERS TO THE BRAND OF THE VEHICLE.
- MODEL
- REGISTRATION NUMBER : A SEQUENCE OF LETTERS AND NUMBERS ASSIGNED TO A MOTOR VEHICLE WHEN IT IS REGISTERED.
- MODEL YEAR : THE VERSION OF VEHICLE.
- SEPARATE FLAG TO CHECK THE AVAILABILITY OF THE CAR.



### C) CAR CATEGORY:

PRICE IS CALCULATED BASED ON THE CAR CATEGORY.

#### CAR CATEGORY ATTRIBUTES :

- NUMBER OF PERSON THAT THE CAR CAN CARRIED
- CATEGORY NAME
- COST PER DAY
- LATE FEE PER HOUR

### D) OFFICE:

OFFICE ENTITY HERE DENOTES THE PICKUP AND DROP OFF LOCATION OF THE CAR. CUSTOMER CAN PICK UP THE CAR FROM THE PARTICULAR LOCATION OF THE OFFICE

#### OFFICE ATTRIBUTES :

- OFFICE ID
- LOCATION

### E) BOOKING

EACH CAR RESERVATION WILL BE MONITORED IN THE ENTITY CALLED BOOKING.

#### BOOKING ATTRIBUTES:

- BOOKING ID
- FROM DATE AND TIME OF BOOKING
- DUE RETURN DATE AND TIME
- ACTUAL RETURN DATE TIME OF THE BOOKING
- BOOKING STATUS : STATUS THAT INDICATES WHICH PHASE THE BOOKING IS IN ( CONFIRMED, CANCELLED, COMPLETED)

## F) BILLING

WHEN A CUSTOMER RETURNS A CAR, A BILL WILL BE GENERATED ON THE PARTICULAR BOOKING.

### BILLING ATTRIBUTES:

- BILL ID,
- BILL DATE
- BILL STATUS
- TOTAL LATE FEE IF THE CUSTOMER IS LATE TO RETURN THE CAR
- TAX AMOUNT
- TOTAL AMOUNT

## G) EMPLOYEE:

THE EMPLOYEES WHO WORKS ON THE OFFICE .

### EMPLOYEE ATTRIBUTES:

- EMPLOYEE\_ID
- NAME
- PHONE NUMBER
- EMAIL ADDRESS

## H) ADMIN:

THE ADMIN HANDLE THE SYSTEM EFFICIENTLY AND IT PROVIDES AN OVERALL DEVELOPMENT OF THE SYSTEM BY KEEPING AN EYE ON ANY ERROR OCCUR IN THE SYSTEM. THE ADMIN ALSO MANAGE THE OTHER ACTOR'S ACCOUNTS AND UPDATE THE DATA IN THE ACCOUNTS OF THEM.

### ADMIN ATTRIBUTES:

- ADMIN ID
- NAME
- PHON NUMBER
- EMAIL ADDRESS

# **RELATIONSHIP**

## **A) CAR TO CAR CATEGORY:**

EVERY CAR IS ASSOCIATED WITH A CAR CATEGORY.

ONCE CUSTOMER SELECTS A CAR, THE COST PER DAY IS OBTAINED FROM THE CAR CATEGORY THAT THE SELECTED CAR BELONGS TO.

## **B) CAR TO OFFICE:**

CUSTOMER CAN PICK UP OR DROP-OFF THE CAR AT THE PARTICULAR OFFICE. SO, CARS WILL BE PRESENT AT A LOCATION.

## **C) BOOKING TO BILLING:**

ONCE CUSTOMER RETURNS A CAR BILL WILL BE GENERATED FOR EACH BOOKING. THERE CAN BE CASE LIKE BOOKING IS CANCELLED IN THAT CASE NO BILL WILL BE ASSOCIATED WITH THE BOOKING.

## **D) BOOKING TO OFFICE:**

CUSTOMER CAN PICK/DROP OFF A CAR FOR RENT FROM A PARTICULAR OFFICE.

