Wrong Driving Identity with Intelligence Challan Proof

[1] K.V. Lalitha, [2] S. Harsha Vardhan , [3] D.Gowthami, [4] D.Shyam Prasad, [5] V.Tharun Sai
[1]Assistant Professor,[2, 3,4,5]U G Scholar
[1]Electronics and Communication Engineering
1Godavari Institute of Engineering and Technology, Rajahmundry, Andhra Pradesh

Abstract: The term Digitization refers to the process of converting information into digital form. Digitization is taking the country by storm; digitization has formed its roots in almost every field of interest India. In this growing digital India it is very important to automate the process of document verification and Challan generation by RTO. Also the existing scenario of RTO does not necessarily enforce traffic rules and laws as effectively as it should, which sometimes leads to these rules being overlooked by the drivers, vehicle owners and even the traffic police officers. We aim at providing drivers and vehicle users the facility of not carrying around unnecessary paperwork as this application which will store their DL and VRC can be accessed from any location at any given time. The proposed approach in this paper tackles with all these issues by automating the whole process of registration for D.L and V.R.C and viewing and accessing these documents by authorized users and traffic police and generation of e-challan and payment in case any traffic rule violation is observed. Also the current RTO scenario does not provide any way to detect frauds and unauthorized user of vehicles. The proposed system to develop the automatic challan that can check for Signal break by any vehicle.

***Index Terms* – IOT, Embedded System, Sensors.**

I. INTRODUCTION

An **embedded system** is a special-purpose system in which the computer is completely encapsulated by or dedicated to the device or system it controls. Unlike a general-purpose computer, such as a personal computer, an embedded system performs one or a few predefined tasks, usually with very specific requirements. Since the system is dedicated to specific tasks, design engineers can optimize it, reducing the size and cost of the product. Embedded systems are often mass-produced, benefiting from economies of scale.

Personal digital assistants (PDAs) or handheld computers are generally considered embedded devices because of the nature of their hardware design, even though they are more expandable in software terms. This line of definition continues to blur as devices expand. With the introduction of the OQO Model 2 with the Windows XP operating system and ports such as a USB port — both features usually belong to "general purpose computers", — the line of nomenclature blurs even more. Physically, embedded systems range from portable devices such as digital watches and MP3 players, to large stationary installations like traffic lights, factory controllers, or the systems controlling nuclear power plants. In terms of complexity embedded systems can range from very simple with a single microcontroller chip, to very complex with multiple units, peripherals and networks mounted inside a large chassis or enclosure and the construction of an embedded system is shown in Fig. 1.

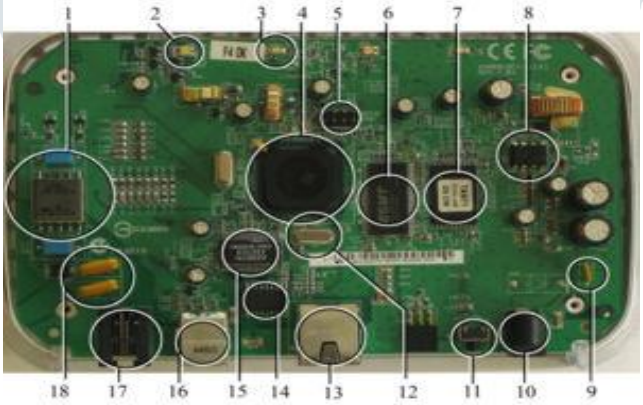

Fig. 1: An embedded system

II. LITERATURE SURVEY

The review has been organized into the categories of Risk Perception, Perception of Driving Tasks, Traffic Rules, Personal Responsibility, Road Safety and Risky Driving Behavior.

