SW2 – Project Evaluation Form

- **Each team must submit the following Documentation that contains:**
  - **Project Description in detail.**
  - **Class Diagram. And Database Schema.**
- **Each team must submit the project via GitHub:**
  - **Source Code.**
  - **Video Demo for running (2 – 5 Minutes).**
  - **Documentation and Evaluation Form.**

Full violated –They violate the principle in all cases in the Code.
Medium Violated – They apply the principle in some cases and violate it in some cases (in total the student applies the principle on average).
Small violated – They Apply the principle in most cases except for a very few cases, no more than one or two.

- **The Evaluation will start with giving all teams 30 marks then check the following criteria:**

Violation Level	Full	Medium	Small	Grade
Documentation	-5	-2	-1	
Not Apply MVC (it does not Separate Business logic from GUI). Example of violation: write an implementation for a method such as an inset item into the database inside the Button Action method	-6	- 3	-1	
Violate clean code – Variables	-2	-1	-.05	
Violate clean code – Functions	-2	-1	-.05	
Violate Single-responsibility Principle	-2	-1	-.05	
Violate Open-closed Principle	-2	-1	-.05	
Violate the Liskov Substitution Principle	-2	-1	-.05	
Violate Interface Segregation Principle	-2	-1	-.05	
Violate Dependency Inversion Principle	-2	-1	-.05	
Not Upload code to GitHub	-1			
Only One Branch Without Merge (GitHub)	-2			
Only One Contribution (GitHub)	-2			
Total Minus from Grade				

Design Pattern Bounce	+4	
Bounce on Overall Work	+2	
Total Team Grade / 30		

Name (Arabic)	ID	Individual Bounce +2	Grade
فادى ملاك عطيه ميخائيل	201900548		
أمير حنا ثابت فهيم	201900179		
مينا فوزى فايز مينا	201900881		
اياد ايمن محمد مصيلحي	201900199		
مارينا رومانى نصر شنودة	201900603		
يوستينا اشرف خليل ميخائيل	201900972		

Parking Guidance System

INTRODUCTION

Introduction

Parking management system for managing the records of the incoming and outgoing vehicles in an parking house

It’s an easy for Admin to retrieve the data if the vehicle has been visited through number he can get that data **.**

Now days in many public places such as malls, multiplex system, hospitals, offices, market areas there is a crucial problem of vehicle parking. The vehicle parking area has many lanes/slots for car parking. So to park a vehicle one has to look for all the lanes. Moreover this involves a lot of manual labour and investment. Instead of vehicle caught in towing the vehicle can park on safe and security with low cost.

Parking control system has been generated in such a way that it is filled with many secure devices such as, parking control gates, toll gates, time and attendance machine, car counting system etc. These features are hereby very necessary nowadays to secure your car and also to evaluate the fee structure for every vehicles entry and exit

The objective of this project is to build a Vehicle Parking management system that enables the time management and control of vehicles using number plate recognition. The system that will track the entry and exit of cars, maintain a listing of cars within the parking lot, and determine if the parking lot is full or not. It will determine the cost of per vehicle according to their time consumption.

SYSTEM REQUIREMENT PHASE

1. Project Title :

Parking Guidance System

2. Technology:

- **Front End: GUI (Java)**
- **Back End: My SQL**

3. Modules:

1-Customer Module

a. Enables customer to print ticket for entry station with entry id, plate number, transaction date
b. Enables customer to pay in exit station for parking hours with entry id.

2-Operator in Entry Station

a. Enables operator to monitor free spots in Parking
b. Enables operator to advise customer with free spot.

3-Operator in Exit Station

a. Enter ticket id to calculate total parking hours

4- Admin Module

a. Enables admin to add spots in parking.
b. Enables admin to view total spots in parking.
c. Enables admin to add / update / delete users with different roles
d. Enables admin to view shifts report with payment
e. Enables admin to view parked cars report

Hardware and software requirement

PROCESSOR TYPE	Pentium IV or above for optimum performance.
SYSTEM RAM	2.00GB and Above
INPUT DEVICE	BASIC KEYBOARD AND TOUCH PAD
OUTPUT DEVICE	STANDARD COLOR MONITOR
OPERATING SYSTEM	WINDOWS 7,8,10,11
FRONT END	Netbeans, GUI
BACK END	MySQL

1. User Requirement

- Need for an application that makes communicating easy and comfortable.
- An application that enables user to park a vehicle with safe and secure.
- Need for an application that is easy to use and widely available and hence a desktop application
- Handling all functions done with organization in a computerized manner.
- Allowing the user to park the vehicle directly.

