An Adaptive Mobile Platform for License Monitoring using Android

S. Yamuna[#], S. Dhivya[$], M. Gayathri[*]
Assistant Professor [#], B.E-Computer Science and Engineering[$][*]
Department of Computer Science and Engineering [#][$][*]
SNS College of Engineering [#][$][*]

Abstract

License Monitoring is based on the Client-Server environment in which admin creates the license and it is maintained by officials. It is implemented in Adaptive Mobile platform by using Android application. This license management enhances the Mobile Agent technology using Agent-Based Distributed and Adaptive Platforms for Transportation Systems (ADAPTS), which is effective and feasible verification of license in traffic. The clients store the data in a centralized server and it is retrieved by using ID3 algorithm which is more secured by avoiding redundant and inconsistent data. This android application illustrates the use of autonomy, mobility and adaptability of mobile agents to deals with license monitoring over the environment and to identify the fake driving license card and can collect other details. By using this system, most of the road side crimes can be avoided and can ensure the proper rules for all kinds of vehicle.

Keywords— *Client-Server; ADAPTS; Mobile agent; ID3 algorithm.*

I. INTRODUCTION

With more advanced technologies around the world instead of maintaining and verifying manually, the centralized server database helps in License Monitoring system. The updated data from the centralized server can be viewed with the help of internet based android devices or through web pages with proper security authentication.

Agent Based Distributed[3] is one of the powerful technologies rapidly emerging on the dynamic environment for the development of distributed complex systems. Mobile agent technology is a program or person for transferring the information from one environment to another by using RPC (Remote Procedure Call), that provides enormous computing and power resources for the emergence of complex and powerful organization. This is solved and updated in the centralized server by configuring the server as sub server and as sub system. The Mobile agent technology[2] is to attract the attention of the transportation field between any networks by implementing passive or autonomous nodes and for handling the uncertainties and inconstant states in dynamic environment. The multiagent technology motivates on negotiation and collaboration between static agents for coordination and optimization. By using the multi agent technology, it has an advantage of mobile agent's performance is better than any static agent system. This system enhances the capacity in controlled devices and saves their storage, which helps in reducing their updates and replacement rates and results in the advancement of license control.

II. LITERATURE SURVEY

Based on the implementation of Agent-Based technology in traffic and transport management[3], the entire license monitoring application was evolved to make the next level of transportation system. Mobile agents[2] can able to migrate the data from one host in a network to the other host and execute them in remote host. It takes a long process to enquiry all the database for the license throughout the records. The multi agents and the intelligent agents have made the searching process simpler and easier than the single agents. The connectivity is made between the centralized server and the android application to access the system at a time in many places. According to ID3 algorithm, an expert collects the database is very faster than the new one for storing and retrieving the data.

III. SYSTEM ESSENTIAL

This system includes the basic needs of the Agent-based technology. It connects the server with the client using RPC and stores the data using ID3 (Iterative Dichotomiser 3) algorithm. The ID3 algorithm uses information gained from the server for deciding which attribute goes into a decision node for predicting future samples. The other basic needs for the license monitoring system are mentioned below.

A. Mobile Agents

Mobile Agents[1] plays a major role by connecting all the server and clients into a network. Mobile agents are the person or program that connects the network between any two different servers by using RPC algorithm. RPC is a procedure call which is used in Client/Server model by sending the request and respond message. By using this algorithm, the network fault tolerance can be rectified.

B. User Details

The user rights will be decided by the admin, other than official users the application used

for just enquiring the information. The non-official users can make their feedback and suggestion about that system. The complaint regarding the theft vehicle information can be uploaded by the normal users.

The official users are higher officials or inspector and the constable. The higher officials can edit or add the punishable database or about any theft information. The constables can use the application for license verification or any other vehicle crime cases.

C. Database

The Client/Server database enrolled into the Centralized Server and Sub servers for collecting and storing all the information of the users. Whenever the user details are collected, it will be stored in the database and it can be updated by higher officials. This provides the higher bandwidth for the allocated memory to access more number of users at a time. Others cannot able to update or add the details because this web server provides more security.

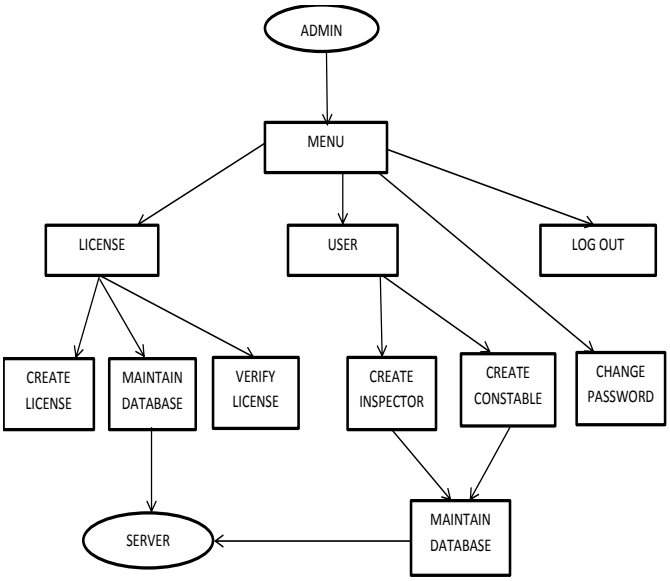
IV. EXISTING SYSTEM

Intelligent transportation clouds could provide services such as decision support, a standard development environment for data traffic management strategies, and so on. With mobile agent technology, an urban management system based on Agent-Based Distributed[3] and Adaptive Platforms for Transportation Systems (Adapts)[3] is both feasible and effective. The Agent-Based technology is implemented in traffic and transportation system for the dynamic changes in the environment. The manual records were maintained and the retrieval of any data will take a long time. The verification of license needs a long process and easily couldn't identify the duplicate license.

