# A MULTI-HOP BROADCAST PROTOCOL FROM EMERGENCY MESSAGE DISSEMINATION IN URBAN VEHICULAR AD-HOC NETWORK

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**Abstract:** In VANETs, safety related applications usually operate based on wireless broadcast since warning messages (e.g., accident, blocked street, traffic etc.) need to be delivered to all nearby related vehicles. Real time safety related applications, a delayed emergency message may cause a terrible traffic accident, and thus the latency of the emergency message should be minimized. However, in VANETs multi-hop emergency message transmissions are indispensable due to the limited wireless communication range, and to quickly select a remote forwarding node to relay emergency message. Now in the project using server connection only the vehicle which met with an accident get the latitude and longitude value using google maps API and share the same latitude and longitude values to nearby vehicles and at the same time, it alerts the Police Control Room and Emergency control centre with an emergency alert message. Alocalhost connection is made in this project. In order to alleviate message redundancy and reduce message latency, some integrated proposals have been presented by taking into account that the emergency message broadcast at intersections in the urban scenario. Then directional broadcast is adopted at each hop until the emergency message reaches an intersection area where multicast is performed again, which finally enables the emergency information to cover the target area. Analysis and simulation results shows that the proposed UMBP significantly increases the performance of multi-hop broadcast in terms of one-hop delay, propagation speed and reception rate.

***Keywords: Biometric, Authentication, Credit/Debit card, Finger print recognition, Card less payment.***

## I. INTRODUCTION

In Vehicular Adhoc networks, multi-hop wireless broadcast has been considered as an evolving technology to support safety-related applications that provides quality of service requirements such as less latency, more reliability, scalability, etc. However, in the urban environment, the effectiveness of multi-hop broadcast is challenging because of its critical road structure, extreme channel contention, message redundancy and other difficulties.

In this, we propose an urban multi-hop broadcast protocol (UMBP) to spread emergency messages. To decrease emergency message transmission delay and to minimize message redundancy, UMBP comprises a novel forwarding node selection scheme that uses iterative partition, mini-slot, and black-burst to rapidly select remote neighbouring nodes, and the single forwarding node is chosen by the asynchronous contention among them successfully. Later, bidirectional broadcast, multi-directional broadcast, and directional broadcast are depicted related to the positions of the emergency message senders. Specifically, at the first hop, bidirectional broadcast or multi-directional broadcast controls the forwarding node selection scheme at various directions simultaneously, and a single forwarding node is chosen in each direction successfully.

Then, directional broadcast is selected at each hop in the message propagation direction until the emergency message attains an intersection area where multi-directional broadcast is performed again, which conclusively allows the emergency message to cover the target area seamlessly. Analysis and simulation results show that the proposed UMBP importantly upgrades the performance of multi-hop broadcast in terms of one-hop delay, message propagation speed, and message reception rate.

## II. EXISTING SYSTEM

Only the traffic and the place information was used in the existing system. Also in the existing system, we cannot pass the emergency messages from one car to another car. Further, the information regarding the accident could not be shared with the neighboring cars or cannot be shared with any other emergency services. It also has the disadvantage of locating the place correctly from google maps to control traffic and since the emergency information cannot pass the latitude and longitude values, the neighboring vehicles cannot be connected.

### DISADVANTAGES

- The facility of connecting with the neighboring vehicles is not possible.

- The passing of emergency messages to the nearby hospitals is also not possible in this system.

## III. PROPOSED SYSTEM

We propose a system that integrates several features of the existing system. The proposed system includes notifying the accidents and emergency that has occurred to the neighbouring vehicles so that they can choose an alternative route for them to travel.

### ADVANTAGES OF THE PROPOSED SYSTEM:

- The emergency messages can be passed to the nearby police station and to the emergency services.
- This system can connect with the neighbouring vehicles to provide them with alternative way in case of emergency or any accidents.

## IV. INTERFACES IN OUR PROPOSED WORK:

### VEHICLE INTERFACE

This module has vehicle details which we store in the database that contains vehicles specifications such as the number of the vehicle and the model of the vehicle. It has a sensor interface in every vehicle for communicating with the other vehicles. The communication and connection between the vehicles is performed using VANET.