Risk Perception Drivers' risk perception affects road accidents. Risk perception is result of disposition, social, cultural, economic and demographic factors. Literature review related to drivers' risk perception is as follows: According to Brown and Groeger (1988) risk perception refers to the drivers' experience of risk in potential traffic hazards. Risk perception is determined by information of the potential hazards in traffic environment, and on the ability of driver to perceive potential hazards resulting into actual accidents. Inexperienced drivers overestimate their driving skills and underestimate the risks in traffic. Renge (1998) has described that excessive speed and low perception of risk are significantly associated with road accidents. Young and inexperienced drivers have low risk perception regarding inappropriate speeding as compared to experienced drivers. Rajalin (1994) has identified that there is significant difference between young female and male drivers adopting high speed. Speed affects the risk perception of drivers. Kouabenan (2002) has shown that there is significant relationship between the knowledge of risk perception and road accidents.

Experienced drivers have high risk perception as compared to less experienced drivers. Ma et al. (2008) have found that risk perception significantly indirectly affects risky driving behavior. There is significant effect of risk perception and risk taking attitude on risky driving behavior. Nordfjaern(2011) have identified that Indian drivers have low risk perception towards road accidents. Most of road accidents occur in low income countries. 20 Ponnaluri (2011) analyzed that there is negative relationship between risk perception and risk taking behavior. Rosenbloom et al. (2008) have described that high level of risk perception is perceived by drivers after the training as compared to before training. Female and adult drivers have high level of risk perception as compared to male and novice drivers. There is insignificant effect of age and driving experience on perceived risk. Moen et al. (2006) have shown that there is significant difference between risk perception of male and female drivers.

III. EXISTING SYSTEM

There are a large number of heterogonous devices within the traffic monitoring system using IOT. Among challenges of full deployment. IOT is making complete interoperability of these heterogeneous interconnected devices which require adaptation and autonomous behavior. The major issue in IOT is the interoperability between different standards, data formats, heterogeneous hardware, protocols, resources types, and software and database systems. Another issue is necessity of an intelligent interface and access to various services and applications. It seems that mobile agents are a convenient tool to handle these issues, provide means for communication among such devices and handle the IOT interoperability. Adding to that mobile agent is a perfect choice in cases of disconnection or low bandwidth, passing messages across networks to undefined destination and to handle the interoperability of IOT. All messaging exchanges among agents are established via the TCP/IP Protocol. A software agent is an autonomous executable entity that observes and acts upon an environment and acts to achieve predefined goals. Agents can travel among networked devices carrying their data and execution states, and must be able to communicate with other agents or human users. A multi-agent system is a collection of such entities, collaborating among themselves with some degree of independence or autonomy.

IV. PROPOSED SYSTEM

The major tasks of the proposed system are detecting mobile objects and their location, identifying mobile objects and transmitting acquired data to the monitoring and controlling center for processing. A general overview of the proposed intelligent traffic system. The structure of the proposed traffic IoT system consists of three layers: application, network and acquisition. Main functions of the application layer are collecting, storing, and processing traffic data to produce value-added services presenting the interface of traffic to users and analyzing received information from acquisition layer according to the different needs. The wireless communication channels used by the devices may include any of the prevailing standards such Bluetooth. Acquisition layer is constituted by all kinds of sensors and sensor gateways such as RFID, WSN, cameras, and intelligent terminals to transmit data of mobile objects and other sensors used to collect real-time traffic and object identification information. It serves as a source of all types of information (for example, identified objects, traffic flow, etc.) Collected from the physical world. Its main functions are to collect real-time information from IOT sensors, monitor objects and transfer data to the network layer. The system utilizes wireless sensors to obtain real-time traffic information, such as traffic condition on each road, number of vehicles, average speed, and so forth. Utilization of wireless sensors is very appropriate due to their low power consumption, low cost, distributed processing and self-organization. In order to achieve large-scale network layout the system uses wireless cluster sensor network. Each cluster has a set of wireless sensors and each set is represented by the head node. Data at the head nodes are delivered to the backend system by a mobile agent. Proposed system block diagram is shown in Fig. 2.

