

Online Payment of Tolls and Tracking of Theft Vehicles Using number plate image

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Abstract

To develop the concept for online payment for tollgate, and using this same system we just detect the theft vehicle. In this system, we are developing the payment system for tollgate using online mode. Once the user have to register his number, and when they need they can make a payment through online by using from to destination. On this time the system will list out the all tollgate database in that source and destination. If user make a payment wherever they cross all the tollgates, in all tollgates the number plate image sensor is used to get the vehicle number plate Smart card value and validate, it will allow the vehicle. Otherwise it doesn't allow the vehicle.

INTRODUCTION:

Using number plate image communication realized the technology of automated toll collection system for vehicle information and the SMART CARD for automatically amount reduction. This system is used make a payment on online so they can't need

extra smartcard .The payment only make using Number plate image. Also using the same method it helps for identifying theft vehicles.

LITERATURE SURVEY

“Automatic Toll Gate System Using Advanced RFID And GSM Technology”:

Most “Electronic Toll Collection (ETC) frameworks around the globe are actualized by DSRC (Dedicated Short Range Communication) innovation”. Programmed toll assess installment framework and the sum exchange data sends to the phone of the drivers through the GSM modem innovation.

The casing making and working stream out of the framework is depicted and information data is additionally effortlessly traded between the drivers and toll experts, along these lines empowering a more productive toll gathering by decreasing movement and dispensing with conceivable human blunders.

“Number Plate Detection With Application To Electronic Toll Collection System”:

It identifies the area of “number plate of vehicles with the assistance of format coordinating and concentrate number from number plate and process it for accumulation of toll”. The number plate is labeled in the database with the client's close to home data, ledger and vehicle subtle elements.

Toll is actually deducted from customer's money related adjust or Visa and notice is given to the customer by “sending SMS or Mail”. Customers need to take after standard precepts for number plate setup suggested by the toll. “Manual toll office will be obliged unregistered vehicles and if there ought to emerge an event of system frustration”.

Research Trends In Number Plate Image Technology:

The identification of Indian vehicles by their number plates is the most fascinating and testing research point from recent years. It is watched that the number plates of vehicles are fit as a fiddle and estimate and furthermore have distinctive shading in different nations.

A technique for the discovery and ID of vehicle number plate that will help in the location of number plates of approved and unapproved vehicles. An approach in view of straightforward yet proficient morphological operation and Sobel edge identification technique. This approach is disentangled to portion every one of the

letters and numbers utilized as a part of the number plate by utilizing jumping box strategy.

Number Plate Image Security System:

The “NPR (Number Plate Recognition) using is a structure proposed to help in affirmation of number plates of vehicles”. This system is orchestrated with a complete objective of the security structure. This system relies on upon the photo masterminding structure.

This system helps in the purposes of containment like disclosure of the “number plates of the vehicles, managing them and using planned data for further techniques like securing, allowing vehicle to pass or to reject vehicle”. NPR is a photo orchestrating progress which uses number (allow) plate to see the vehicle. The purpose is to organize a valuable balanced upheld vehicle seeing evidence structure by using the vehicle number plate.

Advanced Vehicle Tax Collection:

The major problem being heavy traffic at every Toll Booths in the city can be practically reduced by the introduction of the Radio Frequency Identification Based Toll Tax Automation System which makes the Toll Deduction at the Toll Plaza’s more efficient and perfect.

Its essential prerequisite is to wipe out the requirement for automobilist and toll experts to physically perform toll entryway installments and toll impose accumulations, separately keeping in mind the end goal to go past the toll stall. The proposed RFID system transmits a particular ID code as soon as it reaches near the toll station. On receiving the code, processor checks the received code and compares it with the stored code; if the code matches the gates open else they remain closed disallowing the vehicle to pass.

“Tollgate Billing And Security Of Vehicle Using RFID”

The framework is actualized to consequently enroll vehicles getting on or off a motorway or interstate, cutting the measure of time for paying toll in extensive lines. In this we are utilizing dynamic RFID tag. Which takes control supply from vehicle battery itself? For the most part focus on the security of the vehicle and verification handle whether the driver is right individual or not to utilize the vehicle.

In this paper we are proposing 3 solutions for validation of vehicle. They are

1. GSM technology
2. Using finger prints

3. Password through passive

RFID technology

Smart Highway Electronic Toll

Collection System

Electronic toll collection framework is the innovation that empowers the programmed electronic toll accumulation from the prepaid record enlisted on the name of vehicle proprietor, figuring out if the vehicle is enrolled or not and educates the toll specialists maintaining a strategic distance from toll infringement.

Over a decade ago, electronic toll accumulation framework has been executed in United States and numerous different nations with another change in it. By this we don't need to convey a good looking measure of money with us identifies with security too. This “framework does not require any manual operation of toll obstructions and gathering of toll sums, it is totally mechanized toll accumulation framework”.

SYSTEM DESIGN

MODULES

1. User registration and payment process
2. Toll validation
3. Theft identification
4. RFID System

MODULE 1:

USER REGISTRATION AND PAYMENT PROCESS

User has to give input details like user name, vehicle number, RFID value, Source and destination. In the next stage if their registration is accepted, they have to make the payment depending upon number of tollgates between source and destination. The data flow diagram and the activity diagram are illustrated in Fig 1 and 2. The registration form for online toll payment is shown in Fig 3.

The segment system we are utilizing here is the sharp card sort part. “Here we are utilizing the chip having the memory uttermost scopes of 4K”. The memory has in it the set away measure of cash respect. “Right when the switch is pulverized for the

segment the pined for aggregate will be deducted from the memory and remaining sum is showed up on the System”. Right when the memory card gets nil it requires to receive the card again to proceed with the procedure.

