Sulaimani Polytechnic University

Technical College of Informatics

Department of Information Technology/Morning

E-CHALLAN:

ONLINE TRAFFIC RULES VIOLATION PENALTY AND SYSTEM

Prepared by: Shkar Shahab - Sirwan Rasool - Ara Rebwar

Supervised by: Snoor Jamal

May 2021

DECLARATION

Supervisor Declaration

"I hereby declare that I have read this project and in my opinion this project is sufficient in terms of scope and quality for the award of the bachelor degree in Information Technology"

Signature : .....
Name of Supervisor: Snoor Jamal
Date : 27 May 2021

Student Declaration

"I declare that this project entitled 'Your Title E-Chalan: Online Traffic Rules Violation Penalty and System' is the result of our own research except as cited in the references. The project has not been accepted for any degree and is not concurrently submitted in candidature of any other degree"

Signature : ……

Name of Student: Sirwan Rasool, Ara Rebwar, Shkar Shahab

Date : 27 May 2021

DEDICATION

Information technology (IT) is the use of any computers, storage, networking and other physical devices, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data. Typically, IT is used in the context of enterprise operations as opposed to personal or entertainment technologies. The commercial use of IT encompasses both computer technology and telephony.

ACKNOWLEDGMENT

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ABSTRACT

Nowadays if a driver gets fine for a violation that he/she done, though he/she has to pay that amount of punishment, he/she has to cross a far distance just to paying this violation. For this reason, we investigate the problem and realized that an online system will solve this problem. However, another issue appeared, how this transaction will be made successfully and be away of any frauds and hacks. In this paper we dive deep in referred problems. This Online System is designed for Kurdistan Police Traffics and drivers. Police Traffics can create and manipulating the violation and drivers can access and pay for violations.

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LIST OF ABBREVIATIONS

OCR	=	Optical Character Recognition
RFID	=	Radio-frequency identification
IT	=	Information Technology
SMS	=	Short Message Service
CCTV	=	Closed Circuit Television

CHAPTER ONE

INTRODUCTION

1.1 Overview

Each government has ministries that are need for managing the life of people making the country available for living as possible as it can. Some ministries are responsible for Education, some of them for financial. in these ministries there is Interior Ministry, its main responsibility is to make people life safe inside this ministry there is traffic police administration that is designed to manage vehicles, drivers, licensing and any things related to drivers and cars. This administration has own properties, mechanisms and rules. Whenever we have rules also, there is breaking rules (Violations). And it's clear, for each violation there is an amount that violator has to pay.

E-challan is an electronic format of challan. An e-challan can also be defined as a specific format used for depositing or remitting the contribution or statutory payment at a bank or

The government of Tamil Nadu, Telangana, Andhra Pradesh has established a new challan system called e-challans. They have also established a website where one can check if their vehicle has any traffic offences registered against it. This website will detail

the offence description, fine amount, user charges, and the total fine amount. In Coimbatore city the system started in October 2013 and service uses hand-held machines for Spot Fining System, which runs on a low-cost platform named VIOLET (Violation Prevention and Regulation Enforcement), which runs of android-based tablets or cellular phone and is also integrated to a Bluetooth printer to dispatch receipts [1]

1.2 Motivation

We all visited administration and seeing the crowd there. And we admit that every Online system will reduce the crowd inside the administration offices.

Another one is when a person did a violation, in some cases can't go to Traffic Police office which there are one office in every province to pay for that violation.

Another problem, there are so many gaps in the system when a traffic police physically add a violation to a person because sometimes will be forgotten that the violator paid for his violation and he missed his paper in this case he has to pay it again.

1.3 Problem Statement

The problem that we want to research on, is the process of paying the violations for each person committed it, far away from any frauds and reducing the routines inside administration.

1.4 Objectives

The main purpose of this paper is solving it talk about is how to help our people to by fastest way and very low cost to pay these violations that are committed. and decreasing these routines that we have in our traffic police offices.

1.5 Scope

Our system designed just for Kurdistan region, and is for paying violation they committed.

1.6 Significant

Importance of this website is to make every driver and Traffic administration are sure that all of them are sure of the truth of the violations and information they recorded and recorded on them by large electronic system

1.7 Organization

Chapter 2: we pose some other examples of websites in some countries that are used to payment and violation recorder for all stations of traffic police officers.

