General Sir John Kotelawala Defence University

Faculty of Computing

Department of Information Computer Science

Driver Quality Analyzing and Driving Licence Returning System for Traffic Police

Proposal of the Software Engineering Project undertaken in partial fulfillment of the requirements for the Bachelor of Science (Hons) in Computer Science Degree program

By

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I declare that this material, which I now submit for project proposal is entirely my own work and has not been taken from the work of others , save and to the extent that such work has been cited and acknowledged within the text of my work. I understand that plagiarism, collusion, and copying are grave and serious offenses in the academic level and accept the penalties that would be imposed should I engage in plagiarism, collusion, and copying. I have read and understood the rules and regulations. I have identified and included the source of all facts, ideas, and opinions in the assignment references and bibliography.

……..
Signed : KPHS Karunanayake

Date : 09 /02/2017

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1.0 INTRODUCTION

1.1 BACKGROUND

In modern society, there occurs many road accident because of the careless driving of the drivers. There are many rules that have been adhere by the drivers when they are driving. They are driving laws. Some of the driving laws are as following.[1]

- Seat Belt Laws
- Drinking and Driving
- Must have clear documents
- Speed Limits

  The speed limits for Sri Lanka are as follows:

  Open roads: 72 km/h

  In Town: 56 km/h

  Motorway/Highway 120 km/h

- Minimum Driving Age
- Child Safety Rules
- Insurance
- Rules of the Road

  Standard international driving laws apply with one or two exceptions.

  Many drivers completely ignore road rules so drive with caution
  Fully tinted windows are illegal
  Sri Lanka drives on the left

- Towing Regulations
- Speed Cameras
- Using Mobile Phones when driving
- Parking

So the traffic police is tend to charge fine from the drivers who are breaching the rules when they driving. The drivers who are breaching the rules have to pay fine according to the offence that they have done or they might sent in front of the courts. From the courts. As per the manual system that use by Sri Lankan traffic police at present if someone get caught to the traffic police by breaching the road rules, the police will take their driving licence card and issuing a and issuing a temporary licence until the driver pay the fine. So the driver has to pay the fine to the post office and get the licence card from the respective police station which the driver got caught.

The current system is a method which is very tough to the drivers. Because they have to take their licence from the respective police station. If the driver is from a very far area, he have to again come to the respective police station to collect his licencese. So this is very difficult to the people who having very busy life in this present society.

The proposed system is specially designed system to the traffic police to get the data of the wrongful drivers and analyze there character. From this the police can take a report of a driver automatically at the end of a time period and the system will automatically judge the quality of the driver. So the at the end of the time period the system will decide to cancel the driving licence of the wrongful drivers by analyzing the weight of their offences and the number of the offences on the road.

From the drivers' side it is useful for them to save their time. When they got caught to the police, the police can update their system by putting the details of the driver and other needed information. So the police does not need to keep the licence card of the driver with them. The driver can pay the fines to the post office and can give the receipt to any police station which he like and update the system.

If driver did not pay the fines during a certain period of time system will give a notification to the police station which the driver is belongs. So the police can bring him in front of the courts. If the driver get caught to the police again during a certain period of time the system will notify it to the police. These data can be taken to the analyzing of the character of the drivers and make the validation of their driving licence.

1.2 AIM

The aim of this project is to develop a system to improve efficiency of the traffic police and analyze the character of a wrongful driver.

1.3 OBJECTIVES

To build a system to enter and store the data of the wrongful drivers when they caught to traffic police on the road.

To develop the system to analyze the character of the driver and judge the quality of the driver during a certain time period automatically.

To develop the system to identify the drivers and notify to the police that who needs to be take in front of the courts.

To develop a secure web application to the traffic police department which can be signed in by every police station in the country.

2.0 LITERATURE REVIEW

In Sri Lanka the number of the road accidents are increasing day by day. This is because of the careless driving of the drivers and breaching the road rules. When looking at the statics of previous years we can get to know how they have increased with the time.[2]

Type of Vehicles involved in accidents

Vehicles Accidents	Fatal Vehicle Accidents			Total Vehicle Accidents			
Year	2012	2013	2014	2012	2013	2014	2015
Motorcycles	715	723	845	9877	9430	8962	10147
Lorry	320	400	329	4797	4500	4324	4429
Dual Purpose Vehicles	305	265	259	7184	6413	5198	4858
Private Bus	257	217	180	3357	3001	2936	2877
Three-Wheelers	252	228	274	7437	6282	6401	6871

So the traffic police is doing a great job to decrease these accidents and fine the wrongful drivers. From the side of the drivers there are some difficulties for them as mentioned in the introduction part. Drivers face difficulties to get their licence card back after they fined away from his home town. Procedure using currently by the traffic police is no efficiency for the people from all over the country.

Above mentioned two images showing the driving Licence of Sri Lanka on left side of the page and the right side of the page it is showing the permit issued by a police officer in a lieu of the driving licence

The following image shows how the manual procedure is going in the traffic police.[3]

Step 1: The Driver breaks a traffic rule(s)
Step 2: Police confiscates drivers driving license.
Step 3: Police issue a spot fine statement
Step 4: Driver goes to office and receives a fine payment form from the traffic division.
Step 5: Driver goes to post office and pays fine for which he/she receives a receipt.
Step 6: Driver goes to police station, shows receipt and police return driving license.

