

# DIGITAL LICENSING SYSTEM

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## ABSTRACT

A new system is proposed to prevent illegal licenses which are the major reasons for many accidents. This system contains a separate login for each motor vehicle inspector for a Regional Transport Office and every data related to the driving skill test must be stored for detecting result. The proposed system is the elimination process of existing manual process of driving skill test to issue Indian driving license. This avoids the duplication of data. Proposed system keeps the applicant details safe and out of reach from third person. This will protect the data from natural disaster. Paper works will have low efficiency but by changing them to digital data we can improve efficiency

and accuracy. Manual biasing is totally prevented. Jurisdiction within a short span of time.

## 1.1 INTRODUCTION

A driving license is an official document certifying that the holder is suitably qualified to drive a motor vehicle. One person is dying in road accident in every 30 seconds because of ineligible drivers with illegal license. So it is very important to disassociate the driving ability test from the licensing authority.

The proposed work is thus the elimination process of existing scenario to issue Indian driving license. For this applicant will be allotted the test vehicle for test drive with the number of sensors connected embedded in vehicle sending

data using wireless sensor network to remote server to get processed. Result analysis is done by comparing the received data with previous data .Also the driving test sign indication by hand movements will be done using image processing which includes comparison of real time images with reference images.

Bayesian algorithm is used for decision making by comparing data from sensors .The sensors used are Gyro sensor to define coordinates in terms of longitude and latitude of a test vehicle .While RPM sensor is used to sense and measure speed at every angle of test vehicle .Wireless sensor network includes Global Positioning System(GPS) and ZIGBEE device.GPS provide data for mapping, receives X,Y,Z coordinates according to position of a vehicle .ZIGBEE is used as a gateway .Map management includes map matching using grey scale and pattern matching .Data mining is used to filter data .Image processing includes

image segmentation, Gesture work define by using fix camera .The Software required for proposed work is, .Net for visual data ,while MS ACCESS for back end application .The software is designed for front end and back end separately.

A method of 3D mapping with an RGB-D Camera is provided by Felix Enders; Jorgen Hess, Jorgen Sturm, Daniel Cremer and Wolfram Burger .This method describes a mapping system that produces highly accurate 3-D maps using an RGB-D camera. This requires no further sensors. With only availability of low-cost and light-weight RGB-D sensors such as the Microsoft Kinect, has domestic application such as vacuum cleaners. Experiments shows that this system can deal with challenging scenarios such as fast camera motions.

A method of Smart TV Interaction System Using Face and Hand Gesture Recognition is provided by Sang-Heron Lee, Myoung-Kyu Sohn,

Dong-Ju Kim, Byungmin Kim, and Hyund .In this author gives a vision-based face and hand gesture recognition system for the control of smart TV. A face and hand gesture recognition module for channel/volume changing services and personalized services such as favorite channel, parenting guidance, etc is implemented... For hand detection, a data fusion technique is used. The hand posture detected using the Ad boost algorithm and the repeated detection is used for tracking algorithm. The tracking based on Ad boost is limited by the static view and required hand size. After hand detection, five types of hand gestures such as “left”, “right”, “up”, “down”, and “push” are recognized using support vector machine (SVM).

Sensor Fusion for Precise Autonomous Vehicle Navigation in Outdoor Semi-structured Environments is the method of Autonomous Vehicle Navigation in Outdoor is provided by L. Coned Bento, Urbane Nuns, Fernando

Motta and Antonio Surjection .In this paper authors presents a system for guidance of autonomous vehicles navigation in semi-structured outdoor environments. It collects encoder’s data and absolute positioning data produced by landmarks and artificial beacons. A laser range sensor and magnetic sensing rulers were developed to detect magnetic markers buried in the ground. In the first fusion stage, data from four wheel encoders and one steering encoder are fused by means of an Extended Kaman Filter (EKF), providing in condition of undesirable effects of wheels slippage, in a second fusion stage is processed for collecting absolute positioning data. Simulation and experiments based on real time using a four-wheel actuated electrical vehicle are presented.

