

CPSC 471: Initial Draft Design

Due on March 21

Group Number 3

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1 Introduction

This report contains the initial draft design and a progress report for our project Renti, a peer to peer vehicle renting service. The current progress will discuss the technologies chosen for the framework and much work is done implementing it. As our project uses an Object Relational Mapping (ORM) to access our database we have an object orientated model which will be outlined. Lastly, the draft of the user interface is discussed.

2 Current Progress and Technologies

For the back end of the project we are using Node.js with Express.js, Knex, and Bookshelf (this will be our ORM that handles our queries). The database is using SQLite3 with Bookshelf.js to provide the ORM interface. The back end is finished and the API is tested. As the front end is implemented there will likely need to be some changes to the API but it is in a state where work can be started on the front end for the web application and possibly the mobile application.

The front end will be implemented using React.js and Semantic-UI. The boiler plate code will be taken from Ali Waseem's blog including functions like user authentication. Each project member will be responsible for creating components to interact with the back end API. Work is currently started and the projected completion date for the front end is end of March.

3 Object Orientated Model

The object orientated model is shown in Figure 1. For each of the routes the SQL query is listed.

3.1 Users

The model of the user:

3.1.1 The public routes:

get /api/users/

```
SELECT uid, first_name, last_name, address, username, email, image,
       summary FROM USER;
```

get /api/users/:id

```
SELECT uid, first_name, last_name, address, username, email, image,
       summary FROM USER WHERE uid="id";
```

post /api/users/signup

```
INSERT INTO USER (image, username, password, first_name, last_name,
                  address, summary, date_of_birth, email)
VALUES ('URL_OF_USER_PHOTO', 'tcollin', 'test', 'Tanner', 'Collin', '
123 place rd NW', 'Hi. I love for you to rent one of my cars!',
730869558, 'test@someemail.com');
```

post /api/users/signin

```
SELECT username, password FROM USER where username='tcollin', password
='test';
```