### ACCIDENT ZONES

In case of safety-related data, the delay should be low and predictable, as these messages are most important that it should be delivered fast. It summarizes the background and the related work on medium access control layer for vehicular communications and congestion control mechanisms. The basics of EDCA and the DCC mechanism is explained and it further helps in identifying the target and how they should be applied. A set of performance indicators for communication protocol evaluation is explained. If any accident happens in a particular location, then every vehicle in that area can find out about the incident.

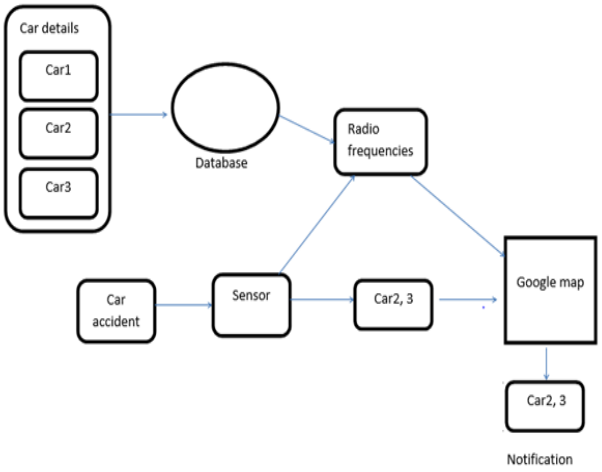
### RADIO FREQUENCIES

RFID system is used to carry data in appropriate transponders, generally known as tags to retrieve data, by machine-readable at a suitable time and to fulfil particular application's need. Data within a given tag may provide identification for an item, goods in transit, the location and the identity of a vehicle or an animal or individual. By containing additional data, the potential is provided for supporting applications through item specific details or through instructions which is immediately available on the tag. For example, the colour of a car body entering a paint spray area on the production line, the set-up instructions and so on can be viewed.

### NOTIFICATION TO VEHICLES:

This module contains vehicles that communicates through sensor. For example, in the urban areas if any accident occurs, an alert can be passed to other vehicles so that the traffic problems are solved as the neighbouring vehicles can take another route other than the accident spot. This module shows the place using google map with the help of GPS so that the other vehicles can take alternate routes to their destination.