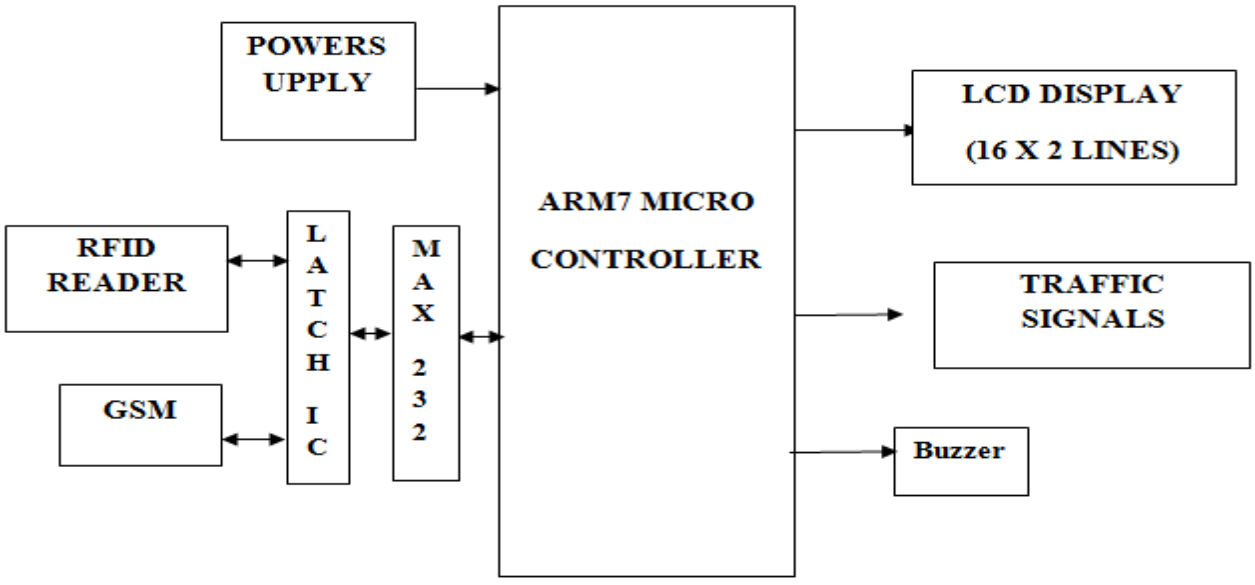

Fig. 2: Proposed system Block diagram

4.1Block diagram description:

4.1.1 Power Supply Section:

This section is meant for supplying Power to all the sections mentioned above.It basically consists of a Transformer to step down the 230V ac to 9V ac followed by diodes. Here diodes are used to rectify the ac to dc. After rectification the obtained rippled dc is filtered using a capacitor Filter. A positive voltage regulator is used to regulate the obtained dc voltage.

4.1.2 Microcontroller Section:

This section forms the control unit of the whole project. This section basically consists of a Microcontroller with its associated circuitry like Crystal with capacitors, Reset circuitry, MODES and registers and so on. The Microcontroller forms the heart of the project because it controls the devices being interfaced and communicates with the devices according to the program being written.

4.1.3 GSM modem Section:

This section consists of a GSM modem. The modem will communicate with microcontroller using serial communication. The modem is interfaced to microcontroller using MAX 232, a serial driver.

4.1.4 MAX 232 Sections:

The microcontroller can communicate with the serial devices using its single Serial Port. The logic levels at which this serial port operates is TTL logics. But some of the serial devices operate at RS 232 Logic levels. For example, PC and GSM etc. So in order to communicate the Microcontroller with either GSM modem or PC, a mismatch between the Logic levels occurs. In order to avoid this mismatch, in other words to match the Logic levels, a Serial driver is used. And MAX 232 is a Serial Line Driver used to establish communication between microcontroller and PC (or GSM)

4.1.5 LCD Display Section:

This section is basically meant to show up the status of the project. This project makes use of Liquid Crystal Display to display / prompt for necessary information.

4.1.6 RFID Reader (Radio Frequency Identification):

Radio Frequency Identification (RFID) is a generic term for non-contacting technologies that use radio waves to automatically identify people or objects. The combined antenna and microchip are called an "RFID transponder" or "RFID tag" and work in combination with an "RFID reader". Radio Frequency Identification (RFID) is the latest technology that is being adopted to track and trace materials, including book.