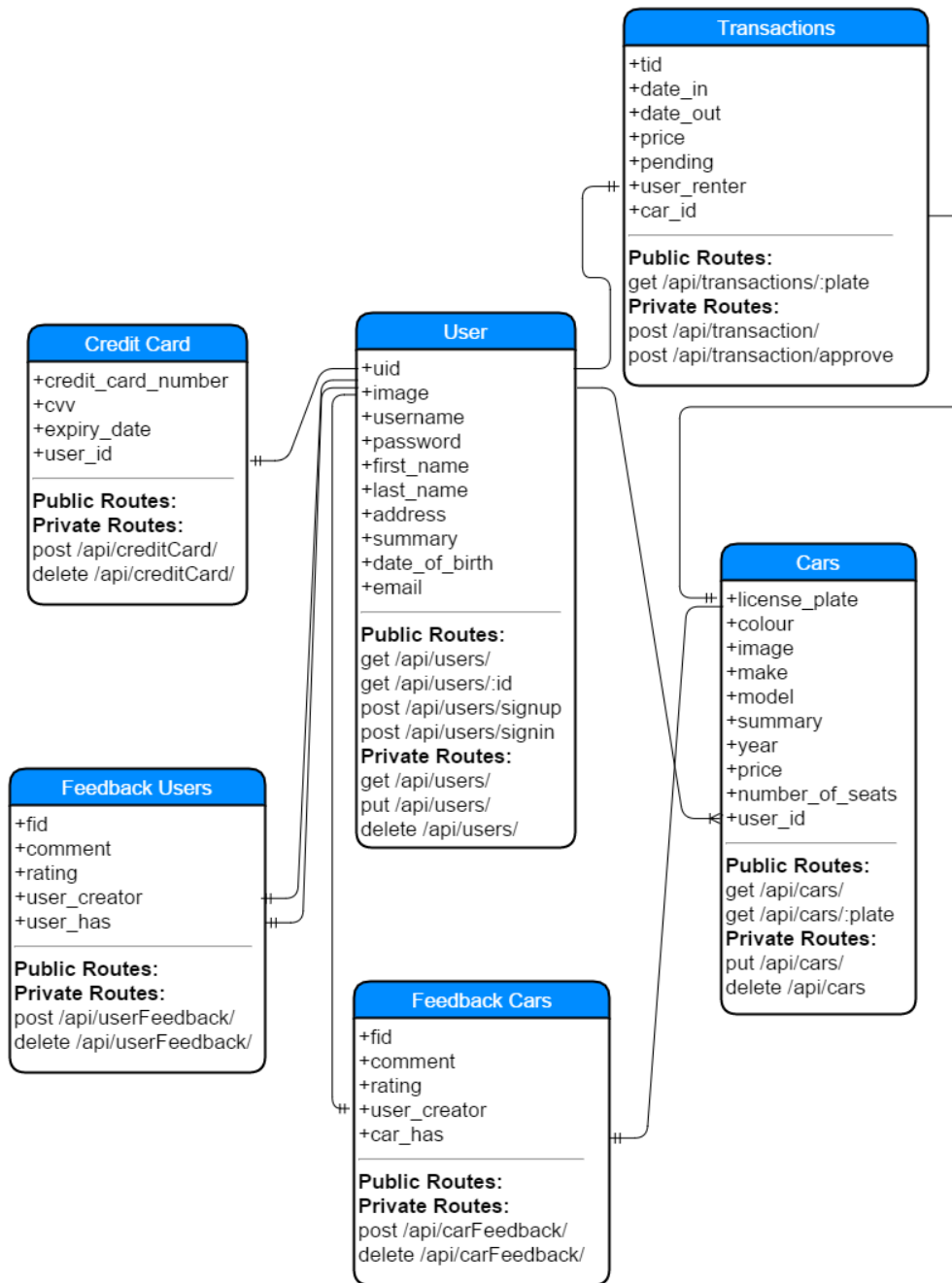


Figure 1: Database Object Orientated Model

3.1.2 The private routes:

get /api/users/

```
SELECT * FROM USER where uid='1', username='tcollin', password='test';
```

put /api/users/

```
UPDATE USER SET summary='hi my name is tanner' WHERE uid='1';
```

delete /api/users/

```
DELETE FROM USER WHERE uid='1', username='tcollin', password='test';
```

3.2 Credit Card

The model of the credit card, there are no public routes for credit cards because of security reasons.

3.2.1 The private routes:

post /api/creditCard/

```
INSERT INTO CREDIT_CARD (credit_card_number, cvv, expiry_date, user_id  
)  
VALUES (347249711260948, 433, 0617, 1);
```

delete /api/creditCard/

```
DELETE FROM CREDIT_CARD as c INNER JOIN USER as u ON c.user_id = a.uid  
WHERE  
a.username='tcollin' AND a.password='test';
```

3.3 Cars

The model of the cars, contains both public and private routes.

3.3.1 The public routes:

get /api/cars/

```
SELECT * FROM CARS;
```

get /api/cars/:plate

```
SELECT * FROM CARS WHERE license_plate='plate';
```

3.3.2 The private routes:

post /api/cars/

```
INSERT INTO CARS (license_plate, model, make, year, number_of_seats,  
price, colour, image, summary, user_id)  
VALUES ('892WSM', 'Focus RS', 'Ford', 2016, 4, 200, 'Blue', '  
URL_OF_CAR_PHOTO', 'This car is fast', 2);
```

put /api/cars/

```
UPDATE CARS SET model='VW', make='Golf R' WHERE license_plate='892WSM'  
AND user_id='2';
```

delete /api/cars/

```
DELETE FROM CARS AS c WHERE c.uid='2' AND c.license_plate='892WSM';
```

3.4 Transactions

3.4.1 The public routes:

get /api/transactions/

```
SELECT * FROM TRANSACTIONS AS t WHERE t.plate='123ABC';
```

3.4.2 The private routes:

post /api/transactions/

```
INSERT INTO TRANSACTIONS (tid, date_in, date_out, price, pending,  
    user_renter, car_id)  
VALUES ('10', '2016-3-27', '2016-3-21', 40, 1, '2', '123ABC');
```

post /api/transactions/approve

```
UPDATE TRANSACTIONS as t SET pending='0' WHERE c.tid='10' AND EXISTS (  
    Select * FROM CARS as c WHERE t.license_plate=c.license_plate AND c  
    .user_id='2');
```

4 User Interface Draft Design

5 Conclusion