V. PROPOSED SYSTEM

The concept of introducing the prototype in urban-traffic management system using intelligent data traffic clouds, so updating the information can be easily done in centralized server by configuring it into many sub server and sub system. This made the utilization of data more faster manner in the end user to avoid the traffic. So simply by entering the license number of the person, their details can be grabbed within a second. Any records of the person can be received and can be updated immediately, if any criminal records were punished. This system is implemented in Android application, so that the application can be used by any number of user and able to maintain the database in the server using ID3 algorithm. ID3 algorithm connects the different user network for making the system more advanced with the experienced agent.

VI. ARCHITECTURAL DESIGN



VII. MODULE SPLIT – UP

- License Server Creation
- Centralizing the Data
- User Rights
- Information Warehouse
- Mining data from Server using ID3
- Vehicle theft information

A. License Server Module

This is the initial step and it will work after validating the license to the user. Here a license details will be created for user and even a card will be issued to a new user. All the basic information of the user will be issued here like their date of issue, driving for two wheelers or four wheelers or for heavy vehicles. While issuing the card there will be no punishment details updated.

B. Centralizing The Data Module

This is the most important module in this project, because the updating details will be stored in the centralized server and the sub servers. A prior admin will be allocated to access these details. They will be permitted to update the details too. All the centralized details will be available in the web server so that user or admin can able to access the server anywhere at any time. There will be more security provided to the centralized server and high bandwidth will be allocated to access more number of users at a same time.

C. User Rights Module

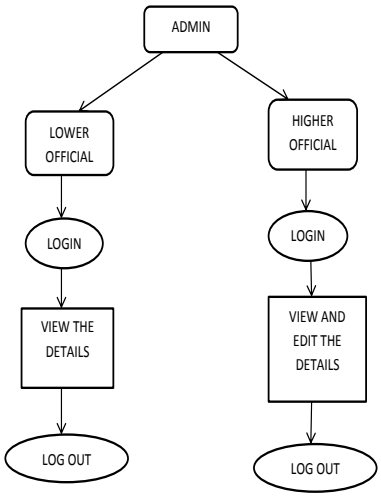
In this project, there are two types of users are available. These users are decided by the admin

1. Viewer (Police Constables)
2. Updates (Inspectors or Higher officials)

The viewer will be the lower officials, so that using their android devices they can able to view the details of the license holder. The responsibility of these users will be less. So that in case of any criminal activities done by the license holder that details can be viewed by the police constable and they will be produces in the police station.

The higher officials will have an individual login for viewing the license details. So that by using this login, higher officials can able to apply punishments to the license holder and even the admin could not make changes in the applied punishments.

Data Flow Diagram



D. Information Warehouse Module

A special server will be designed to store all these confidential information as well as prior security provided by the system admin. User will be permitted to access any details from the card; they are simply the card holders. The accessing agents are the admin here. That detail too will be stored in the centralized server.

E. Mining Data From Server Using Id3 Module

In this server accessing the data, ID3 algorithm has been implemented. Admin plays a most important role here. Admin having a special login to access the license card from the user. Here the data will be mined according to the admin role. Incase of a police man they can mine the license and other information relevant to license. And even they can able to update the black marks for the users. It can be accessed by other policeman in some other area, he can able to see the black mark updated by the other admin.

F. Vehicle Theft Information Module

The vehicle theft information mainly deals with user. User can update their vehicle theft information and it will be shared to all inspector and constable login. So they can take necessary steps to capture the theft vehicles.

VI. CONCLUSION

On concluding this agent based mobile technology, the license can be monitored under the control of Indian Government. The duplication of license and the road side crimes can be avoided by using this project. By using this project, we can grab the user's information within the second along with their photo. Throughout the India the proper rules can be maintained for all kinds of vehicle.

REFERENCES

[1] https://en.wikipedia.org/wiki/Mobile_agent -Mobile Agent Technology.

[2] Abdelkader Outtagarts, "Mobile Agent-based Applications: a Survey", IJCSNS International Journal of Computer Science and Network Security, VOL 9 No.11,Nov 2009.

[3] M.Rajasekhar Reddy, G. Kalyana Chakravarthy, "An Analysis of Traffic and Transportation System using Agent-Based Application", International Journal of Scientific Engineering and Technology Research, ISSN Vol 3, Sep 20.

[4] M.V.Rajesh, G.Subramanya Saghar, "An Efficient Agent Urban Transportation Systems with the Cloud Computing Simulation", IJAIR, ISSN-2278-7844.

[5] Saleha Ansari, Lovina Hajirawala, Krishnali Pawar, Rajesh Kolte, "Android Application for Agent Based Urban Transportation System using Cloud Computing"4th IRF International Conference,ISBN: 978-93-82702-98-6.