Automated Vehicle Driving Standard

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Abstract— AVDS is a proposition to improve the action of RTO in keeping up and observing vehicles that are damaging guidelines like driving vehicles without legitimate driving permit and related records. Today we are having few of the arrangements which are made on the web and many checking frameworks on national highways and metro urban areas to screen the movement, bolster on crisis and some more. Presently Police division and RTA mutually take many activities and they neglect because of unavoidable situations to put this on-track. This Uncertainty state should be resolved to avoid risk for motorists who are state-of-the-art and right on their records and driving measures. Here the idea is to present a framework that will decrease the undertaking of the legislature and simple the way toward observing general society and subsequently sparing assets. This framework additionally makes the thruways a smart ways.

Keywords *— AVDS- automated vehicle driving standard, RTA- road transport authority, intelligent highways, DCM-Document check module, and software process.*

I. INTRODUCTION

India is developing as one of the bustling nation making individuals to drive. We can see that development of the country is accomplished just by creation and deals. Delivering new items need numerous crude materials. The greater part of the assembling materials are transported through ocean, yet coastline is not accessible to all parts. To finish this procedure Railroads and Express ways are made interfacing all the significant urban areas. These improvements in a roundabout way made individuals to be a part of this and everybody is running occupied on the roads. Many of them follow principles and controls, yet few are abusing because of technical issue or to spare cash by win over traffic or road transport authorities. As we see the majority of them are minor accidents, still many individuals can't leave that, since none of them is having an appropriate vehicle archives.

Improper maintenance of vehicle is additionally one of the issue which pollutes. Indeed, even RTA are following for vehicles that are abusing rules. Human level following is not compelling on the grounds that one can't screen round the clock. So there is a need in mechanical improvement to defeat these infringement.

II. RELATED SURVEY

The owners of regular licence were involved in more number of accidents 3, 96,381 (79.1 per cent) followed by holders of learners license 59,435 (11.9 percent) and drivers without license 45,191(9.0 per cent) published by [11]. Here the idea is to minimize accidents done by regular licence owners. On the other hand [14] revealed that India is a place with high number of road accidents in the world. Road safety experts also warn that the real numbers will be different from the actual [14] there is no estimate as to how many people injured in road accidents die a few hours or days after the accident and those deaths are no longer linked to road traffic accidents.

III. RELATED WORK

The idea of biometric based licence validation suggested by Rubella et.al.,[2] S.P Pingat et.al.,[9] then Network Toll to Anti-defraud of Vehicle[3] by Huang Zhijun et.al., and model for self-assessment of digital maps[8] by Hartmann et.al.,. Wang et.al, Model on self-adaptive neuro-fuzzy control [6] has given means to analyse and found that most of the cars are equipped with CEM (central Electronic module) and ECM (engine control module). In some other countries few are implemented and an effective Framework for Environmental Performance of Intelligent Transport Highways [12] is suggested by Kolosz, B.W et.al, to enhance all these discussed technologies, a new system called as AVDS has been proposed.

IV. PROPOSED SYSTEM

DCM (Document check Module) consists of AT89s52 microcontroller [9] that can integrate the other input devices required to authenticate for Driving Licence, pollution check and insurance related documents. And also contains an output device to display the status of all the documents. Status of various documents are verified in binary values.

DCM port is used by the manufacturer and RTA officials to set the values like Engine Number, Chassis number, registration number. This port had its own importance because there may be a chance to change any of the above value at any time due to many circumstances. For example, there are some automotive construction companies who could rebuild old vehicles.

The second part software process consists of a program that connects this DCM to Insurance

Database and RTA database. RTA DB shares data like (Driving license info, vehicle Tax, permits) to validate driving licence and maintain for some time in a pool. Insurance DB shares parameters like (Vehicle Registration Number, Owner Name, and Date of Expiry) which makes us to know about the document status.