➢ Design Patterns Applied : Immutable Pattern

✓ Context:

An Immutable Object Is A State That Never Change After Creation

✓ Problem:

How We Can Consider When We Connect To Database It's Attributes Never Change To Insure don't Make disconnection To Database

✓ Solution:

We Ensure That The Constructor Of The Database Class Is The Only Place Where We Can Set The Values Of The Database Attributes And Don't Make Any Method That Can Modify It

➢ Second Design Pattern Applied; Singlton Pattern

✓ Context:

Its Very Common To Find Only One Connection To Database That Creates In The System

✓ Solution:

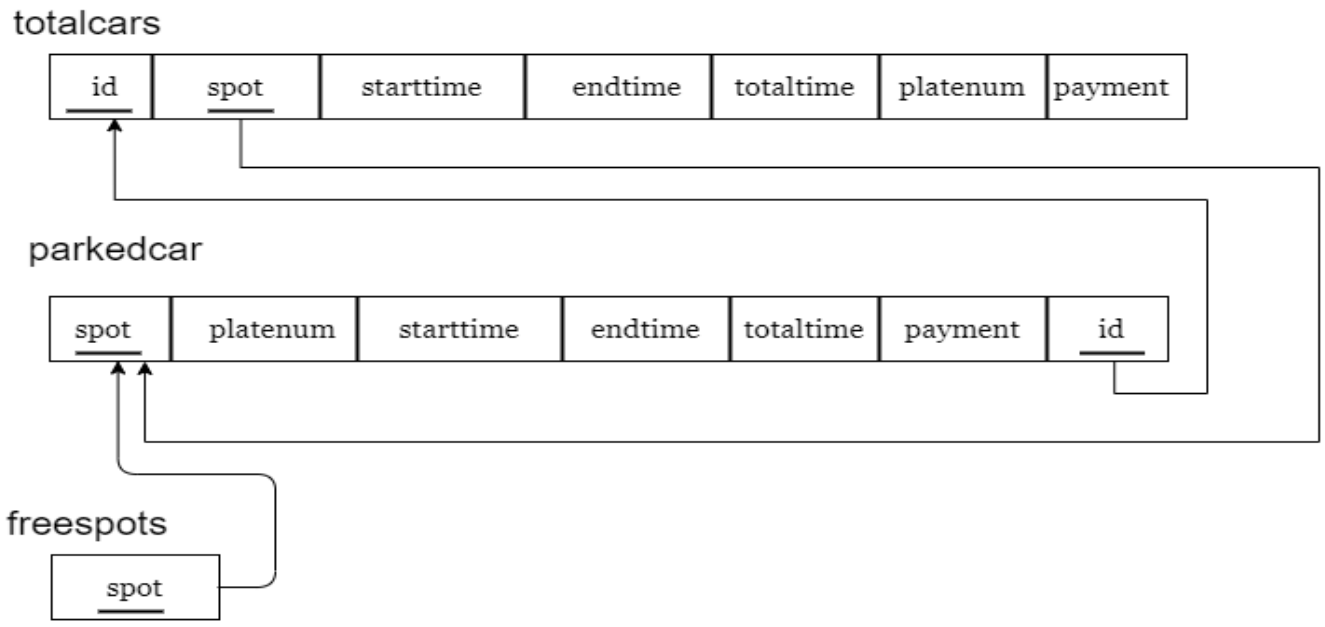
- Have The Constructor Private To Make Sure No Other Class Can Creates An Object