A Multi-Sensor Fusion System for Moving object Detection and Tracking in Urban Driving Environments is introduced by Hinge Cho, Young-Woo See, B.V.K. Vijay Kumar, andRagunathan (Raj) Rajkum

[4].In this paper authors describe a self-driving car, in real-world driving environments, must be capable of accurately detecting and tracking of nearby moving objects.

In this paper authors present new, moving object detection and tracking system that extends and improves earlier system used for the 2007 DARPA Urban Challenge. Earlier motion and observation models for active sensors (i.e., radars and LIDARs) and introduced a vision sensor. In the new system, the vision module detects pedestrians, bicyclists, and vehicles to generate corresponding vision targets. New system utilizes visual recognition information to improve a tracking model selection, data association, and movement classification of earlier system.

## **1.2 EXISTING SYSTEM**

In existing system, License is issued by normal process. There the applicant wants to apply for driving test by manually. He / She want to get the

application form from revenue transport office .There they want to mention details about them and their vehicle by manually .The application form wants to verify by revenue transport officer. After the verification process, they have to take test in front of revenue transport officer. An interview of road signals and a few general questions regarding road safety are questioned from the applicant. The application can be rejected if the test is failed. After the preliminary test driving test is conducted on same kind of vehicle for which application is made for obtaining driving license has been made.

There are three types of track system was available for light motor vehicle like car. A track system for two wheeler and three wheeler. H track, Up gradient and parallel parking are the three track system for light motor vehicle. 8 track system is for two wheelers and three wheelers. Reverse S track system for heavy motor vehicle like bus and truck. There are some constant times for each track to finish

the driving test. They want to finish the test within the track time and it should be calculated by the revenue transport officer. If they failed to finish the driving test within the track time, permitted to take the same test after one week.

Driving license is most widely used ID document across the world. Smart card technology is being widely used in identity management applications globally. In a bid to simplify the process of acquiring a driving license and eliminate middlemen, the state governments are introducing use smart cards for Driving License.

Bartronics provide complete end-to-end solutions for issuing Smart Card based Driving License & RC Book. Our offerings include production of secure smart card, registration & data capture, personalization & card issuance, managing document & applications. These documents were not legible, often in torn condition and were difficult to manage or comprehend at times. At the

same time, the District Transport Offices were operating on a manual mode with documents and files pertaining to each vehicle and licensee's records being stored in a paper format. In the year 2000, Ministry of Road Transport and Highways, decided that in view of growing volumes, non-uniformity of documents, heterogeneity of data formats and huge cost of application software, it was important to evolve and implement standards. Finally the Driving License will be delivered to the applicant by the India Postal Service.

### **1.3 DEMERITS OF THE PROCEDURE**

- The system evaluates by comparing with the standard profile.
- Not able to track the vehicle in point by point marking method.
- Climatic conditions (Rainy, Cloudy, and Windy) seasons may delay the procedures.

- Interference by birds or animals may destruct the path driven by the applicant.
- A driver who has not committed any offences has **zero** points. If you commit an offence that carries demerit points, the points are added to your driving record.
- Muddy surface during rainy season which marks an impression by the tires upon the driving track by the previous applicant affects the successive applicants.
- Not able to specify the valid reason for failure of the driving test by the applicant.
- A Notice of Suspension or Refusal specifies the date the license suspension or refusal begins. The imposition of a license suspension or refusal period relies on Roads and Maritime serving a Notice.
- If you accumulate 2 or more demerit points while serving a good behavior period, your license will be suspended for double the original suspension time.

- The Thumb impression of the applicant is not registered.
- Not able to verify whether the same person is driving till the completion of the test.

## **1.4 PRELIMINARY TEST TRACKS AVAILABLE**

- 8 for Motor Cycle (2 & 3 wheeler)
- H, Gradient & Parallel Parking (LMV&HTV)

### **1.4.1 PROPOSED SYSTEM**

Grant of Licenses (Motor Cycle with and without Gear, Light Motor Vehicle, and Heavy Transport Vehicle) is done as a manual process by conducting necessary tests to the applicant and based on his/her result. The Grant of Heavy Transport Vehicle License will also be done through the Digital Process.

