

```
-- 2(a)
CREATE TYPE scooter_status AS ENUM('online','offline','lost/stolen')
CREATE TABLE Scooter(
    QR_Code integer NOT NULL,
    Status scooter_status NOT NULL,
    Location point NOT NULL,
    Home_Assignment circle,
    PRIMARY KEY (QR_code)
);
```

```
CREATE TABLE User(
    User_ID varchar(6) NOT NULL,
    Credit_Num varchar(16),
    Security_Code varchar(3) CHECK (NOT(Credit_Num NULL AND
Security_Code NULL)),
    Email varchar(30) NOT NULL,
    PRIMARY KEY (User_ID)
);
```

```
-- 2(b)
CREATE TABLE trip(
    Trip_ID varchar NOT NULL,
    In_Progress boolean,
    Distance numeric(4,2) NOT NULL CHECK (Distance >= 0),
    Activation_location point,
    Park_location point,
    Start_time timestampz,
    End_time timestampz,
    Duration interval NOT NULL CHECK (Interval >= 0),
    PRIMARY KEY (Trip_ID),
    FOREIGN KEY(QR_Code) REFERENCES Scooter,
    FOREIGN KEY(User_ID) REFERENCES User
);
```

```
-- 2(c)
-- The advantage of inserting the row and modifying the row is that
you bypass dealing with phone issues (if it dies or doesn't have
service mid-ride, what happens to your data?). However, caching data
on the phone and then uploading to DB makes it so that your actual DB
requires less modification. I would prefer to risk losing some user
data (and in the case of issues, just lose that money) than the
insert+modify b/c I would imagine the "cost" of perpetually modifying
the DB would be greater.
```

```
-- 2(d)
-- Schema diagram in separate file.
```

```
-- Things to think about: Would you include the number of minutes the
```

trip lasted in the Trip table? why or why not?

--Yes b/c you need that info to charge the user; although you can always EXTRACT the number of minutes (duration) from the records of start_time & end_time, you would need to perform this function for every single trip, so makes sense to store it as an attribute

--What are the advantages/disadvantages of including charge to user in the Trip table? disadvantage: would need to store user ID as a foreign key, wasteful b/c can always compute from duration of trip. advantage: wouldn't have to use a join trip & user tables in a query to figure out how much a user was charged for a given trip