



Faculty of Computers and Artificial Intelligence

Cairo University

Final Assessment Project

Course Title: Introduction to Database Systems (IS211)

Semester: Second Semester

Date: Jun 2020

Instructors: Dr. Iman Hassan & Dr. Amani Hassan

Transportation System Project

Prepared by:

Student Name

Student ID

Zyad mohamed amin

20180111

Manar atef sayed

20180290

Contents

Contents

Chapter 1: Introduction.....	3
1.1 Description of the project idea.....	3
1.2 Technology and tools used.....	3
Chapter 2: Analysis	4
2.1 Conceptual Model (ERD).....	4
2.2 Physical model (DDL scripts)	4
Chapter 3: SQL Queries + screenshots of the results	6

Chapter 1: Introduction

- The transportation system serves people in Daily life to allow them move easily in everywhere and transporting passengers and goods.
- It covers movement by all forms of transport, like cars, scooters and buses
- transportation systems seek to reduce transport costs and improve delivery times through effective timetabling.

1.1 Description of the project idea

Our system consists of:

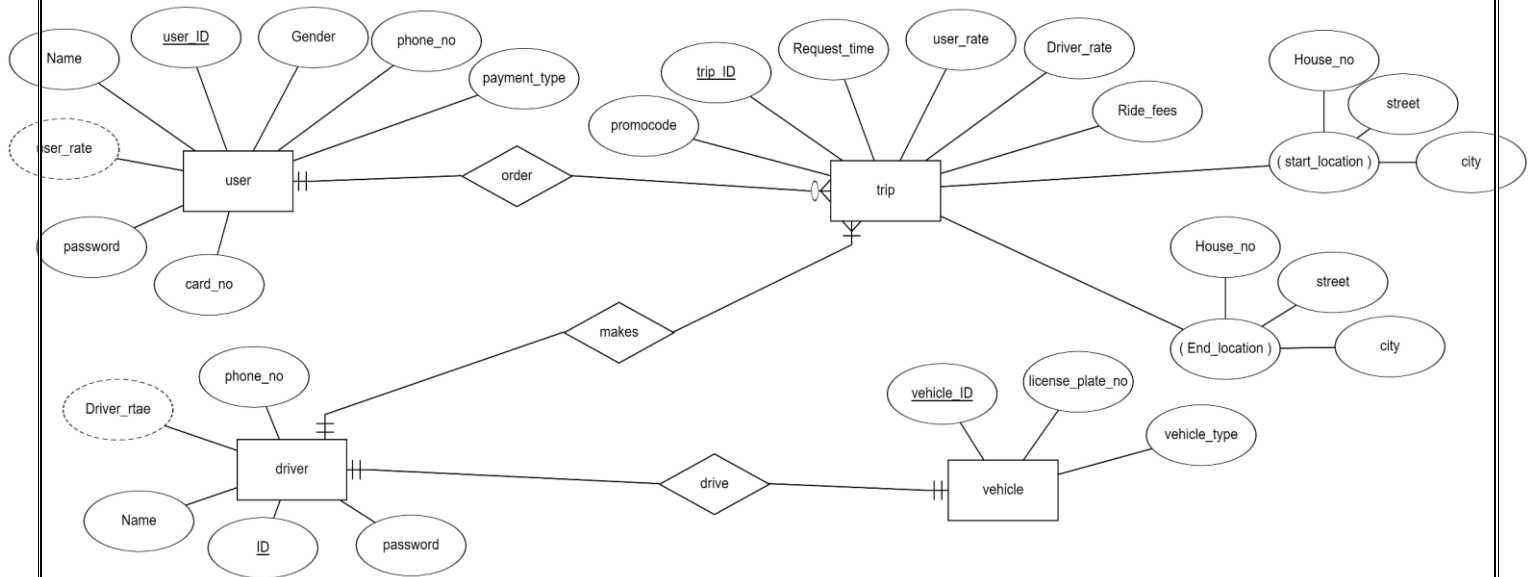
- driver signup with his vehicle.
- user signup and order a tripe.
- Allow user insert promocode to get promotion.
- User can pay with (Cash / Visa / MasterCard).