This system consists of three modules:
1) Driver Authentication
2) GSM Modem
3) Software Process

Driver Authentication: This module is an idea derived from a general registration activity processed using thumb impression and the same is adopted to issue driving licence. So tracing any valid driver is easy if dependable on biometric image. As stated by [11] 79% are owners of regular licences who meet with accidents. And few of them are not recorded [14]. Most of the accidents happened at traffic junctions when they try to jump signal, sudden decision of changing lane etc., As per RTA driving licence is one of the necessary document to identify and minimize. For this reason, biometric authentication may be a best feasible solution. In addition to that theft vehicles can also be easily traced.

GSM Modem: This module keeps the updated information of various documents in binary format suggested by the RTA.

Software Process: This process at the background retrieves the data from both the vehicle insurance database and the RTA database while the vehicle is under verification. The RTA can connect their device via the GSM feature with the system and can receive the information about the motorist as well as the vehicle in binary format. If any of the parameter has a '0' bit the RTA can act upon it.

V. RESULTS

System scan for binary values to check the status of the required parameters. Default values are set to '1'. In due course if any values result in '0'. "LOGICAL AND" operation is performed on all these and STATUS will be produced. Failed status make the system HALT.

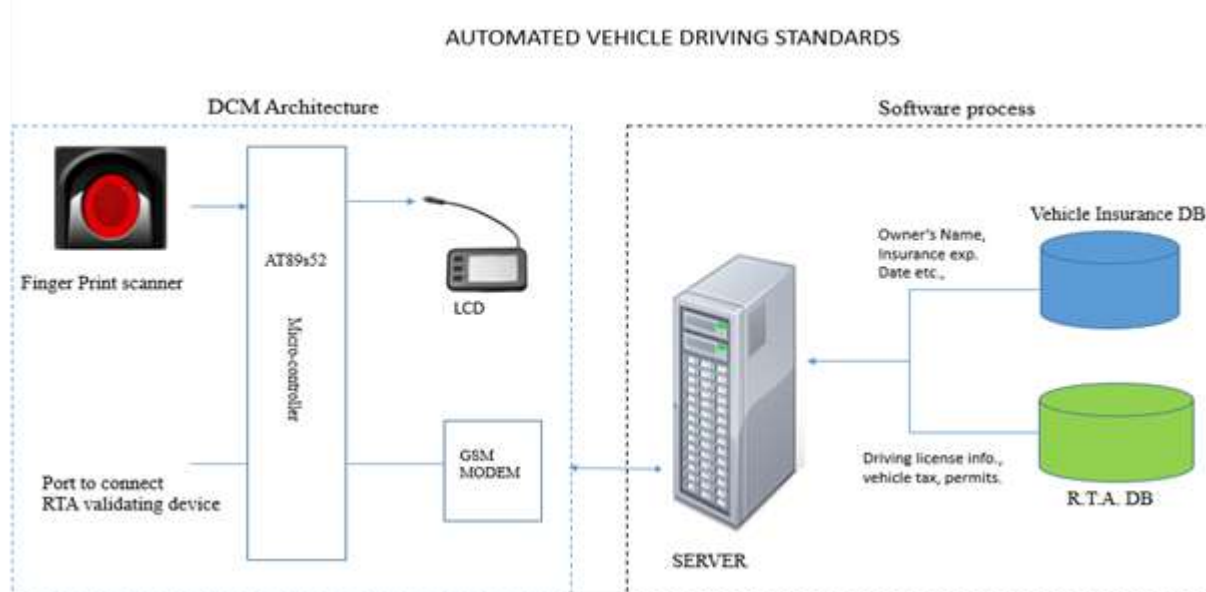| Description	poll
Engine Number	1
Chassis Number	1
Registration Number	1
Driving Licence	1
Emission	1
Insurance	1
Permits	1
Speed	1
Unauthorised Goods	1
STATUS	**1**

Fig 1: AVDS Framework

VI. CONCLUSION

Intelligent highways [10] are necessary for any country to develop. Express ways became an inevitable part of life but all will have a pause at toll-plaza for Police or RTA check, results in delay of journey. The proposed system AVDS will communicate with protocol [10] make users to move nonstop by doing the job in a digital way. In this study it has been found that many tasks are working independently. Integrating them will enhance the current system. For now framework has been portrayed. In short, prototype will be developed with enhanced features.

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