

# PARKING LOT MANAGEMENT SYSTEM

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COE



# Project Information

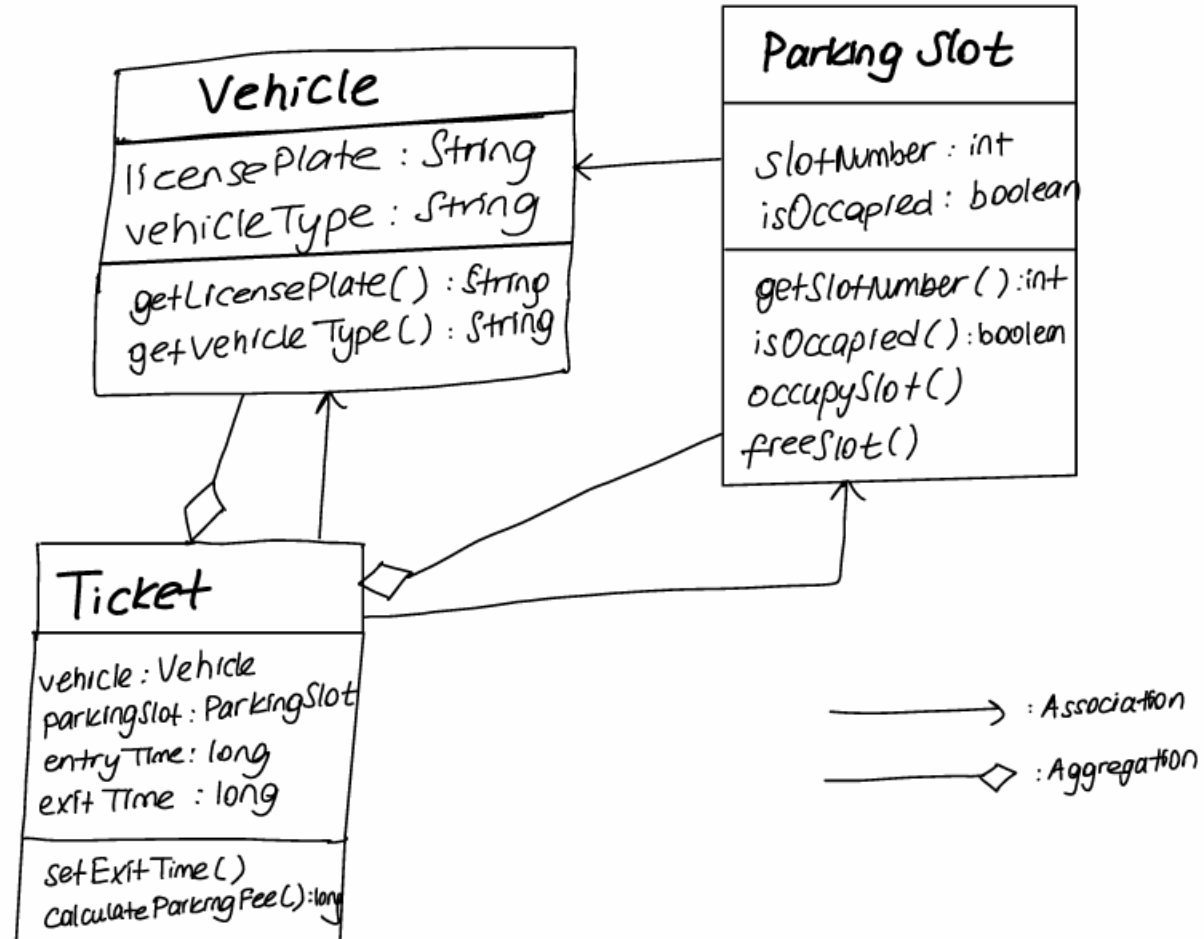
Parking lot management system is a software system used for arranging vehicle entry and exit, availability of park slots and fees of cars in parking slots.

The aim of the this software is to manage 'car traffic' in the parking lot properly and easily. In this purpose, all areas which drivers can use are targeted. Shopping malls, hospitals, parking lots next to public transport vehicles (e.g Marmaray station) are some of usage areas of this software system.

# Problem Statement

Big cosmopolitic cities like Istanbul have huge vehicle traffic problem. One of the reason of this problem is inefficiency of parking lot management **[1]**. This project solves vehicle traffic problem, not only in parking lots but also in city. In addition, it reduces waste of time of drivers, and provides efficient use of parking areas.

