**Blockchain-based Decentralized Trust Management System using vehicular networks**

**Alternate Title: Smart City Traffic Control Management System**

**Aim:**

This project we are going to Provide Trusted Update on Traffic Status so that we can minimize the traffic jam based on blockchain techniques.

**Synopsis:**

In this project we are a going to provide the service of Trust Management which means it is a communication system between various vehicles present in different locations. The main theme of this project is to minimize the traffic jam in road. By this system one user staying in a location can get the traffic update of his destination location without travelling there and based on that he can decide his/her journey and not only that he can also decide the path of his journey based on that traffic update. So that the users time will also be saved these sorts of projects helps in building a smart city.

**Existing System:**

In Existing System it provide the service of transmitting the traffic updates between two or more vehicles and the drawback in that system is we can have a complete trust in that message based on that collected information user has to guess and take an action. This collected information may be correct or may not because there is no surety for this so we decided to take a future enhancement as to provide trust level for the transmitted information’s.

**Proposed System:**

In this paper, we propose a trust level for the user who request for the traffic update and this will be more user friendly approach to users. This is done through analyzing all the possible updates from the users and then based on the collected information a calculation is done based on the majority of suggestions the final conclusion is sent to the traffic requested user and along with that the percentage calculation is also made out of hundred. So that it increases the trust level of the messages and provides a clear idea to the user.

**Modules:**

* **Node creation and Network formation**
* **RSU creation and building communication**
* **Update traffic to RSU**
* **Requesting Traffic Status**

**Node creation and Network Formation:**

User has an initial level Registration Process First we can create a network node assume the communication range of a node is finite. By providing distance and range that is Coverage of a particular node. Node in the network would contain unique name and port number to communicate with other node. Node need to find their nearby neighbor before starting any communication. Neighbor is calculated based on the coverage of each node, when the node comes the coverage range of the other node then the two node will consider as the neighbor node .

**RSU Creation and Building communication:**

Vehicles are equipped with on-board sensors, computers, and communication devices, which are used for data gathering, processing, and sharing. With the help of on-board devices, vehicles can automatically detect traffic-related events and send warning messages to others using vehicle-to-vehicle communications standards. Ratings are generated by message receivers in order to evaluate the dependency of messages. However, they cannot be stored and managed locally in the long term, due to the fast changing traffic environments and limited capacity of on-board devices. Therefore, vehicles need to periodically upload their ratings into the nearby RSUs, which serve as the collectors and hosts for these data. Both vehicles and RSUs are vulnerable to probable attackers, which can severely interfere the operation of trust management systems and thus endanger the traffic safety of vehicles. So we assume that only RSUs are able to calculate the trust value for a certain vehicle based on the collected ratings.

**Update Traffic to RSU:**

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**Requesting Traffic Status:**

This project is this is done through analyzing all the possible updates from the users and then based on the collected information a calculation is done based on the majority of suggestions the final conclusion is sent to the traffic requested user and along with that the percentage calculation is also made out of hundred. So that it increases the trust level of the messages and provides a clear idea to the user.

**Software Requirements**

* Windows 7 and above
* JDK 1.7
* J2EE
* Tomcat 7.0
* MySQL

**Hardware Requirements**

* Hard Disk : 80GB and Above
* RAM : 4GB and Above
* Processor : P IV and Above

**Technology Used**

* + - J2EE (JSP, Servlets), JavaScript, HTML, CSS, AJAX.

**Architecture:**

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Users

Login and Registration

Database

Requesting Traffic

Update Traffic

Establish Data

Communication

Node Creation