Chapter 3: how the system build, the workflows of each user and the way of using information such as vehicles, violation and driver. and define our methodologies that we use it to create the system

Chapter 4: we give a conclusion for all our report and talking about all things that we realized.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Turning processes to technological is growing up in the industry day by day and late or early will cover all of the area in the country. So, one of this area is payment and transaction system.

Though in Kurdistan to the recent time we have (Fast Pay, Visa, Mastercard, Asia Hawala) but we don’t get the benefit of them. Because, in some cases its mandatory to be attendant at the place you want to pay, especially in governmental administrations.

2.2 Cause of this paper.

Needless to say, every country in the world uses an online payment for the extent area in their fields and like we mentioned before our country is going to be closer to that process late or early.

Transacting traffic violations and penalties is one of the turning areas to online transaction that till now paid in hands. Still Kurdistan has a lot of routines in their administrations. Below we defined the strong points and weak points:

Advantages

1. Decreasing missing of money.
2. Making evidence for everything that happened to traffic police and driver.
3. Easy to managing account of every drivers.
4. Traffic polices know what it done every day and for everything that happen be sure.

Weak points

1. Having old driver and polices can’t use this new system correctly.
2. Some drivers in the first don't trust this system

2.3 other researches about E-CHALLLAN

2.4.1 This research also about online payment of online of highways .that is from India we will give a short description

With the arrival of Internet of Things (IoT), Government has taken a enormous step in the arena of Trafficking to recruit a hassle free and most suitable way such as via Radio Frequency Identification (RFID) cards to pay at the Toll Plaza.
Methods/statistical analysis: The Indian Government in connotation with the National Highway Authority of India (NHAI), understood the hurt and introduced electronic toll collection (ETC), christened it as “FASTag”. So, India’s highways are going cashless with FASTag and vehicles do not need to stop at toll plaza for the cash transactions.
Findings: This study deals with the application of the newest technology of the FASTag

which is helpful in evading the traffic hassle at the National toll plazas. With the use of FASTag installed on the front windshield of cars, toll generation is made a exciting job. Mechanically, the toll charges are subtracted from FASTag account. This technology can also be used for the generation of challan and automatic deduction through the FASTlinked to the vehicle. Improvements/applications: The main applications of this feature are Automatic Challan generation on the national highways which includes Over Speeding, Seat Belt, Wrong-way driving, Parking in "No Parking" Zone, driving deprived of a Valid Permit, and Passing from [3]

2.4.2 Also, in India the other research is done this by using OCR

The claim assistances the visitors police keep faultless facts of all site visitors' offences that has been devoted via street users and also reservation the databases of the motive power and vehicle information.

We've got numerous existing android packages that enables the car driver to examination his challan reputation and he will pay the drawback on-line without the intervention of visitor's police.

In Pune city E-challan contraption is done with the assistance of CCTV advanced camera. Guests' offender will not secure an SMS enumerating his infringement each too picture confirmation at the rise to time with a connect coordinating him at closest police station wherein punishment may be paid. Mumbai location guests' police has totally computerized activity authorization. In Mumbai, programmed challan machine can be spot location guests cost tag apportioned by means of the location guests police for infringement the office will comprise of hand-held contraption for spot quality collection and format printed receipt. The connection at the back of this office (connecting the e-

challan framework with cctv cameras) is to decrease the stack of location guests' police and offer assistance us go paperless while guaranteeing that no guilty party goes scot-un affixed. These pictures are spared on line, and literary substance messages are created and dispatch to the cellular assortment of all violator along the E-Challan. Mr a. N. Shah, Mr.s a. S. Gaikwad[1] proposed the depictions which assortment plate ubiquity gadget (NPRS) is pertinent to broad assortment of employments at the side border crossing vehicle, toll street toll-collection, guests administration, stopping administration at numerous areas and parts of more noteworthy. On this paper they've creating a machine to ended up mindful of assortment plate of various textual styles especially in India. Ganpati c. Ukarde and dr. S. P. Deshpande [2] proposed the programmed car wide assortment plate notoriety and location could be a machine that captures the photo of car and get it their number plate. This paper particularly centered on morphological operation for permit plate location. Computerized car wide variety plate acknowledgment and location may be a framework that captures the photo of vehicle and recognizes their amount plate.[4]

2.3 Comparison and discussion

Our website truly not achieve that to using AI into it but in the conclusion and discussion we talk about our future plan to make this system more powerful. But for Kurdistan this system till now If we compare our website to other websites is for now maybe we can't use online or electronic money for that may we want use a balance of our sim cards to paying violations. but other websites in other countries don't want that they use master card or anything that can use it for online paying.