1.2 Technology and tools used

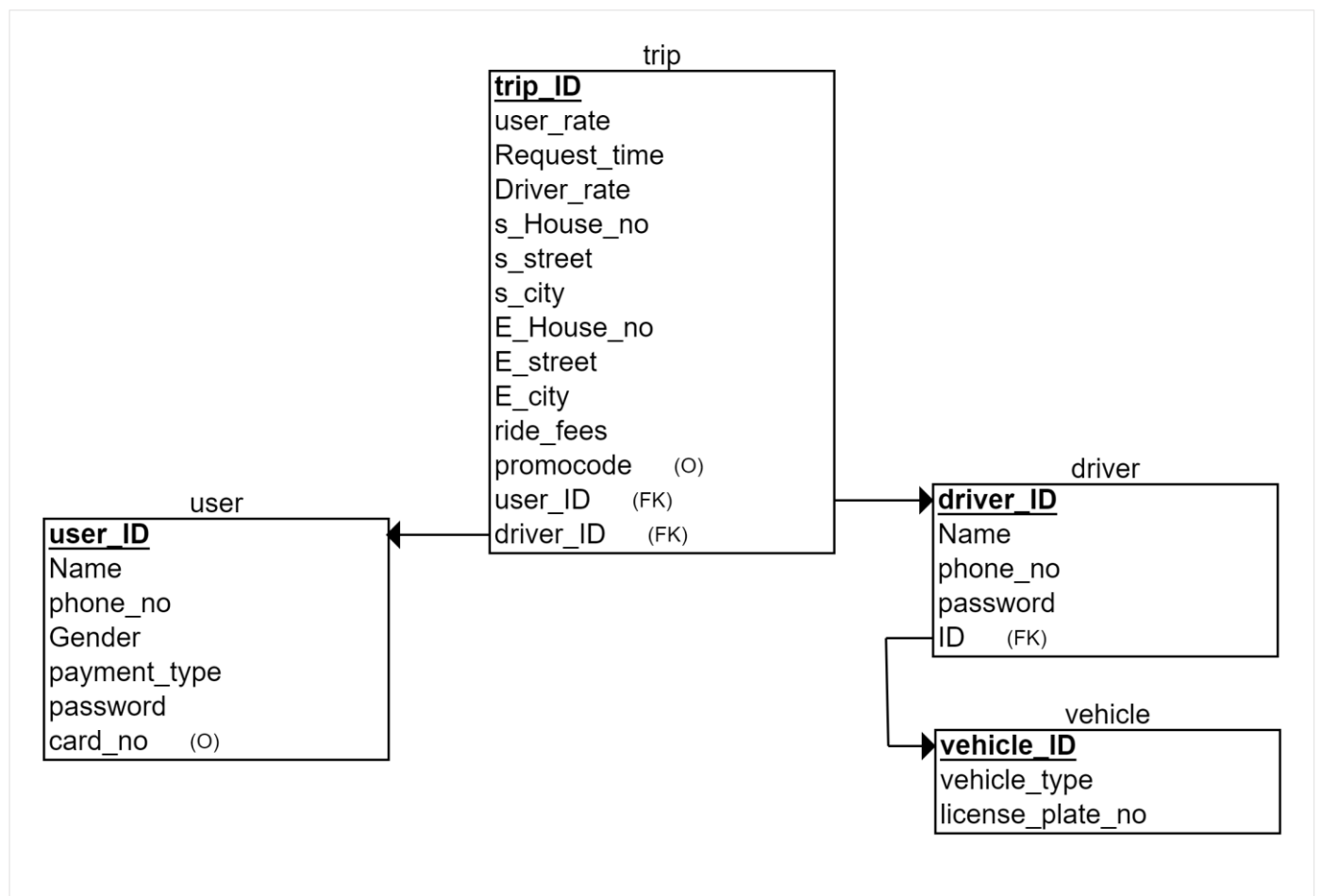
- ERD+
- SQL server

Chapter 2: Analysis

2.1 Conceptual Model (ERD)



2.2 Physical model (DDL scripts)



Code:

```
CREATE TABLE user
(
  user_ID INT NOT NULL,
  Name VARCHAR(40) NOT NULL,
  phone_no INT NOT NULL,
  Gender VARCHAR(10) NOT NULL,
  payment_type VARCHAR(40) NOT NULL,
  password VARCHAR(40) NOT NULL,
  card_no INT,
  PRIMARY KEY (user_ID)
);

CREATE TABLE vehicle
(
  vehicle_type VARCHAR(40) NOT NULL,
  license_plate_no INT NOT NULL,
  vehicle_ID INT NOT NULL,
  PRIMARY KEY (vehicle_ID)
);

CREATE TABLE driver
(
  Name VARCHAR(40) NOT NULL,
  driver_ID INT NOT NULL,
  phone_no INT NOT NULL,
  password VARCHAR(40) NOT NULL,
  ID INT NOT NULL,
  PRIMARY KEY (driver_ID),
  FOREIGN KEY (ID) REFERENCES vehicle(vehicle_ID)
);

CREATE TABLE trip
(
  user_rate FLOAT NOT NULL,
  Request_time DATE NOT NULL,
  trip_ID INT NOT NULL,
  Driver_rate FLOAT NOT NULL,
  s_House_no INT NOT NULL,
  s_street VARCHAR(40) NOT NULL,
  s_city VARCHAR(40) NOT NULL,
  E_House_no INT NOT NULL,
  E_street VARCHAR(40) NOT NULL,
  E_city VARCHAR(40) NOT NULL,
  ride_fees FLOAT NOT NULL,
  promocode VARCHAR(40),
```

```

user_ID INT NOT NULL,
driver_ID INT NOT NULL,
PRIMARY KEY (trip_ID),
FOREIGN KEY (user_ID) REFERENCES driver(driver_ID),
FOREIGN KEY (driver_ID) REFERENCES user(user_ID)
);

```

Chapter 3: SQL Queries + screenshots of the results

