#Overview

This is an overview of the project [__Project__](https://github.com/sssurvey/ObjectOrientedDesign/tree/master/Project).
__For this project:__
- I choose, Gradle, Java 8, Visual Studio Code, And SpringBoot
        - Reasons:
                1. Gradle for the wrapper easy deployment on TA's testing environment
                2. Java 8 for the standard OOP style, and my familiarity
                3. VSC for the light weight, and less IDE magics
                4. SpringBoot for the light weight, and Tomcat inclution

Haomin Shi @ Nov 18th, 2018 Final Project
```bash
haominshi@Haomins-MacBook-Pro:~/GitRepo/ObjectOrientedDesign/Project$ tree src
src
├── main
│   ├── java
│   │   ├── App.java
│   │   ├── AppContract.java
│   │   ├── AppPresenter.java
│   │   ├── jsonUtil
│   │   │   ├── NoteToJsonConvertor.java
│   │   │   ├── NoteValidator.java
│   │   │   ├── OrderToJsonConvertor.java
│   │   │   ├── OrderValidator.java
│   │   │   ├── ParkToJsonConvertor.java
│   │   │   ├── ParkValidator.java
│   │   │   ├── ResponseJsonParser.java
│   │   │   └── VisitorModelToJsonConvertor.java
│   │   ├── model
│   │   │   ├── noteModel
│   │   │   │   ├── NoteEntry.java
│   │   │   │   └── NoteModel.java
│   │   │   ├── orderModel
│   │   │   │   └── OrderModel.java
│   │   │   ├── parkModel
│   │   │   │   ├── LocationInfoModel.java
│   │   │   │   ├── ParkModel.java
│   │   │   │   └── PaymentInfoModel.java
│   │   │   ├── vehicleModel
│   │   │   │   ├── VehicleModel.java
│   │   │   │   └── VehicleTypeInfoModel.java
│   │   │   └── visitorModel
│   │   │       └── VisitorModel.java
│   │   ├── park
│   │   │   ├── Park.java
│   │   │   └── ParkContract.java
│   │   ├── responseCode
│   │   │   ├── BadRequestResponseCode.java
│   │   │   ├── CreatedResponseCode.java
│   │   │   ├── NotFoundResponseCode.java
```

```
│   │   │   ├──── OkResponseCode.java
│   │   │   ├──── ResponseCodeContract.java
│   │   │   └──── StatusCodes.java
│   │   ├──── search
│   │   │   ├──── NoteSearch.java
│   │   │   ├──── OrderSearch.java
│   │   │   ├──── ParkSearch.java
│   │   │   └──── VisitorSearch.java
│   │   ├──── storage
│   │   │   ├──── Storage.java
│   │   │   ├──── StorageContract.java
│   │   │   └──── StorageEntity.java
│   │   └──── util
│   │       ├──── ArrayFormatter.java
│   │       ├──── DateHelper.java
│   │       ├──── IdGenerator.java
│   │       ├──── NumberFormatter.java
│   │       └──── PriceCalculator.java
│   └──── resources
│       └──── application.properties
└──── test
    ├──── java
    │   ├──── AppPresenterTest.java
    │   ├──── AppTest.java
    │   ├──── ArrayFormatterTest.java
    │   ├──── IdGeneratorTest.java
    │   ├──── LocationInfoModelTest.java
    │   ├──── NoteToJsonConvertorTest.java
    │   ├──── NumberFormatterTest.java
    │   ├──── ParkModelTest.java
    │   ├──── ParkTest.java
    │   ├──── ParkValidatorTest.java
    │   └──── PaymentInfoModelTest.java
    └──── mockData
        └──── createPark1.json

18 directories, 53 files
```

Build the project:
- Build // do it at the project root dir i.e ```~/project/.```
```bash
haominshi@Haomins-MacBook-Pro:~/GitRepo/ObjectOrientedDesign/Project$ ./gradlew clean build
```
- Run // do it at the project root dir i.e ```~/project/.```
```bash
haominshi@Haomins-MacBook-Pro:~/GitRepo/ObjectOrientedDesign/Project$ ./gradlew run
```

- __The Project will be running at base url__ -- ```http://localhost:8080/parkpay/```
        - Example -- ```http://localhost:8080/parkpay/hello-world```

Tasks Checks

___PARKS___

- [x] Create park (POST /parks)
- [x] Update park [pid] (PUT /parks/[pid])
- [x] Delete park [pid] (DELETE /parks/[pid])
- [x] View all parks (GET /parks)
- [x] View park detail (GET /parks/[pid])
- [x] Search parks (GET /parks?key=keyword)
- [x] View all notes associated with park [pid] (GET /parks/[pid]/notes)
- [x] View note associated with park [pid] (GET /parks/[pid]/notes/[nid])
- [x] Create note and associate it with park [pid] (POST /parks/[pid]/notes)

___NOTES___

- [x] View all notes (GET /notes)
- [x] View note identified by [nid] (GET /notes/[nid]).
- [x] Update note [nid] (PUT /notes/[nid])
- [x] Search notes (GET /notes?key=keyword)

___ORDERS___

- [x] Create order (POST /orders)
- [x] View all orders (GET /orders)
- [x] View order [oid] (GET /orders/[oid])
- [x] Search orders (GET /orders?key=keyword)

___VISITORS___

- [x] View all visitors (GET /visitors)
- [x] View visitor [vid] (GET /visitors/[vid])
- [x] Search visitors (GET /visitors?key=keyword)

___REPORTS___

- [ ] Get list of available reports (GET /reports)
- [ ] Get report identified by [rid] (GET /reports/[rid]{?start_date=YYYYMMDD&end_date=YYYYMMDD})

___SEARCH___

- [ ] Search (GET /search?key=keyword{&start_date=YYYYMMDD&end_date=YYYYMMDD})

All Tasks
- You can view all aviliable gradle tasks via
```bash
haominshi@Haomins-MacBook-Pro:~/GitRepo/ObjectOrientedDesign/Project$ ./gradlew tasks
```


Stats
- Totoal Lines of Code sourceCode vs Compiled: ..
```
Start counting...
Countting took 283 ms. The result is:
    total:  11,971
    code: 10,961
    comment:      266
    blank:744
Start counting...
Countting took 1807 ms. The result is:
    total:  647,585
    code: 642,613
    comment:      267
    blank:4,705
```

```
```

- Lines in unitests:
```bash
haominshi@Haomins-MacBook-Pro:~/GitRepo/ObjectOrientedDesign/Project$ ./gradlew jacocoTestReport
```
Then you can view the report under the gradle build dir under the report folder.

- For Code complexity:
```bash
haominshi@Haomins-MacBook-Pro:~/GitRepo/ObjectOrientedDesign/Project$ ./gradlew
cloverGenerateReport
```
Then you can view the code complexity report at the build dir under the report, and then clover dir.

Challenges:

Complete this project under 2 weeks is a challenge... I should've started the project earlier