Also our website contained every personnel and driver information's from first buying car to whenever salad also in any time driver can paying violations and updating his information Also personnel in any time can this records that added and know every day what is done today And we have admin user that it can see everything about

personnel’s and drivers and if some unrulable thing happen to driver or personnel it can prevent it

2.4 Summery

In chapter 2 first we talk more about that what are we do . and in which case we worked and talking more about transacting money in some countries for many fields also say that we can use this for paying traffic violations .

Then we talk about the cause of doing this research and give more advantages about and more importance about it and then we analyze some weak points about this system in Kurdistan

After that we give two researches about the same research that we are created , and we achieve from these researches many ideas and more information about it.

In last section of chapter 2 we compare our reaserch to other related reasearches and talk more about detail of functionalities of our system.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Each system has its own structure for its development. In this chapter we are going to explain each used language for creating the platform and techniques for paying the violations reliably. Certainly, when it comes to website system it goes to two separated part (backend and frontend). And the technique used for payment system is a testable website called “stripe”.

3.2 Frontend

HTML and CSS as most common languages have ever used in creating websites, we used them again for their great usability worldwide [5]. And we used Bootstrap to reduce time and give beautiful sense to the website via designed elements. Also using JavaScript to done some smooth animation.

3.3 Backends

The main language used in our system is PHP especially its library (Laravel) for its comprehensive usage in the industry and have lots of functionality that help developer to do great work within short time [6]. Also using jQuery for some real time checking which called Ajax.

3.4 Define character’s role inside the website

We have three main characters that are involved in this system: violation admin, traffic police officer and driver each of them has their own works and task they can perform.

3.4.1 Admin:

Has the complete privilege of the website, also he/she can see information of other users (officer personnel , drivers) .also can edit and remove information when its required .

3.4.2 traffic police:

Traffic police has a second level of administration after Administrator which is responsible of writing violations for driver but in this website responsible of adding violations to the drivers through vehicle plate number.

3.4.3 Driver:

Driver can pay for violation he/she had done and see personal details, his/her vehicles, violations and paid violations.

3.5 Character functionality

3.5.1 What Administrator can do?

1- Administrator can Add officer personnel
2- Administrator can edit and delete officer personnel
3- Administrator can Add officer Driver
4- Administrator can edit and delete Driver
5- Administrator can Add violation and its price
6- Administrator can edit and delete Violation
7- Administrator can login and logout to the system
8- Can add vehicle types
9- Can add license type of driver

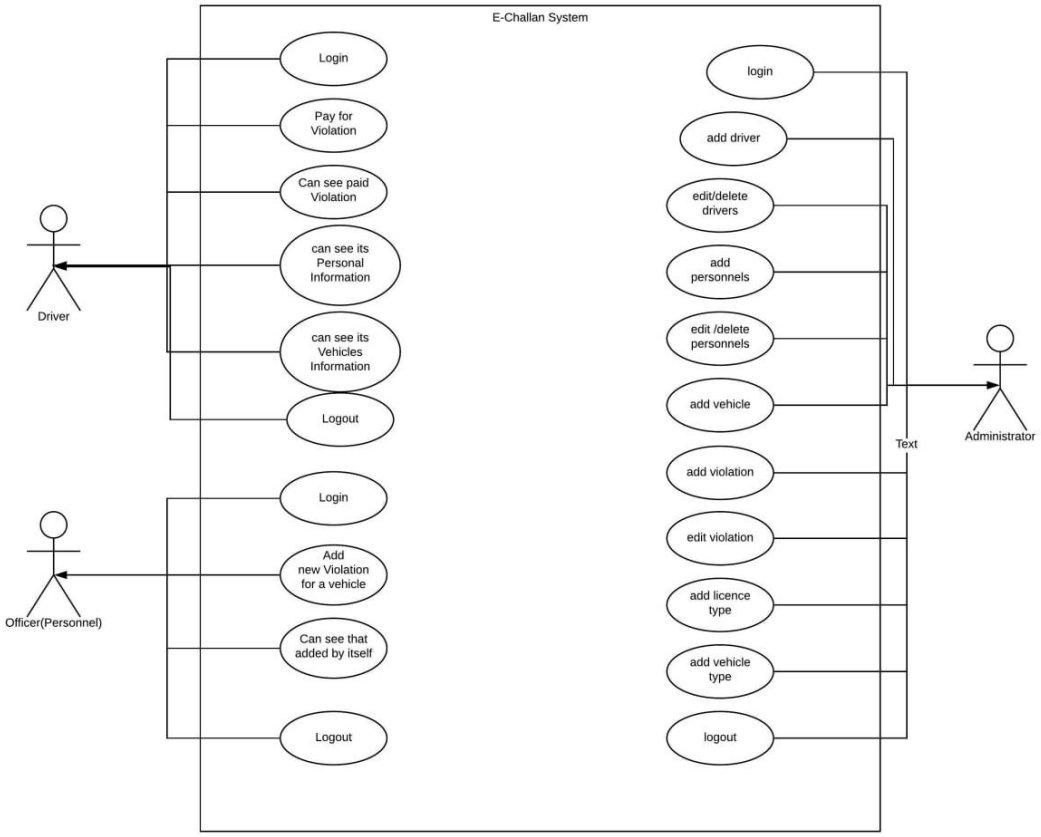
3.5.2 What Traffic police can do?

