Design Document

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Target Device Category: Smartphones

Testing Device: Samsung Galaxy S8

Overview

Light Bike is a mobile app that helps people to share the bicycles. People could track the bicycles around them when they open the app. The home page is a map showing the user’s and bikes’ locations, so people could know if there are any available bicycles around. If there are some free ones, user need to pay for the trip and get a combination code to unlock it. When user arrive at destination, he could check out from the app and lock the bike. Then another user could pick up the bicycle and pay for the use. The side bar has information for the trip he went and the payment history. I could also add some way to record the calories if I have extra time.

For the lock of bikes. I’m thinking use the combination lock at first. If the app works well on the campus, I would consider replacing the lock with the one could change password each time. In this way, I don’t need to worry about if someone steal the bike or they take off the lock.

Feature and Timeline:

1. All screens and user interface created (lab2)
2. Login and Register(Lab2)
3. Store data to the database(mySQL) (lab2)
4. Get GPS of current address(lab2)
5. Get GPS of bicycle address(lab3)
6. Store user information including trip and payment(lab4)
7. Get full payment method done (lab4)
8. Prepare demo for Symposium(lab5)
9. Share summary of entry via email and put it to market (lab6)

User Cases

Use Case1(check location): Light bike is used by students riding through the campus. First thing user need to do is to find an available bike around him. User could do it by opening the map, then checking current location, finally click the free bikes around the user.

User Case2(pay for the use): User need to submit payment before using the bike. It’s not prepaid, user need to check out after they finished. After uploading the payment, user will get a combination code to unlock the bike. Then he could go anywhere he want, mostly should around the campus.

User Case3(Check trips and wallet) User able to check previous trips and the payment he submitted in the system. Open the side bar to see the user information, trip and wallet.

Lab2

Finish all of User Interface. Got current location in the google map API. Have done all of data entry for burrow database(not updated yet, need redesign database)

Lab3

Finish all of the database modeling. User could register and login through online database. After login, user could edit his own user information. (Delete somehow doesn’t work correctly, probably because I login with this user so I can’t delete user in login mode). The code for delete I believe is correct.

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Feature Checklist

|  |  |  |  |
| --- | --- | --- | --- |
| **Done?** | **Feature** | **Mobile App Notes** | **Lab #** |
|  | Design Document:  Target device  Use cases  App description  Wireframes  Android Design |  | 1 |
|  | Look and feel | Done | 2 |
|  | Multiple screens | Done | 2 |
|  | Screen transitions | Done | 2 |
|  | Login | Done | 2 |
|  | Register | Done | 2 |
|  | Get current location | Done | 2 |
|  | GUI Components:  Labels  Buttons  Drop down box  Checkboxes  Menu | Done | 2 |
|  | Structure data | done | 3 |
|  | Get bike location | done | 3 |
|  | SQL | done | 3 |
|  | Store user information including trip and payment |  | 4 |
|  | Get full payment method done |  | 4 |
|  | Send SMS or email |  | 5 |
|  | Final polish of app |  | 6 |

| **Max Points** | **Suggested Score** | **Actual Score** | **Requirement** |
| --- | --- | --- | --- |
| 10 | 10 | 10 | Updated Design Document |
| 10 | 10 | 10 | Design Doc: Data section: appropriate **design of DB and integration into app** (if no DB is needed, then these pts will be spread into the temporary DB code below) |
| 10 | 10 | 10 | Design Doc: Data section: appropriate selection **of Java Collection(s) and integration into app** (if no collection is needed, then these pts will be spread into the temporary Java Collection code below) |
| 10 | 10 | 10 | Comments |
| 10 | 10 | 10 | DB: Create database and tables |
| 5 | 5 | 5 | DB: Add records |
| 5 | 5 | 5 | DB: Select records |
| 5 | 5 | 5 | DB: Update records |
| 5 | 5 | 5 | DB: Delete records |
| 5 | 5 | 5 | Java Collection: create collection |
| 5 | 5 | 5 | Java Collection: add items |
| 5 | 5 | 5 | Java Collection: search for an item |
| 5 | 5 | 5 | Java Collection: remove an item |
| 10 | 10 | 5 | Use Intent Flags so you don’t create new activities EVERY time you use an intent. |
| 0-20 |  |  | *Carry over from Lab 2 (up to 20 points)* |
| **100-120** | **100** | 95 | TOTAL |