As per Section 9(3) of MVI Act 1988 to grant a driving License, the applicant shall pass the tests prescribed by the Central Government. In order to that Rule 15 of CMVR 1989 prescribes

the test procedures. For this purpose, the following pattern of testing track can be able to evaluate the driving skills of the applicant.

### **1.4.2PROCEDURE FOLLOWED**

**a) Client Configuration :** Intel Pentium Dual Core G2020 III GEN (2.9GHz , 3MBL2 Cache)/ 2GB DDR 3 Memory / 320GB Hard Disk / 18.5" LED BACK LIT LED /Keyboard & Optical Mouse with windows 7 OS.

**b) Server Configuration:** i7 processor, 8GB RAM, 2TB hard disk, 18" LED monitors.

**c) Printer :** Print, copy, scan, fax, Print speed: 25ppm, Print quality black (best) up to 600 x 600 x 2dpi, Hi speed USB 2.0 port, 10/100 Ethernet network port, Duplex Printing – Automatic (standard), Scanner type – Flatbed, Automatic Document Feeder (ADF). Scan resolution (Optical) – Up to 1200 dpi, Scan speed (normal,A4) up to 15ppm (b&w, color), Fax transmission speed- 3

sec/page Make : HP / Canon or equivalent

**d) Network Equipments & Structured cabling.** Network Switches, power injectors, Cat 6 cable, HDPE pipe, PVC pipes, Junction box, VPN router/gateway etc.

**e) UPS :**6 KV UPS with 1 hour backup (floor mount, SNMP Card, UPS rail kit)

**f)** The third party employee then enrolls the details to generate the token number based on the list provided by MVI from Smart Move software followed by KTD. Only 60 applicants to be tested by 1 MVI and 1 AMVI per day.

### **1.4.3 The Criteria for Evaluation in Test Part (8 Tracks - 2 & 3 Wheeler)**

- Proper balancing of two wheeler without halting the vehicle on the track.

- Maximum time provided for 2 rotations – 3 minutes including the capturing of driver image.
- The applicant should not come out of the track at any time during part 1 test.

#### **1.4.4 The Criteria for Evaluation in Test Part (H Track – LMV&HTV)**

- Should be completed within maximum of 5 minutes.
- Track should be maintained.
- Vehicle should not turn off.
- Uniform steady motion to be maintained

#### **1.4.5 ADVANTAGES OF PROPOSED SYSTEM**

- Less human work.
- Less cost.
- Easy data retrieval.
- Security.
- Technologically updated.

### **1.5 SYSTEM REQUIREMENTS**

#### **1.5.1 HARDWARE**

##### **REQUIREMENTS**

- System : Pentium IV 2.4 GHz
- Hard Disk : 40 GB
- Monitor : 15”
- Mouse : Logitech
- Ram : 1 GB

#### **1.5.2 SOFTWARE**

##### **REQUIREMENTS**

- Operating system : Windows 7(32 bit system)
- Coding Language : PHP, HTML
- Database :MS SQL

### **1.6 LIST OF MODULES**

There are three modules in Digital Licensing System. In future it can be extended. The three modules are following

- Appointment form
- Test
- Report
  1. Mini report
  2. Individual report
  3. Driving School report
  4. consolidate report



## 1.6 CONCLUSION AND FUTURE WORK

From our study, we conclude that the manual work is reduced and digital format documents are made easily through our modules. It was a wonderful and learning experience for us while working on this project. This project took us through the various phases of project development and gave us real insight into the world of software engineering. The joy of working and the thrill involved while tackling the various problems and challenges gave us a feel of developers industry. It was due to this project we came to know how professional software's are designed. We enjoyed each and every bit of work we had put into this project. The project is further extendable.

## 1.7 REFERENCES

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