1- Traffic police can Add Violation
2- Can see a list of violations which is written by him/her self
3- Can login to the system and logout

3.5.3 What Driver can do?

1- Driver can login to the website
2- Driver can see its personal information
3- Can also see the list of vehicles which is added with his/her name
4- Can see the list of paid violations
5- Can pay for the violation which is made by it self or added by the officer

3.5 Brief Description of System workflow



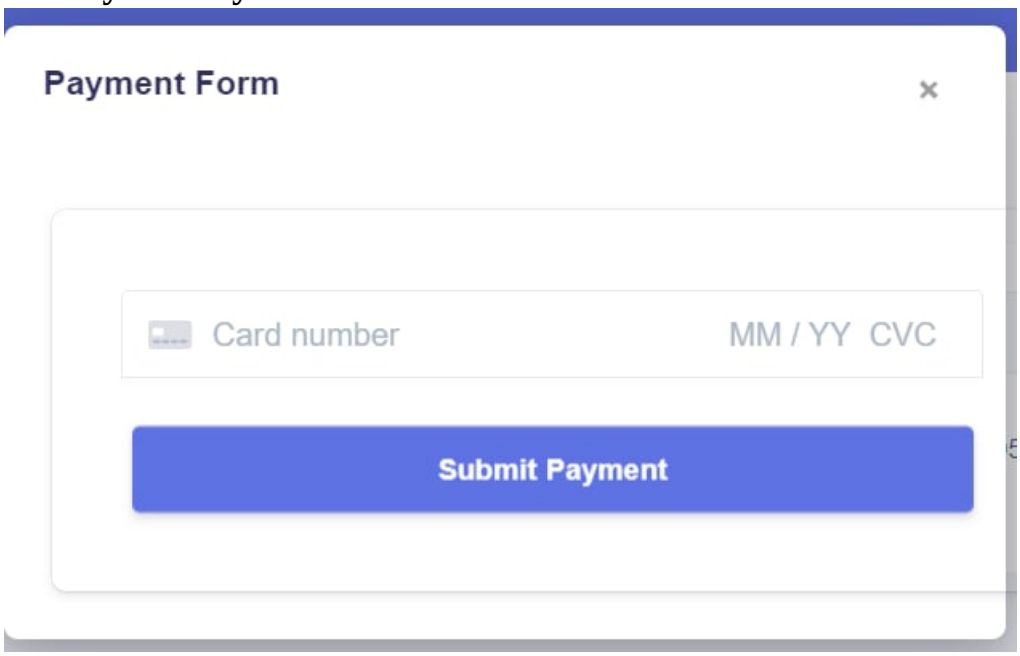
Like we mentioned before there are three main character in our system, they have each type of action can perform in the system.

Initially, as developers we create accounts for admin, this admin is working inside the administration building. The flow begins from them because this website is not a website of chat or social media that every people can register to it, it is a management website that start from admin to create other account for two others character. However, the admin will start with the flow can add for every initial data driver has to visit the administration to assign and check which vehicle he/she has, how many vehicles he/she has, which license he/she hold, checking if his/her annual card is correct. After these consideration admin determines to create an account for driver and give it to him/her printed on verified card.