- Define A Static Variable In The Class

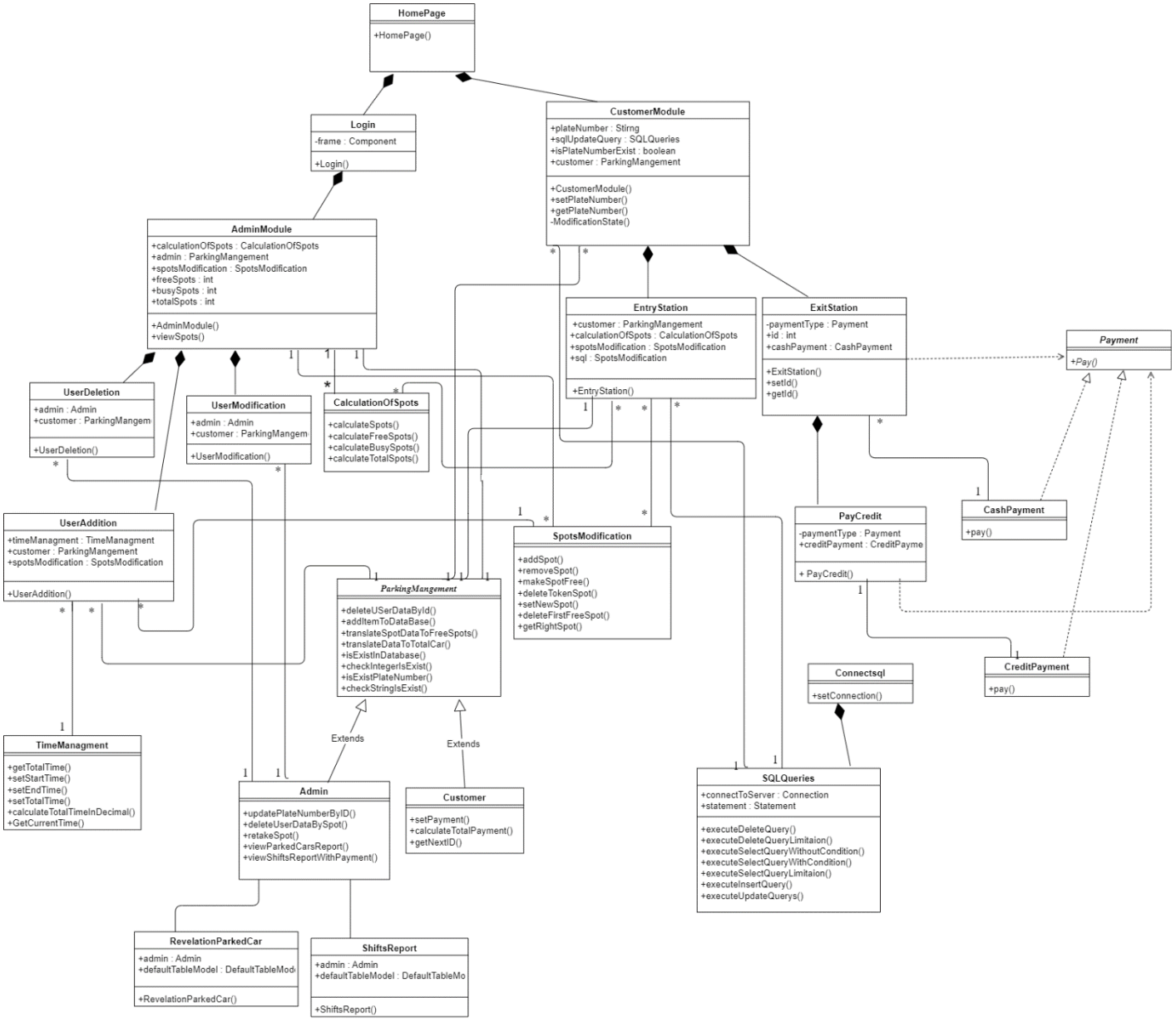
- Define A Public Static Method In The First Time It Calling It Creates An Object From The Class Then Return It

And Any Time You Calling This Method This Is Just Return The Private Object That Created In The First Time.

DataBase Diagram:



Class Diagram:



Thank You