V. RESULTS AND DISCUSSION

The main objective of our project is to develop the automatic challan system that can check for signal break by any vehicle. The RFID reader reads the tag information of the vehicle like vehicle number and sends the informationto the controller.

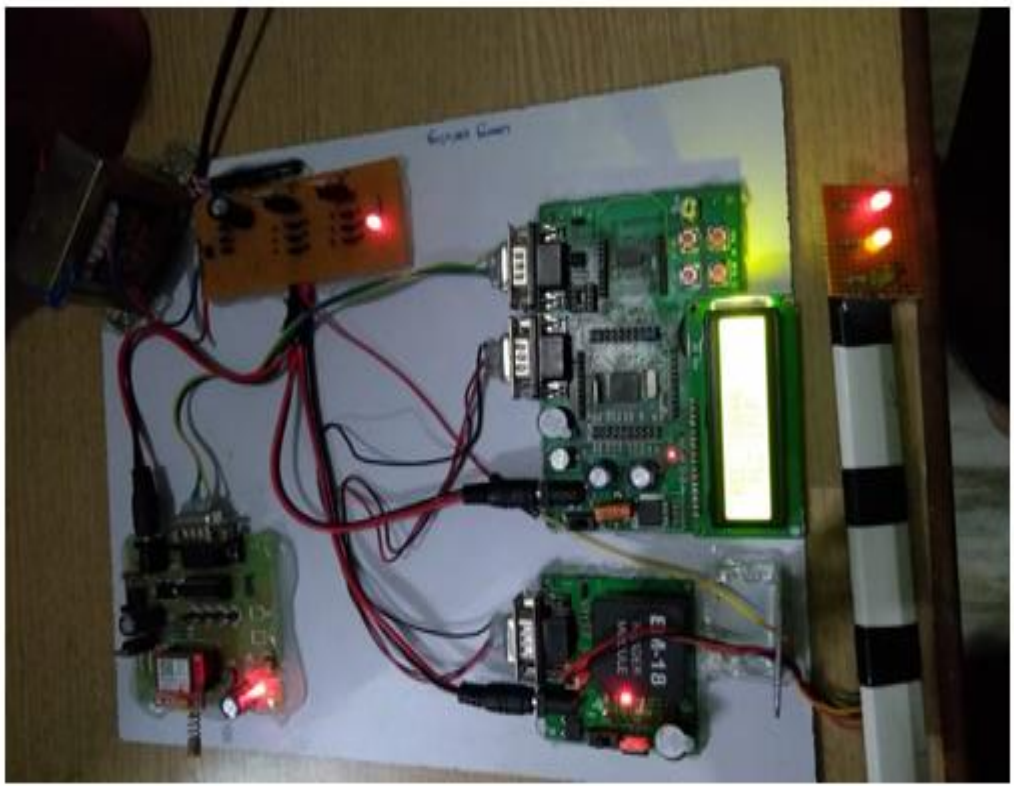

Fig. 3 Proposed system proto type

Controller will send an SMS to the vehicles owner through GSM technology and simultaneously information is given on the site itself through LCD. Whenever wrong signal cross the traffic signal the Controller will send an SMS to the vehicles owner through GSM technology and simultaneously information is given on the site itself through LCD and challan will be applied . Controller will send an SMS to the vehicles owner through GSM technology and simultaneously information is given on the site itself through LCD. Whenever wrong signal cross the traffic signal the Controller will send an SMS to the vehicles owner through GSM technology and simultaneously information is given on the site itself through LCD and challan will be applied .

Fig. 4 Output display on LCD

Fig. 5 Proposed system output

Fig. 6 Proposed system output

VI. CONCLUSION

The Paper "Wrong Driving Identity With Intelligence Chelan Proof" Has Been Successfully Designed And Tested. It Has Been Developed By Integrating Features Of All The Hardware Components Used. Presence Of Every Module Has Been Reasoned Out And Placed Carefully Thus Contributing To The Best Working Of The Unit. Secondly, Using Highly Advanced Ic's And With The Help Of Growing Technology The Project Has Been Successfully Implemented.

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