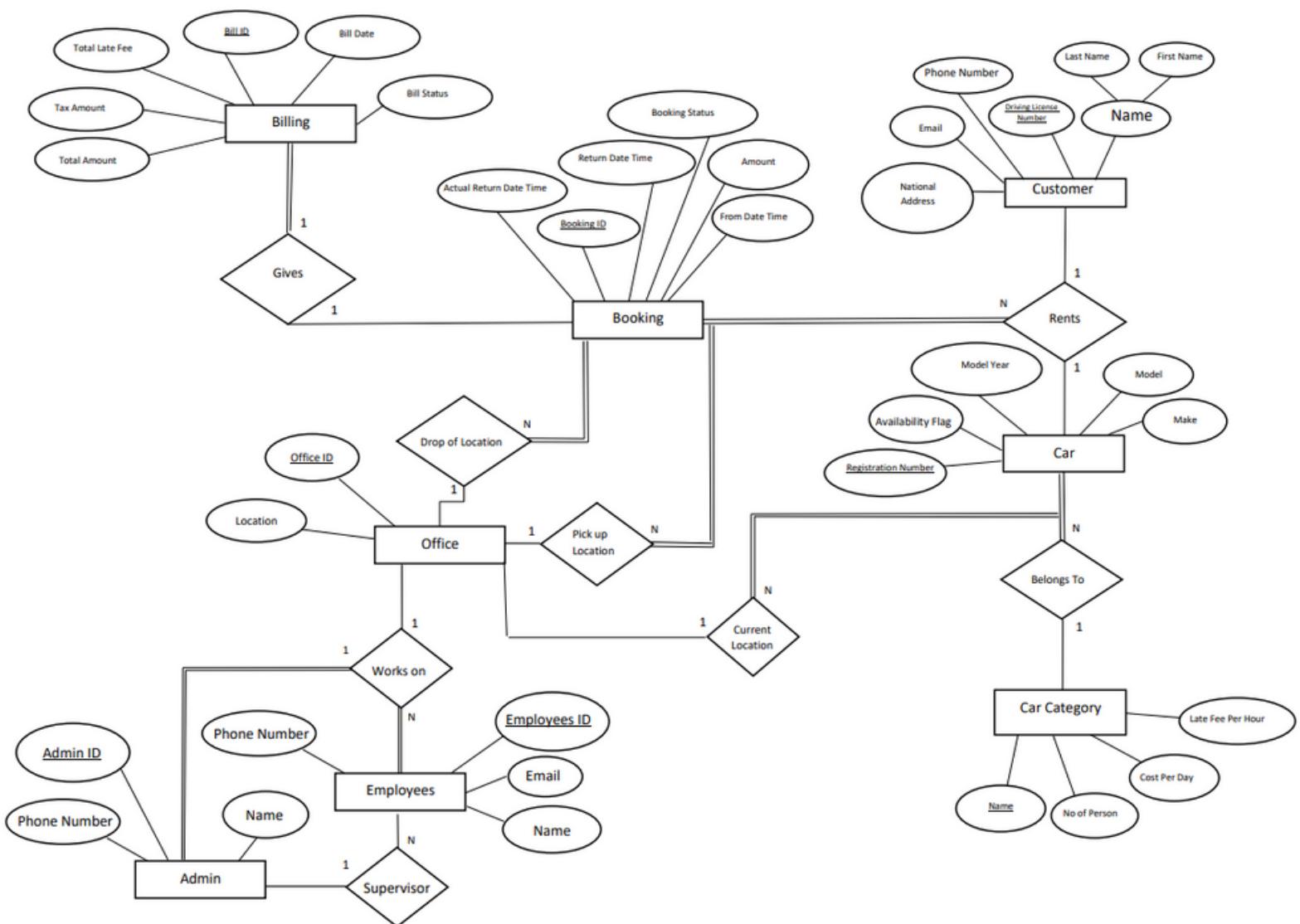
## **E) CUSTOMER TO CAR TO BOOKING:**

CUSTOMER WILL SELECT CAR FOR RENT. SO THE CUSTOMER WILL BE RELATED TO THE BOTH CAR AND THE BOOKING.