a) Insert for user:

1. `insert into user1 values(1, 'manar', 011, 'female', 'cash', 111, null)`
2. `insert into user1 values(2, 'zyad', 01, 'male', 'card', 555, 1234)`
3. `insert into user1 values(3, 'mohamed', 012, 'male', 'cash', 666, null)`
4. `insert into user1 values(4, 'nour', 011, 'female', 'visa', 888, 456)`

b) Insert for vehicle:

1. `insert into vehicle values('car', 123, 1)`
2. `insert into vehicle values('bus', 124, 2)`
3. `insert into vehicle values('scoter', 125, 3)`
4. `insert into vehicle values('bus', 125, 4)`

c) Insert for driver:

1. `insert into driver values('ahmed', 1, 012, 123, 1)`
2. `insert into driver values('emaad', 2, 011, 123, 2)`
3. `insert into driver values('khaled', 3, 010, 123, 3)`
4. `insert into driver values('ibrahim', 4, 555, 123, 4)`

d) Insert for trip:

1. `insert into trip values`
`(4.5, '2000/02/03', 1, 5, 2, 'metro', 'maadi', 15, 'abo elfeda', 'zmlek', 1, 1, null, 50)`
2. `insert into trip values`
`(4, '2000/04/03', 2, 3, 8, 'ansar', 'embaba', 15, 'shar3 9', 'maadi', 2, 2, null, 90)`
3. `insert into trip values`
`(3, '2000/04/05', 3, 4.5, 8, 'ansar', 'embaba', 15, 'tera', 'shopra', 3, 3, '2545', 0)`
4. `insert into trip values`
`(3, '2000/04/09', 4, 4, 8, 'ansar', 'giza', 15, 'teraa', 'shopra', 3, 3, '2545', 60)`

5. `insert into trip values`

`(4, '2000/05/09', 5, 5, 8, 'ansar', 'giza', 15, 'teraa', 'shopra', 3, 4, '111', 60)`

