Online Toll Payment System Based on Optical Character Recognition

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ABSTRACT:Automated Toll payment is utilized to give adaptability and unwavering quality in paying toll sum at toll court .These framework includes the utilization of high limit cameras on toll square fit for catching number plate of auto. The picture preparing is performed on caught auto number plate picture. The picture preparing is utilized to identify the proprietor of auto utilizing auto number plate. The sum can be paid by a few routes, for example, enrolled client utilizing wallet on Automated toll installment framework site for clients and another path as E challan .

KEYWORDS: *OCR*-Optical Character Recognition,RFID-Radio- frequency identification, ACID-Automatic Identification and Data Capture.

I. INTRODUCTION

In today world the transportation is essential and spine of any area's Economy so to accomplish the smooth and effective stream of activity on thruway we can utilize these computerized toll installment framework.
The framework includes the utilization of cameras on roadways to catch the picture of number plate and apply picture preparing on caught auto number plate picture. To identify the proprietor of auto .It helps in smooth and productive installment at toll court without holding up in long lines on thruways. These framework isn't just equipped for diminishing blockage of autos activity yet in addition keep the loss of fuel .After progress full installment the achievement full installment message is sent on enlisted portable client .
The entire framework is extremely proficient and decrease the manual work on toll court. The measure of toll can be computed effectively with no assistance of manual work.[1]

II. LITERATURE SURVEY

i.FASTag
It is easy to utilize, reloadable label which empowers programmed reasoning of toll charges and gives you a chance to go through the toll square without halting for the money exchange. FASTag is connected to a prepaid record from which the pertinent toll sum is deducted.

The tag utilizes Radio-Frequency Identification (RFID) innovation and is attached on the vehicle's windscreen after the label account is dynamic. FASTag is an ideal answer for a problem free stumble on national interstates. FASTag is by and by operational at 180 toll courts crosswise over national and state interstates. More toll squares will be brought under the FASTag program later on.

FASTag is a gadget that utilizes Radio Frequency Identification (RFID) innovation for making toll installments straightforwardly from the prepaid record connected to it. It is appended on the windscreen of your vehicle and empowers you to drive through toll squares.

FASTag has a legitimacy of 5 years and subsequent to acquiring it, you just need to revive/top up the FASTag according to your necessity.

FASTag offers close relentless development of vehicles through toll squares and the comfort of cashless installment of toll expense with across the nation interoperable Electronic Toll Collection Services.

Client may energize his label account online through, Credit card/Debit Card/or net keeping money, yet we are likewise giving an office of wallet. In FASTag , it is compulsary that each individual has his particular financial balance. Be that as it may, we are giving it by E-Challan. In FASTag, evey individual needs to put a scanner tag on there vehicle so it can be recognize. In any case, this standardized identification is made of paper, subsequently there are the odds that the paper can tear of. So this will be finished by picture processing,which will catch the number plate of vehicle.[2].

ii.Paybyphone

It is for stopping framework and toll installment framework. For toll installment by this application the client need to download this application. After this enlist every one of the subtle elements of the moving toward client to begin on the administration. One record works wherever to toll framework. Empowering tolling by signing on to the site and altering 'Vehicle Details' in your profile. They can make auto-installments, which means effortless driving. What's more, they will send the SMS and email installment notices, so they can keep of their use. Vihicle needs to sit tight close toll court for the identification of the standardized tag. That standardized identification peruser which is on the toll filter the scanner tag and the individual needs to pay the sum. Be that as it may, as we are designg a wallet, the installment will be done naturally without holding up close toll. [3]