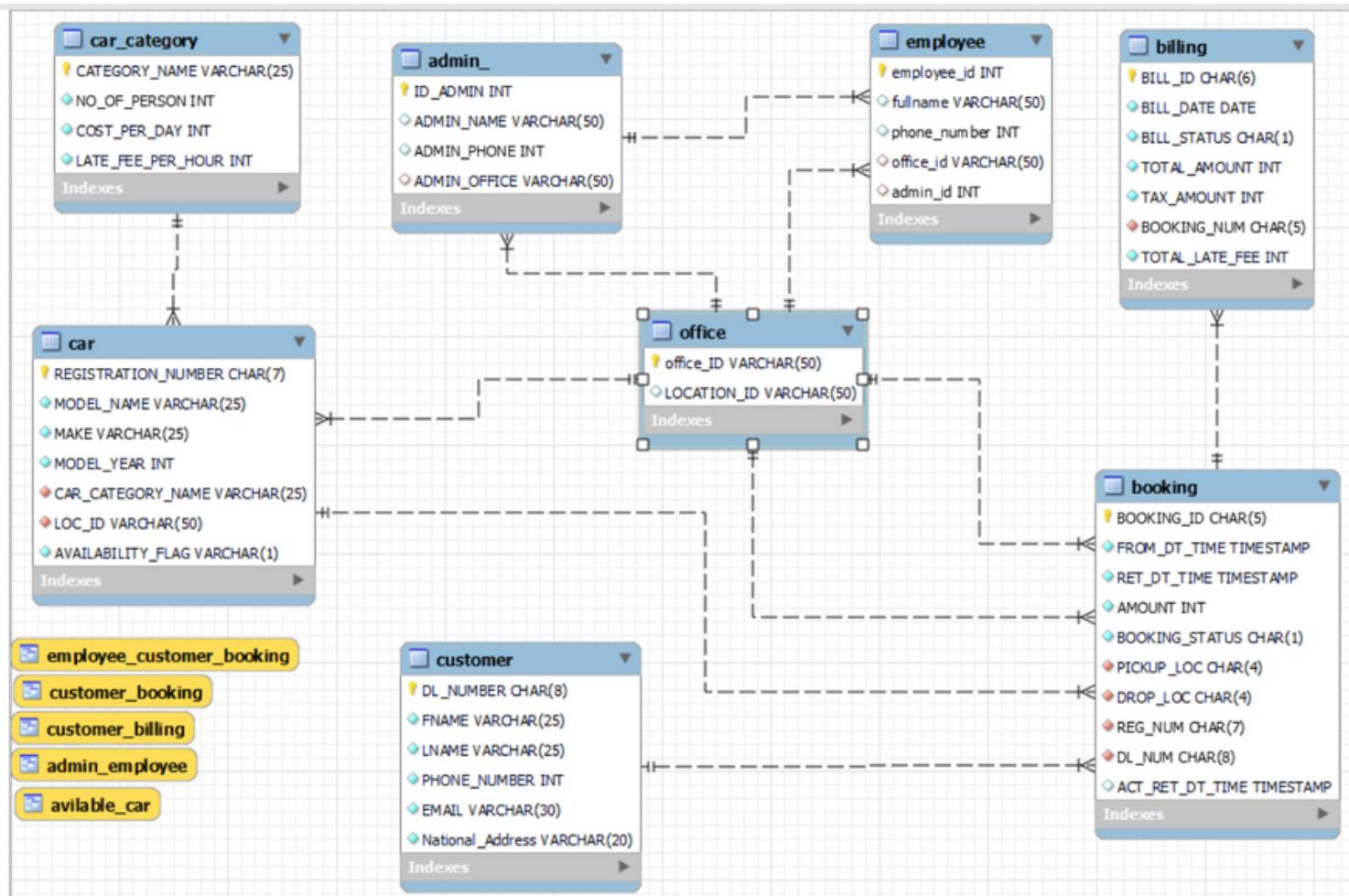
## **F) EMPLOYEE TO OFFICE: EMPLOYEE WORKS ON THE OFFICE**

## **G) ADMIN TO EMPLOYEE: ADMIN SUPERVISION EMPLOYEES**

# ER DIAGRAM



# ER DIAGRAM



# REFERENCE

[HTTPS://GITHUB.COM/NAVEENRAJCEG13/CAR-RENTAL-SYSTEM---  
DATABASE-PROJECT/BLOB/MASTER/PROJECT\\_REPORT.PDF](https://github.com/NAVEENRAJCEG13/CAR-RENTAL-SYSTEM---DATABASE-PROJECT/blob/master/project_report.pdf)



[HTTPS://INSTANTEDUHELP.COM/CAR-  
RENTAL-MANAGEMENT-SYSTEM/](https://instanteduhelp.com/car-rental-management-system/)