Note 1: If driver didn't pay the fine he/she will be submitted to court
Note 2: If driver hasn't driving license. Police issue another permit (police 405- Code of criminal Procedure Section 109(6) Act, No. 15 of 1979).

This manual system is only available system for the fine paying system at present for Sri Lanka. There is no any online paying system or a method to send the driver without taking his driving licence. Making all the things to online is a difficult task in Sri Lanka. Because there are many driver who do not having idea about online payments and drivers who do not use credit cards. Online traffic fine payment is available in some foreign countries but it is not available still in Sri Lanka.[4], [5]

3.0 PROBLEM

In Sri Lanka there is no any efficiency or easy way to pay fine when the drivers get caught to traffic police. The driver who got caught must go to that respective police station which fine him. So it is a difficult task to the people with their busy schedules. As an example, we will take a driver from Gampaha got caught to the traffic police breaching the road rules at Mathara. So the police officers taking his driving licence card and issuing a temporary licence which is valid for 14 days. If the driver is not able to pay the fine to a post office and take a receipt on that day or if that day is a public holiday, definitely he must again come to Mathara police station with the receipt given by a post office to get his licence card within 14 days. If he is not able to come pay during 14 days definitely he will be taken in front of the courts.

Sri Lankan traffic police does not have a method to analyze about the wrongful drivers on the road. Due to that reason the accidents on the road also getting increase day by day. Traffic police do not have a method to identify the drivers who are breaching the rules on the road frequently. That means the in Sri Lanka there is no method to measure the quality of a driver. If there was an automated system to system to identify the drivers who are breaching rules frequently, the police can get actions against those drivers.

And also if there is a method for drivers to keep their licence after they get fined and to clear the matters with the police station at their home town, that will be easier for the drivers as well as the police officers.

4.0 METHODOLOGY

The proposed system provides proper interaction between a computer and the traffic police department to charge fines from the wrongful drivers. The proposed system will keep the all the data about the wrongful drivers and analyze those data intelligently and will give a quality report of a driver automatically. The system should lead to increase the efficiency of the traffic police by not taking the licence card of the drivers who breached road rules. This system will refrain the drivers from the cheating to the traffic police.

4.1 HYPOTHESIS

The system will be built for improve the efficiency of the traffic police department and as well as to make easier for the drivers to pay fine and make settle the procedure after they got caught to police by breaching road rules.

4.2 FUNCTIONAL REQUIREMENTS

The system should able to update every police station about a driver who is inserted in to the system.

The system should notify to the police about the drivers who haven't paid the fines during the given time period and who getting caught frequently.

The systems should be able to analyse the data and generate a quality report for a wrongful driver with in a time period.

4.3 NON-FUNCTIONAL REQUIREMENTS

The system should be reliable

The system should provide user friendly interface with the all the needed option.

The system should be efficient.

4.4 TECHNOLOGY ADOPTED

Java
C#
Angular or Jquery Ajax
Bootstrap
SQL Server
Entity Framework
HTML

6.0 SIGNIFICANCE OF THIS PROJECT

This system mainly focused on the department of traffic police - Sri Lanka. This will give a secured web application for all the police stations all over the country which can be updated from anywhere at any time. The system will be automatically and intelligently generate a quality report of a driver by analyzing the past records of him. This system will save the time of police as well as the drivers.

7.0 SCOPE

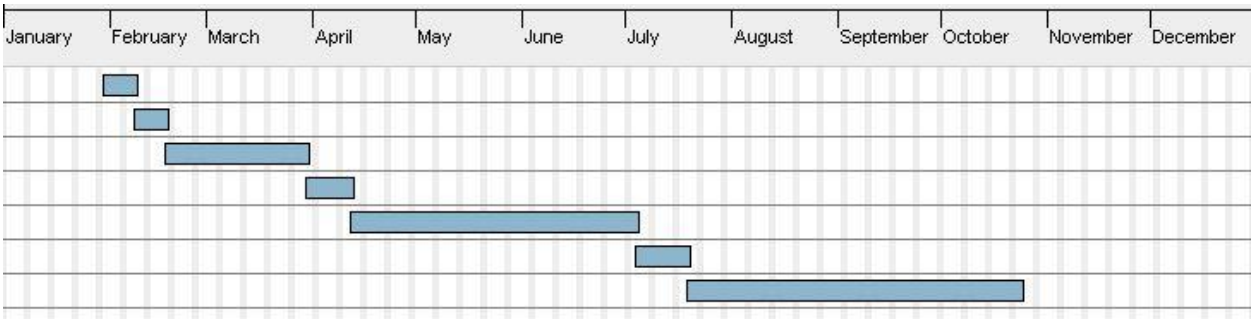
This research project scope is to develop a more accurate application which will be helpful Traffic police and the drivers.

8.0SYSTEM ARCHITECTURE

Architectural design is the first illustration of the overall structure and the main components of this proposed system. The total structure is based on how it would suit the software architecture and how to integrate that with users and the database. Overall system will be split in to three layers' names as presentation layer, application layer and data layer. Overall system architecture of the proposed system is given below.

09. TIMELINE

Name	Begin date	Duration
Carry out a literature review and taking a backgroung knowldge about the subject area	1/30/17	8
Study about the road rules and the data mining techniques which can use to analyse drivers' quality	2/8/17	8
Study the research papers and tutorials relevent to subject area	2/17/17	30
Find suitable flatforms and design framework	3/30/17	10
Develop the framework	4/12/17	60
Analyse and assess results	7/4/17	12
Write the thesis	7/19/17	70



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