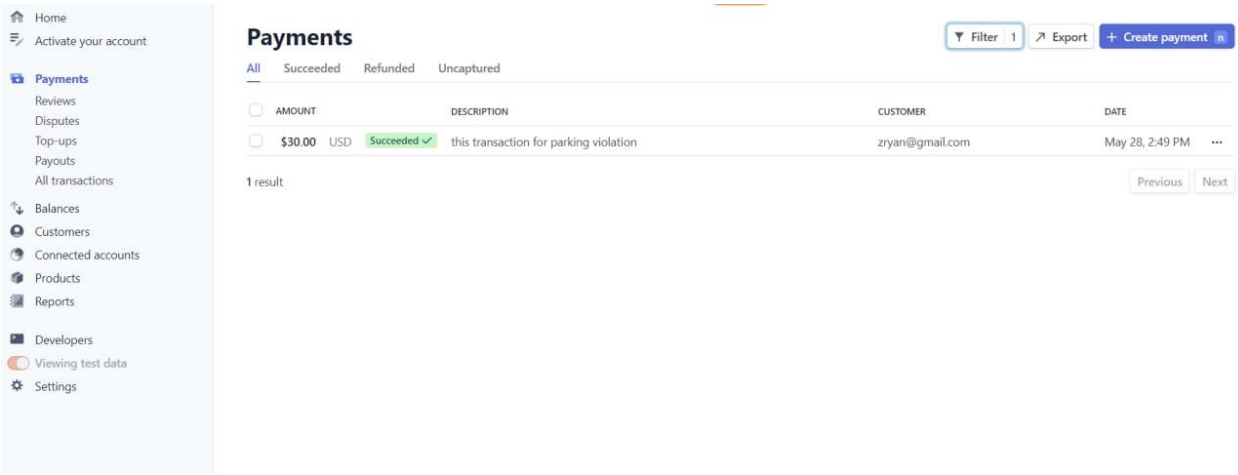
After that each traffic police that created an account for him/her has permission to assign violations for vehicles he/she see by writing plate number inside an input. Referred jQuery used here for checking concurrently at typing if that number exist inside the system or not. After this traffic police can assign violation.

When driver ended up his account successfully from admin can enter his/her account and check which violation he/she has done and paying for it.

3.6 Payment System

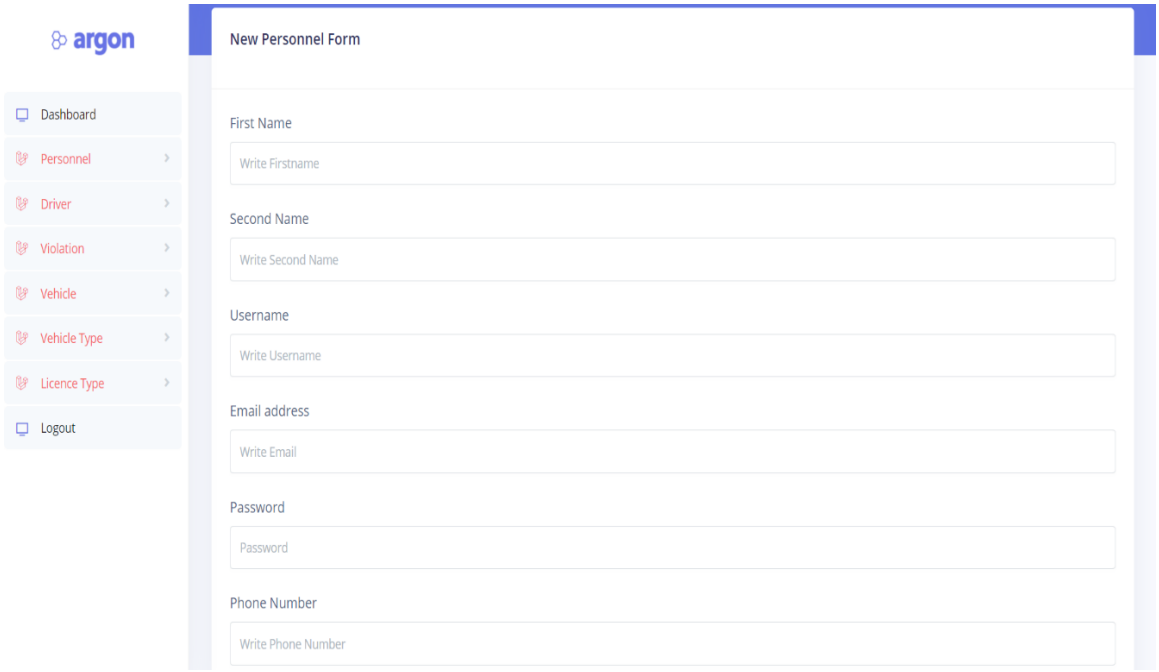


We all know every system want to be breached especially when it comes to governmental payment. In this case we get the help of an API from a website called “Stripe” that check if amount paid successfully and show all payment inside that website.