## V. BLOCK DIAGRAM




## VI. EXPERIMENTAL PHASE

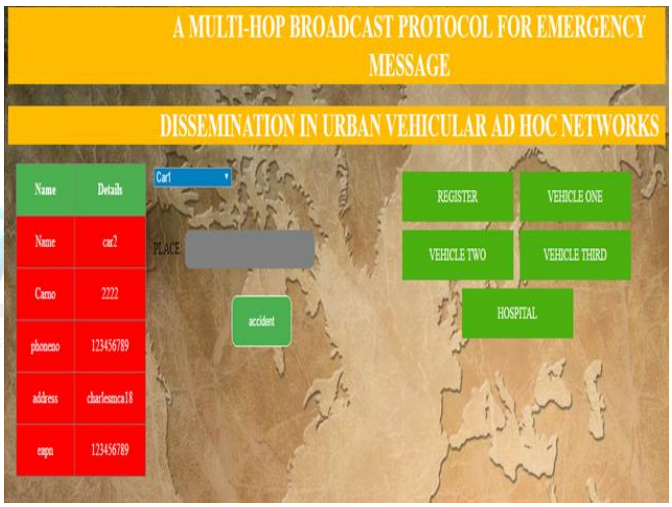



**Figure 2: Admin login**

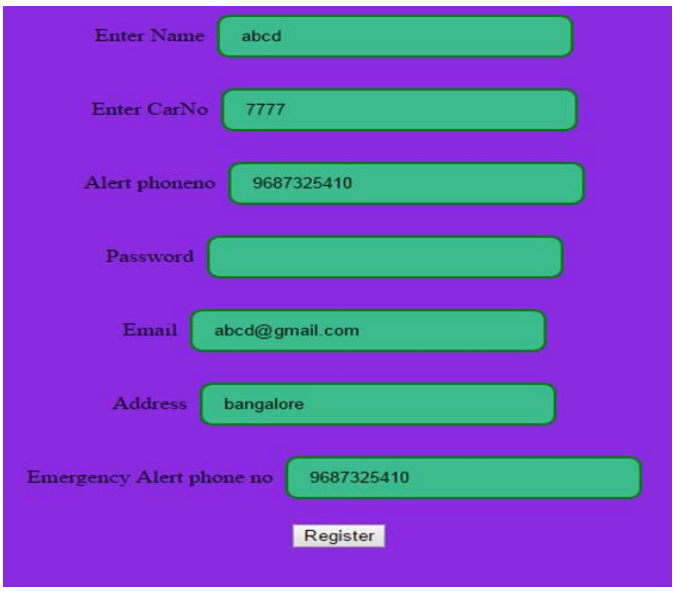
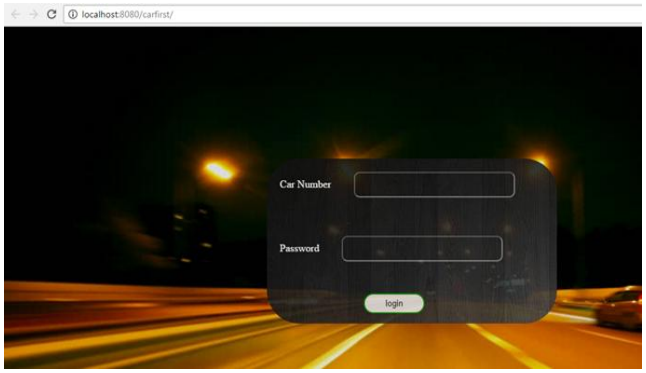



**Figure 3: User Registration**



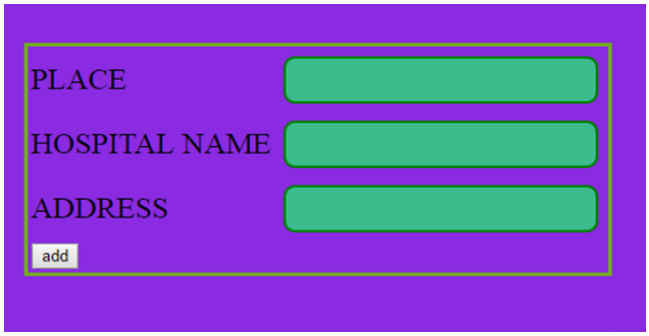




**Figure 5:Hospital Registration**

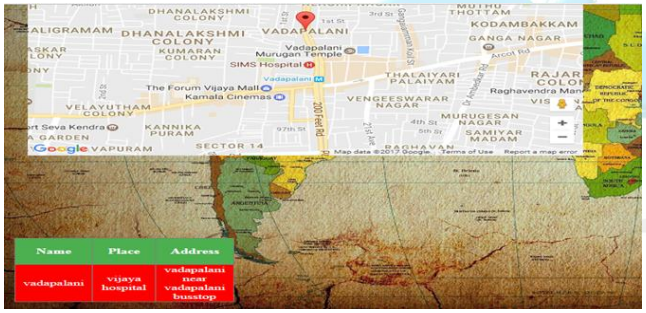



**Figure 6:Accident car's view**


**Figure 7: Other car's view in that route**

## VII. CONCLUSION

The innovation of technology is increasing day by day to reduce time, effort and efficiency to do things. The proposed system has been developed in order to assist the users in emergency situation such as accident and even for others to avoid traffic in their way to destination. It helps in way that it gives alternate route navigation to other drivers in that route in addition to that it gives the location of nearby hospital to the users met with an accident. It helps in communicating with police and hospital for emergency purposes. The database is very confidential one, all aspects done depends upon the consistency of the database. This java application uses google maps for locating the hospital and determining the alternate route for other drivers in that route. The database retrieval and insertion are done in ease manner in order to avoid misuse of the application. The database should be checked for consistency to work properly. This project is developed with help of the open source tools and the system was developed quite feasible with ease.

## VIII. REFERENCE

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