# System Architecture



# Key Features

1. licensePlate: To take plates of vehicles in parking lot.  
vehicleType: To take vehicle type and estimates fee according to the type.
2. slotNumber: To take slot of vehicle to determine which car is where.  
isOccapied: To determine slot is available or not.
3. entryTime: To estimate when the vehicle entered to estimate fee.  
exitTime: To estimate when the vehicle exited to estimate fee.

# OOP Concepts Implemented

- Classes and Objects: Vehicle, ParkingSlot, Ticket are classes.
- Encapsulation: licensePlate and vehicleType are private –encapsulated- in Vehicle class. So, getLicensePlate() and getVehicleType() are used to access these data.

slotNumber and isOccapied are also encapsulated in ParkingSlot class. To access from different class, getSlotNumber() is used.

vehicle, parkingSlot, entryTime and exitTime are also encapsulated in Ticket class. To access from different class, setEntryTime() is used.

- Inheritance: -
- Polymorphism: -
- Abstraction: licensePlate and vehicleType attributes are abstracted in Vehicle class.

# Challenged Faced

Firstly, I pushed all classes in the first commit. To pull Main class from the first commit and push in as second commit, I use some git commands like 'git reset' and pushed again.

I needed to change commit title of the second commit (which including Main class). So, I have used 'git commit --amend.'

I could not push to main branch when I prompt 'git push -u origin main' because terminal gave an output like:

```
'error: src refspec main does not match any
```

```
error: failed to push some refs to 'https://github.com/EgeHazar/ParkingLotManagementSystem''
```

So, I learned which branch I am in with 'git branch' and later, I pushed the commits to master branch.

# Project Screenshots

The screenshot shows the GitHub interface for the repository 'ParkingSlotManagementSystem' by user 'EgeHazar'. The top navigation bar includes links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. A search bar is also present. The main content area is titled 'Commits' and shows a list of commits for the 'master' branch. The commits are filtered by 'All users' and 'All time'. The commits are listed in chronological order, with the most recent at the top. Each commit entry includes the file name, the commit message, the author, the date, the commit hash, and a 'Verified' badge. The first commit is 'README.md' by EgeHazar, authored 2 days ago, with hash 8bf0dda. The second commit is also 'README.md' by EgeHazar, authored 2 days ago, with hash 723f9a1. The third commit is 'Second commit with Main class.' by EgeHazar, committed 2 days ago, with hash 67e6291. The fourth commit is 'Initial commit about parking management project.' by EgeHazar, committed 2 days ago, with hash 57d2619.

EgeHazar / ParkingSlotManagementSystem

Type / to search

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

## Commits

master

All users All time

Commits on Jan 13, 2025

- README.md**  
EgeHazar authored 2 days ago  
Verified 8bf0dda
- README.md**  
EgeHazar authored 2 days ago  
Verified 723f9a1
- Second commit with Main class.**  
EgeHazar committed 2 days ago  
67e6291

Commits on Jan 12, 2025

- Initial commit about parking management project.**  
EgeHazar committed 2 days ago  
57d2619



## Files

master

Go to file

Main.class

Main.java

ParkingSlot.class

ParkingSlot.java

README.md

Ticket.class

Ticket.java

Vehicle.class

Vehicle.java

## ParkingSlotManagementSystem / Vehicle.java

EgeHazar Initial commit about parking management project.

57d2619 · 2 days ago

History

Code Blame 18 lines (14 loc) · 388 Bytes

Raw Copy Download Edit View

```
1
2 public class Vehicle {
3     private String licensePlate;
4     private String vehicleType;
5
6     public Vehicle(String licensePlate, String vehicleType) {
7         this.licensePlate = licensePlate;
8         this.vehicleType = vehicleType;
9     }
10
11     public String getLicensePlate() {
12         return licensePlate;
13     }
14
15     public String getVehicleType() {
16         return vehicleType;
17     }
18 }
```

# References

[1], Otopark Yönetim ve Yönlendirme Sistemleri, Available on: <https://www.akillisehirler.gov.tr/wp-content/uploads/fizibilite-rapor/22-Otopark%20Y%C3%B6netim%20ve%20Y%C3%B6nlendirme%20Sistemleri.pdf>