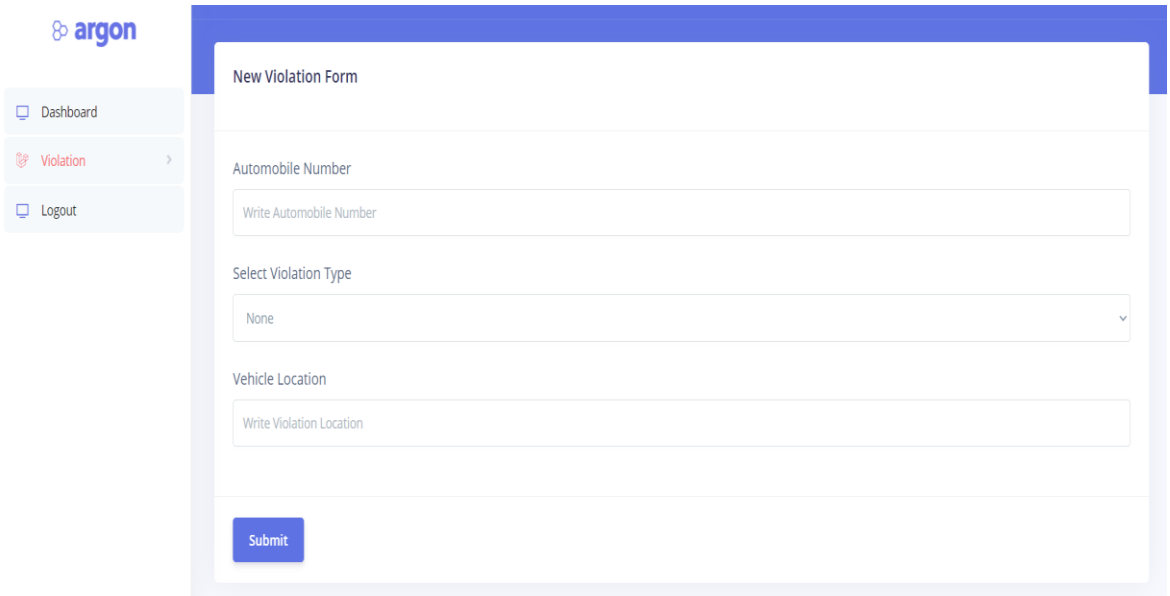


Though this website is for test but if it goes to deployment, we use the FastPay API because its more usable than Stripe in Kurdistan because still here credit card is not familiar with our culture.