iii.RFID

Radio-recurrence distinguishing proof (RFID) utilizes electromagnetic fields to consequently recognize and track labels joined to objects. The labels contain electronically put away data. Inactive labels gather vitality from a close-by RFID peruser's investigating radio waves. Dynamic labels have a neighborhood control source, for example, a battery and may work many meters from the RFID peruser. Not at all like a standardized tag, the label require not be inside the observable pathway of the peruser, so it might be installed in the followed question. RFID is one strategy for Automatic Identification and Data Capture (AIDC).
RFID has a place with a gathering of advancements alluded to as Automatic Identification and Data Capture (AIDC). AIDC strategies consequently distinguish objects, gather information about them, and enter those information specifically into PC frameworks with practically no human mediation.
RFID strategies use radio waves to achieve this. At a straightforward level, RFID frameworks comprise of three parts: a RFID tag or shrewd name, a RFID peruser, and a radio wire. RFID labels contain a coordinated circuit and a recieving wire, which are utilized to transmit information to the RFID peruser (likewise called an investigative specialist). The peruser at that point changes over the radio waves to a more usable type of information. Data gathered from the label is then exchanged through an interchanges interface to a host PC framework, where the information can be put away in a
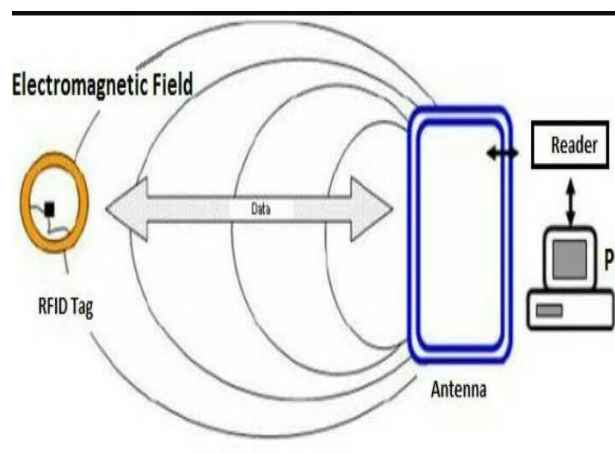
database desected and a later time.RFID is more expensive because they are more complex. They comprise a microchip, a radio transceiver, an antenna and have a battery. The read range of a passive tag is similar to that of a barcode. However the active tags are smart and more powerful, and can transmit and receive over a greater distance. While they cost more, you may still save overall, depending on the application.When pricing an RFID system, consider costs over the system lifetime, not just the price on the day you buy it. You need to do a full lifetime costing to determine the viability of using RFID.

Another disadvantages of RFID is that you can't see RF (it's invisible) and the tags may be hidden. So if you can't read a tag you're less likely to know why, than with a bar code ID system… you can't be sure if the tag is even there? It can be also affected by metal. Metal objects will affect an RF field, so don't expect 100% reliability if you're working near metal objects.

These are the disadvantages of RFID that will be going to ovecome.

III. PROPOSED WORK METHODOLOGY AND DISCUSSION

The entire task is controlled by administrator of framework. The task comprises of number of modules, for example, admin,user and ocr . The administrator of framework initially signed in framework and after that can controll entire framework.

Admin:
Admin after login inside the framework then he can get to web cam which is utilized for picture catching ,admin will likewise make number of client physically the administrator will likewise fit for tolerating installments from clients. Administrator can likewise refresh the clients information and furthermore see all exchange movement of every client. The admin manages all the function such as adding the users account manually and providing them permission . The admin module contains the web module which will capture the image of the vehicle and it will get stored in the database of the admin. With the help of image processing the alphanumeric will get extracted from that image and the amount will deducted from the user account as per the charges alloted by the toll for particular vehicle. There are options which we are providing like e-challan , online payment etc.,

The following Module will be client module which is utilized by clients to pay for toll in the wake of going through toll court. The clients can likewise refresh there information and the client will ready to pay sum by utilizing installment module.

User:
The user first have to register onto the admin module page and if the user fails to register the admin will manually register the whenever user passes through the toll plaza they would not have to wait near the toll plaza and pay the

payment manually. Hence, depending upon the type of the vehicle the amount will get deducted as per as the charges alloted by the toll plaza. The user has an option to view his/her payment history.

Image Processing:

The imperative module of the framework is Image Processing module. In Image Processiing the OCR alogorithm is utilized. The working of OCR is that it separates the content from pictures. The auto picture is given as a contribution to OCR. The OCR calculation begins preparing the info picture. After total preparing the OCR calculation will separate the content from the info picture.

IV. CONCLUSION

The issue in the current framework are all the more so to conquer the framework, we made this framework.

The clarified framework will beat the issue. These framework includes the utilization of high limit cameras on toll square fit for catching number plate of auto. The picture handling is performed on caught auto number plate picture.

It helps in smooth and productive installment at toll court without holding up in long lines on expressways. These framework isn't just equipped for lessening clog of autos activity yet additionally keep the loss of fuel .After progress full installment the achievement full installment message is sent on enrolled portable client .

The entire framework is exceptionally effective and decrease the manual work on toll court. The measure of toll can be figured effortlessly with no assistance of manual work.

V. FUTURE WORK

The primary objective behind this task is to enhance the effectiveness and execution of the framework.

The goal is that it will distinguish the number plate of the vehicle and through that, it will graps all the data of the proprietor, for example, proprietor name, proprietor card number, proprietor contact points of interest, account no of a specific bank and so forth. It will likewise distinguish the kind of vehicle i.e light weighted or overwhelming weighted and as indicated by it will send the message to that proprietor's telephone number. The goal is to do the exchange procedure between the modules i.e. client and the administrator.

To do online installment, so there will never again holding up time in toll line.

To diminish the manual work, so the time will be spared in paying toll at toll court.

There will be no arrangement of line as there is no manual work, accordingly it will enhance activity technique.

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