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Without human automatic car tariff collection system

Atanu Wadadar
atanu.wadadar@gmail.com
Narula Institute of Technology, Kolkata, West Bengal

Sudip Paul
sudip020pal@gmail.com
Narula Institute of Technology, Kolkata, West Bengal

ABSTRACT

RFID based Smart Toll Collection System as a solution to solve the traffic problems and also to maintain transparency of the toll collection system. This system is to make a digital toll collection system which will be less time consuming and automated. This system focuses on an electronic toll collection (ETC) system using radio frequency identification (RFID) technology. The proposed RFID system uses tags that are mounted on the windshields of vehicles, through which information embedded on the tags are read by RFID readers; this system eliminates the need for vehicle owners and toll authorities to manually perform ticket payments and toll fee collections, respectively. Data information are also easily exchanged between the vehicle owners and toll authorities, thereby enabling a more efficient toll collection by reducing traffic and eliminating possible human errors.

Keywords— *RFID, Hardware component, Fuel saving, Electronic toll collection, Cost-saving, Internet of everything*

1. INTRODUCTION

In modern times traffic problem is a very severe problem in our country. Every day we have to face traffic jam for several hours which is very annoying at the same time creating a huge trouble in our daily life. Traffic jam mainly causes for reckless driving and also for the rash of the vehicles in the road. For the reduction of traffic problem government has made many bridges, fly over's and bypass roads. People have to give toll when they pass these by any vehicle. Unfortunately, the toll collection system is manual which takes many times to pass the vehicles and creating traffic jam. Electronic toll collection system using RFID technology which will be an automatic system, will not stop the vehicles as well as this system will help to reduce the traffic jam. Here, the payment will be taken from the bank account of the vehicle owner and he will receive a message from the server that the toll payment has been taken. also help to solve the traffic severe crashed

2. MANUAL TOLL COLLECTION SYSTEM

Manual toll collection system is the simplest form of toll collection, in which a collector operating from a booth collects the toll. This method is slower and sometimes not perfect also. One or two persons sit in the toll collection booth and stop each vehicle to collect the toll manually. The collector gives a memo to the drivers as a record of toll payment. Moreover, there is no central controlling system for the toll collection, all the information regarding payments, vehicles are not saving in a database or website. As a result, corruption is happening and government is not getting all the toll money properly.

Fig. 1: A manual toll plaza

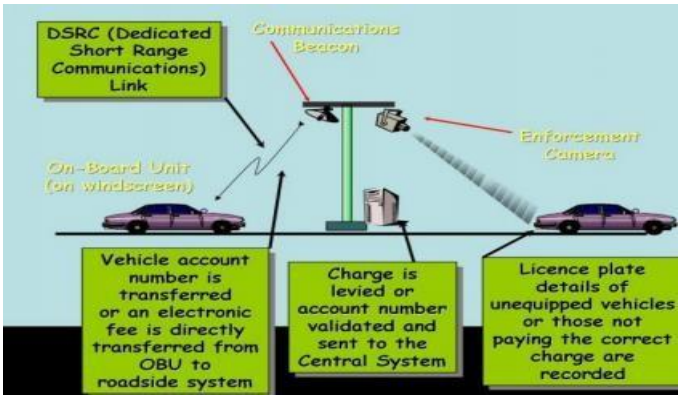

Fig. 2: Electronic toll collection system

Advantages electronic toll collection system:

Electronic toll collection system is a digital system of collection toll from vehicles without stopping them. Electronic

Toll Collection lanes improve the speed and efficiency of traffic flow and save drivers' time. An Electronic toll collection system is capable of electronically charging a toll to an established customer account. The system can determine whether a passing car is registered, automatically charging those vehicles, and alert the local highway patrol about users that are not registered. The Electronic toll collection method allows vehicles to pass through a toll facility without requiring any action or stopping.

Increased Capacity

Electronic Toll Collection System will increase the capacity of transport when passing the toll plaza as we will divide the road by many lane. Moreover, this system is automatic so it will be increased the capacity of transport when passing the toll booth.

Fuel saving

The deceleration, acceleration and idling is completely eliminated. This results in gas saving for the patrons using Electronic Toll Collection System. The elimination of acceleration and deceleration results in reduction of the operating cost of the vehicles.

Operating cost saving

Over a period of time, the toll collecting cost is reduced. There is reduction in the man- hour required as the system does not require any human interaction for the toll transaction. Time saving ETC users do not stop for paying toll, thus there is considerable saving in the travel time. Besides the travel time reliability is increased as the travel time can be estimated fairly accurately.

IOE BASED SYSTEM

Here we are using IOE (Internet of Everything) process by sending data and all information live image to destination place**.**

3. RESULTS

The result of working on this system is to solve the traffic problems and also to maintain transparency of the toll collection system. This system is to make a digital toll collection system which will be less time consuming and automated. Moreover, Economical analysis of the automatic toll collection system. In addition, we have also used weight sensor to measure the weight of the transports to maintain the health of the roads and bridges

4. REFERENCES

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