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Group 7.2

**1.Data Requirements of the System**

* When the create account, User enter the user details such as user name ,account\_id (unique) phone number , email address password and gender.
* System check the phone number has 10 digits.
* A user can create only one account.
* User has user\_ID and current location. User\_ID unique.
* A user can request one ride at a time. And one user cant many rides at a time.
* Ride has ride\_ID , location , data ,destination . ride\_ID is unique.
* The ride assign a taxi for a request. Taxi has Taxi\_ID(unique) , vehicle number and mode. Two types of taxi service. There are tuktuk and cabs.
* Tuktuk has tuk\_number and cab has cab\_number.
* System check tuk number and cab number have only 10 digites.
* Taxi assign a driver at a time for a ride.
* Driver has name , driver\_ID , rate and email. The e mail check the correct order.
* User make payment for journey. Payment has payment\_id , amount , date and method. Payment\_id is unique. Single user can make any payments.
* Finally , user can send a feedback about his/her ride. Its not compulsory.
* Feedback has feedback id and feedback message. A user can send one or more feedbacks

2. EER Diagram

A picture containing text, map

Description automatically generated

3. Relational schema

* Account (Account\_ID, F\_name , L\_name, gender , password)
* Account\_phone (Account\_ID , phone)
* **Foreign key (Account\_ID) , references Account (Account\_ID)**
* Account\_Email(Account\_ID , Email)
* **Foreign key (Account\_ID) , references Account (Account\_ID)**
* User (User\_ID , Location , Account\_ID)
* **Foreign key (Account\_ID) , references Account (Account\_ID)**
* Ride(Ride\_ID , Location , Date , Distination , User\_ID)
* **Foreign key (User\_ID) , references User (User\_ID)**
* Taxi (Taxi\_ID , vehicle\_NO , Mode , Ride\_id)
* **Foreign key (Ride\_ID) , references Ride (Ride\_ID)**
* TukTuk(Taxi\_ID , tuk\_number, vehicle\_NO , Mode)
* Cabs (Taxi\_ID , cab\_number, vehicle\_NO , Mode)
* Driver(Driver\_ID , rate , F\_name , L\_name , Taxi\_ID)
* **Foreign key (Taxi\_ID) , references Taxi (Taxi\_ID)**
* Driver\_email(Driver\_ID , Driver\_Email)
* **Foreign key (Driver\_ID) , references Driver (Driver\_ID)**
* Payment(payment\_ID , date , Account , method , User\_ID)
* **Foreign key (User\_ID) , references User (User\_ID)**
* Feedback (feedback\_ID , feedbackMSG)
* **Foreign key (User\_ID) , references user (User\_ID)**

**C.Option 01**

I use option 1 for this ISA relationship. Because this option 1 work for all the constraints. Not only that, if there is a Taxi which is not belongs to TukTuk and Cabs, I can store that taxi details in my Taxi table.That's why I'm using option 1.

4.Creating tables

create table Account (

Account\_ID char(10) not null ,

F\_name varchar(30) not null ,

L\_name varchar (300) not null ,

gender varchar(10) not null ,

constraint pk\_acc primary key (Account\_ID) ,

constraint ch\_ID check (Account\_ID like '[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]'),

)

create table Account\_email (

Account\_ID char(10) not null,

Email varchar(40) not null,

constraint pk\_account primary key (Account\_ID , Email) ,

constraint fk\_account foreign key (Account\_ID) references Account (Account\_ID) ,

)

create table Account\_phone (

Account\_ID char(10) not null,

phone char(40) not null,

constraint pk\_account primary key (Account\_ID , phone) ,

constraint fk\_account foreign key (Account\_ID) references Account (Account\_ID) ,

constraint ch\_phone check(phone like '[0 - 9][0 - 9][0 - 9][0 - 9][0 - 9][0 - 9][0 - 9][0 - 9][0 - 9][0 - 9]') ,

constraint ch\_email check (email like '%\_@\_%.com')

)

create table User (

User\_ID char(20) not null ,

Location varchar(30) ,

Account\_ID char(20) not null ,

constraint pk\_account primary key (User\_ID) ,

constraint fk\_account foreign key (Account\_ID) references Account (Account\_ID) ,

)

create table Ride (

Ride\_ID char(5) not null ,

Location varchar(49) not null ,

Date varchar(50) not null ,

Distination varchar(30) not null ,

User\_ID char(60) not null ,

constraint pk\_account primary key (Ride\_ID) ,

constraint fk\_account foreign key (User\_ID) references User (User\_ID) ,

)

create table Taxi (

Taxi\_ID char(20) not null,

vehicle\_NO varchar(30) not null ,

Mode varchar(20) not null ,

Ride\_id char(5) not null ,

constraint pk\_account primary key (Taxi\_ID) ,

constraint fk\_account foreign key (Ride\_ID) references Ride (Ride\_ID) ,

constraint check\_mode check (type IN ('tuktuk' , 'cabs')) ,

)

create table TukTuk(

Taxi\_ID char(20) not null ,

tuk\_number char(30) not null ,

constraint pk\_account primary key (Taxi\_ID) ,

)

create table Cabs (

Taxi\_ID char(20) not null ,

cab\_number char(30) not null ,

constraint pk\_account primary key (Taxi\_ID) ,

)

create table Driver (

Driver\_ID char(10) not null ,

rate varchar(22) not null ,

F\_name varchar(22) not null ,

L\_name varchar(30) not null ,

Taxi\_ID varchar(33) not null ,

constraint pk\_account primary key (Driver\_ID) ,

constraint fk\_account foreign key (Taxi\_ID) references Taxi (Taxi\_ID) ,

)

create table Driver\_email (

Driver\_ID char(12) not null ,

Driver\_Email varchar(22) not null ,

constraint pk\_account primary key (Driver\_ID , Driver\_Email) ,

constraint fk\_account foreign key ( Driver\_ID ) references Driver (Driver\_ID) ,

constraint ch\_email check (driver\_email like '%\_@\_%.com')

)

create table Payment (

payment\_ID char(22) not null ,

date char (22) not null ,

Account varchar(20) not null ,

method varchar(33) not null ,

User\_ID char (33) not null ,

constraint pk\_account primary key (Payment\_ID) ,

constraint fk\_account foreign key (User\_ID) references User (User\_ID) ,

)

create table Feedback (

feedback\_ID char(30) not null ,

feedbackMSG varchar(50) ,

User\_ID char(33) ,

constraint pk\_account primary key (feedback\_ID) ,

constraint fk\_account foreign key (User\_ID) references User (User\_ID) ,

)