Queries:

a. What was the area that had the most/least ride requests `last month`?

```
select trip.s_city as min_City
from trip
where Month(trip.Request_time)=4
group by(trip.s_city )
having COUNT(trip.s_city ) = (select min( y.num)
FROM (select COUNT(trip.s_city) AS num
FROM trip
group by(trip.s_city)) y)
```

```
select trip.s_city as max_City
from trip
where Month(trip.Request_time)=4
group by(trip.s_city )
having COUNT(trip.s_city ) = (select max( y.num)
FROM (select COUNT(trip.s_city) AS num
FROM trip
group by(trip.s_city)) y)
```

Results		Messages	
min_City			
1	giza		
max_City			
1	embaba		

✓ Query executed successfully. | DESKTOP-4MO145G (12.0 RTM) | DESKTOP-4MO145G\zezo (52) | uber | 00:00:00 | 2 rows

b. Who were the drivers with the maximum number of rides last month?

```
select driver.Name ,driver.driver_ID
from trip,driver
where Month(trip.Request_time)=4 and driver.driver_ID=trip.driver_ID
group by driver.Name ,driver.driver_ID
having COUNT(trip.driver_ID ) = (select max( y.num)
FROM (select COUNT(trip.driver_ID) AS num
FROM trip
group by(trip.driver_ID)) y)
```

Results		Messages	
	Name	driver_ID	
1	khaled	3	

Query executed successfully. | DESKTOP-4MO145G (12.0 RTM) | DESKTOP-4MO145G\zezo (52) | uber | 00:00:00 | 1 rows

c. For each driver, retrieve all his/her information and the number of rides he/she had

```
select *, no_trips=(select count(driver_ID)
from trip
where driver.driver_ID=trip.driver_ID)
from driver
```

Results Messages

	Name	driver_ID	phone_no	password	ID	no_trips
1	ahmed	1	12	123	1	1
2	emaad	2	11	123	2	1
3	khaled	3	10	123	3	2
4	ibrahim	4	555	123	4	1

Query executed successfully. DESKTOP-4MO145G (12.0 RTM) DESKTOP-4MO145G\zezo (52) uber 00:00:00 4 rows

d. Which driver got at least 4.5 out of 5 on every user rating he/she got?

```
select driver.Name,AVG(trip.Driver_rate)as avg_rate
from trip,driver
where trip.driver_ID=driver.driver_ID
group by driver.Name
having AVG(trip.Driver_rate) in(4.5 ,5)
```

Results Messages

	Name	avg_rate
1	ahmed	5
2	ibrahim	5

Query executed successfully. DESKTOP-4M0145G (12.0 RTM) DESKTOP-4M0145G\zezo (52) uber 00:00:00 2 rows

e. Who were the drivers that didn't have any ride last month?

```
select *
from driver
where Not EXISTS(
select driver_ID
from trip
where driver.driver_ID=trip.driver_ID and MONTH(trip.Request_time)=4)
```

Results Messages

	Name	driver_ID	phone_no	password	ID
1	ahmed	1	12	123	1
2	ibrahim	4	555	123	4

Query executed successfully. DESKTOP-4M0145G (12.0 RTM) DESKTOP-4M0145G\zezo (52) uber 00:00:00 2 rows

f. What is the most type of vehicle (car, bus, and scooter) requested last month?

```
select vehicle.vehicle_type
from trip,driver,vehicle
```

```
where trip.driver_ID = driver.driver_ID and driver.ID=vehicle.vehicle_ID and
Month(trip.Request_time)=4
group by(vehicle.vehicle_type)
having count(vehicle.vehicle_ID)=(select MAX(y.num)
from(
select COUNT(vehicle.vehicle_type) as num
from trip,driver,vehicle
where trip.driver_ID = driver.driver_ID and driver.ID=vehicle.vehicle_ID
and Month(trip.Request_time)=4
group by(vehicle.vehicle_type)) y)
```

Results

Messages

vehicle_type

1

scoter



Query executed successfully.

DESKTOP-4MO145G (12.0 RTM)

DESKTOP-4MO145G\zezo (52)

uber

00:00:00

1 rows