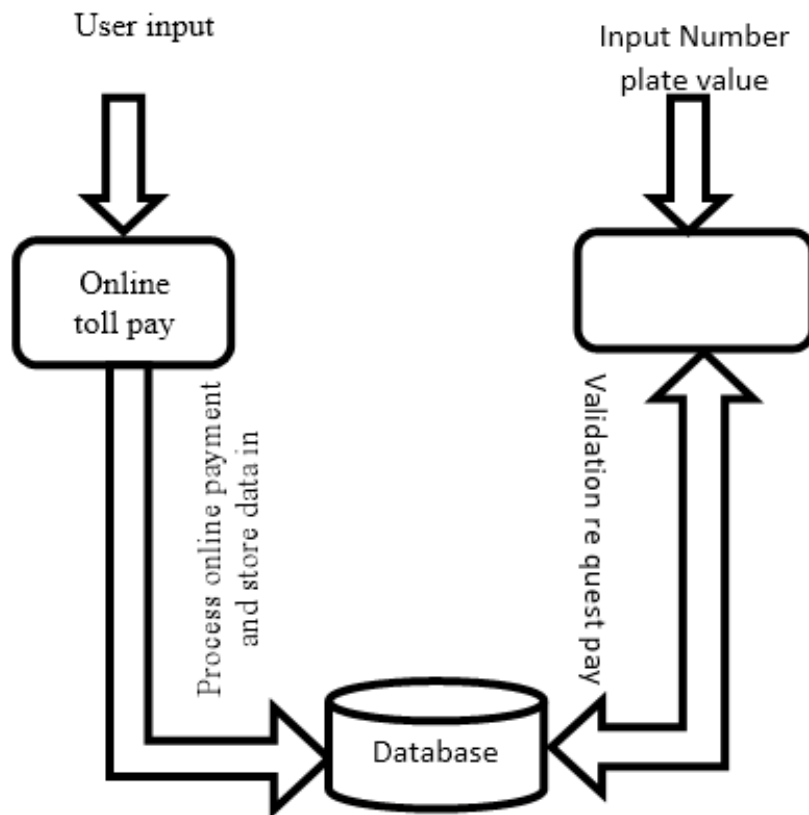


Fig 1. Process flow Diagram

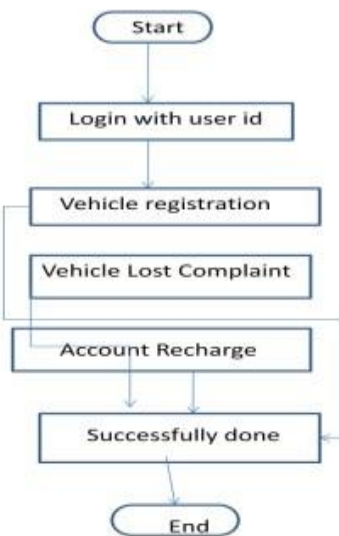
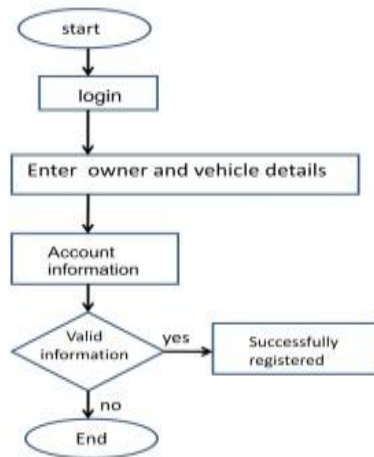
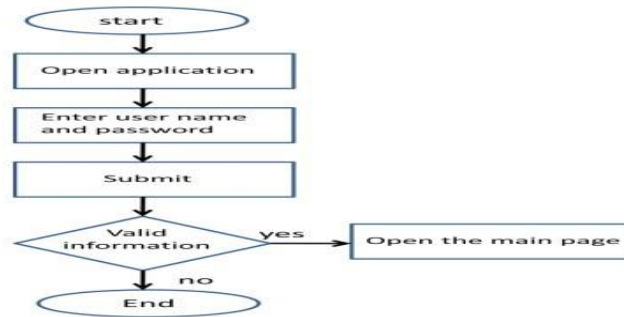


Fig 2 Activity Flow Diagram

MODULE II:**TOLL VALIDATION**

The vehicle is entering the tollgate,

RFID reader validates the RFID tag that is placed in the number plate. In the tollgate, their RFID value is read and if it matches with the stored value in the tollgate, then their vehicle is allowed otherwise not allowed.

MODULE III:**THEFT IDENTIFICATION**

RFID can provide an effective anti-theft system. This is done by retrieving the data that is already stored by the user

Fig3 Online Registration form for Toll Payment registration. By doing so the theft vehicle cannot cross the toll gate and can be tracked.

Theft Vehicle Entering the tollgate RFID reader is receiving the RFID tag value. RFID tag contains user information, owner details, and vehicle details. If the Tag that receives information is matched with database, then it will identify the theft vehicles. Theft vehicles are easily identified by the system we have developed. If the theft vehicle is identified easily, tracking is not a difficult process. This in turn will help the system to easily track the theft vehicle.

RFID SYSTEM

RFID per user is a contraption that is used to interview a RFID tag. Each user has a “receiving wire that transmits radio waves; the tag responds by sending back its data”. A number of parts can impact the partition at which a tag can be scrutinized (the examined develop).

Fig 3 Online registration form

CONCLUSION

By doing robotization of toll square we can have the best plan over money adversity at toll court by diminishing the work required for collection of money. Besides this, time taken can also be reduced at toll square. In our paper “we have introduced the frameworks, for instance, Radio Frequency Identification”. This technique will fuse the RFID tag and can be used to perceive the vehicle identity.

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