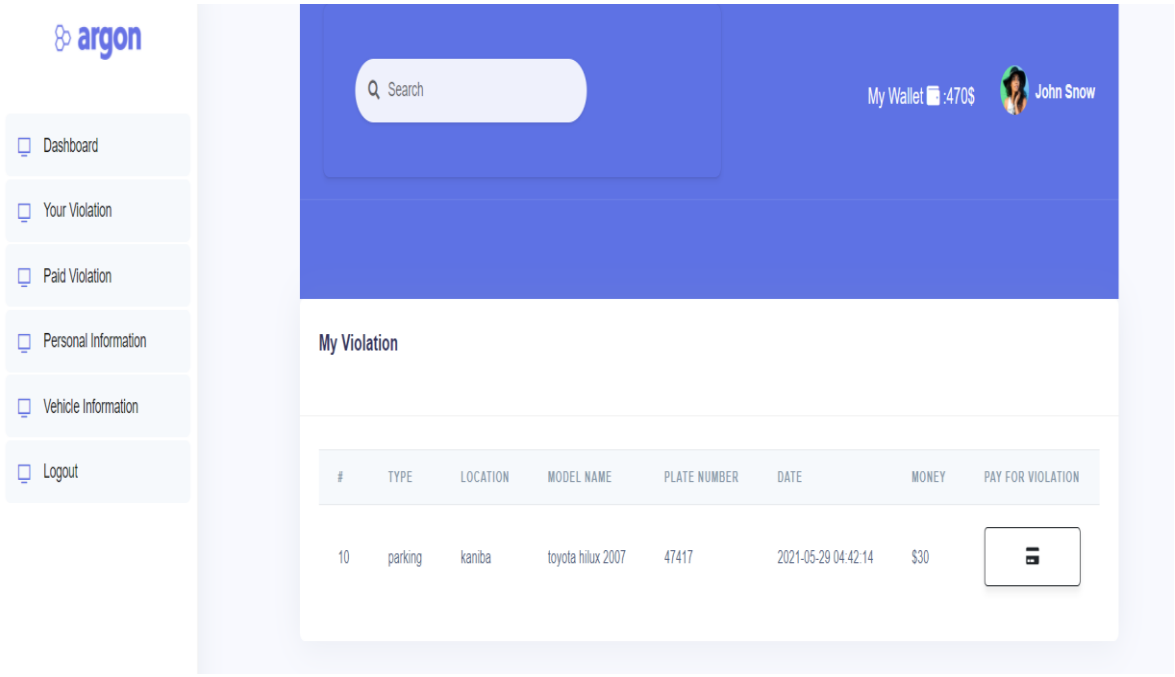
Admin dashboard



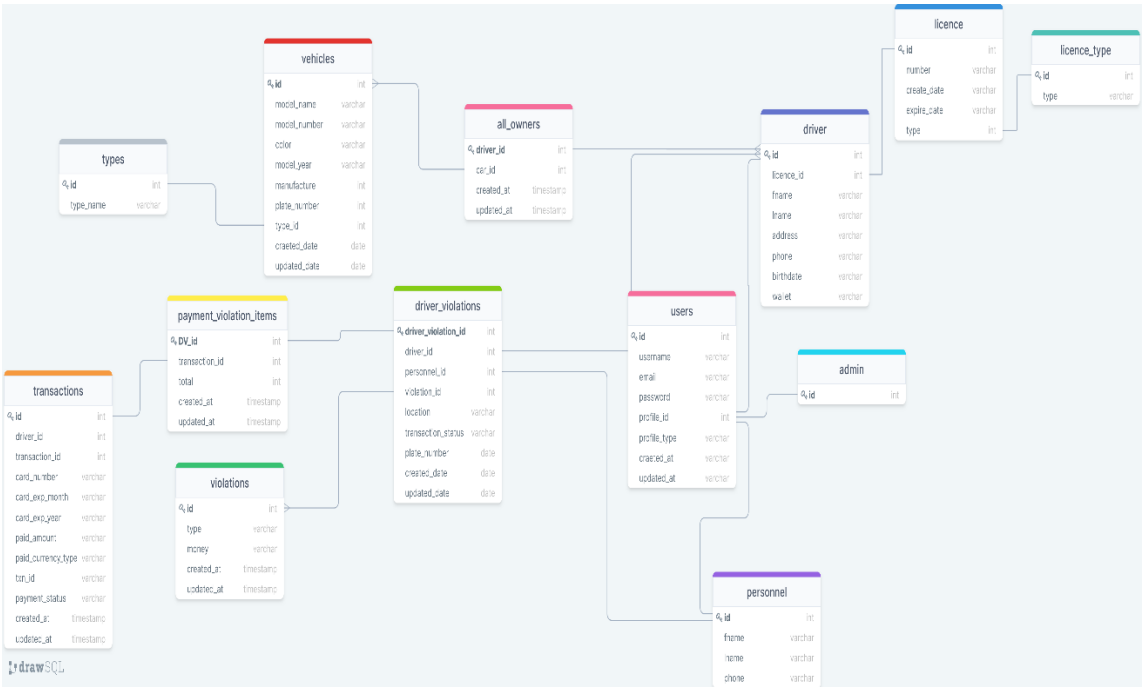
Personnel Interface



Driver interface



Also this is ER diagram



CHAPTER FOUR

CONCLUSION

We mainly focus on the payment way to make it available for everyone in everywhere this is what Internet made for, cut the far distance as possible as it can.

Traffic police administration has a grate turn into the digital form especially when they decided to change the form of examination from paper and pen to computer exam. Yet there are many things to do to reduce the routines work that Kurdistan government get stuck with it.

Here we did a humble research to decrease crow inside one of the most loaded administration inside our region.

In the end of this paper, it’s necessary to say this system can be improved by using the latest technologies as discussed in the literature survey like QRCode and RFID scanner. This will limit human intervention and will result in a more efficient model of the existing system.

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