

Safe Rash: An Emergency Traffic Helper & Accident Detector

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Abstract - Today, traffic congestion is one of the prominent factor that acts as a failure in achieving an emergency encounter. In conditions involving the conventional model of signal timing systems and other associated types of traffic management, several encounters are meant to be unsuccessful. This resulted in the vast increment of accidental death cases due to the incomplete mission in lending them to the correspondent medical aids. The main objective of this system is to successfully carry out emergency encounters by the public with the help of traffic authority. For this purpose, an android smartphone with GPS connectivity is used. Both user and traffic police are allotted with tasks. Initially, the user may submit an emergency request through the app. The application thus points to the traffic police; they will correspond the preferred emergency case through the less congested traffic region. After the accomplishment of emergency encounter, the user must submit the supporting proofs towards the administrator through the application. If no proof or fake proof is submitted, specific amount of fine must be remitted. Proposed system is real-time, fast and has low computational cost. Implementation of such a system will fasten the emergency rush and will lead to the increase in saving number of human lives up to an extent.

Key Words: Traffic Authority, Congestion Reduction, Accident Detection, Emergency Encounter, Shake Detection, Conventional Traffic System...

1. INTRODUCTION

Safe Rash is an emergency traffic helper. This is a web based android application which provides a straight forward gateway to reach a particular destination in case of the involvement of any emergency. Public can make an alert to the control room that he/she had met with an emergency, if they need to reach a particular destination within a limited period of time. For this instance, the public need the help of traffic police authority to escape from the heavy traffic on the route. The application also supports an accident detection module, which works on matching the principle information from the user side. This works on the basis of shake detection technology and vibration frequency.

The application is mainly divided into two phases, one for traffic police officers and the second for the public. The traffic police officers have to update the live status of location wherever he has been allotted with the duty. This will be helpful for the public to make a fastest and easiest route. The other important thing is that the police officers will be notified about the route in which the way is chosen by the public. The officers will be up to date about where they reach and also they need to make a clean traffic way for them to reach the destination as early as possible.

The public have to register with this app with the proper personal details and the vehicle's RC details. This is for the security purpose to make the system a perfect system. When a person is met with an emergency, they need to make an emergency alert to control room using their registered profile. They need to choose an easiest non-traffic path according to traffic updates which should be mentioned in the updated alert. Once the emergency is cleared, the public who made an alert to control room have to submit the proof of the emergency (medical/other) through the app so as to check whether the alert is genuine or not. The authority can call the person who made emergency alert for the verification of the proof which he was submitted through application.

1.1 Module Description

The complete project is divided into three modules and the modularization is based on type of the user in the system. The different modules based on the type of the user of the system are:

- ❖ Admin
- ❖ Traffic police
- ❖ Public

The different functional requirement of the user are:

- ❖ **Admin**
 - View registered users
 - Adding traffic police officer
 - View uploads and reports of emergency
 - Accept emergency
 - Request to visit control room
 - List of user (Not submitted the emergency proof)

- ❖ **Traffic Police**
 - Get notification on request
 - View vehicle's updated location
 - Update current traffic information
- ❖ **Public**
 - Register
 - Login
 - Make an emergency alert
 - Set current location
 - Set destination
 - Suggest route according to traffic updates
 - Upload medical/other proof of emergency
 - View status

2. NEED OF THE SYSTEM

The need of this application is important in the existing scenario. As the progression of years, the number of accidents are being increased. Sometimes, this is not due to the human fault. This can be due to the current situation they are undergoing. One of such situations are traffic congestion. Day by day miscellaneous amount of accidents and injuries have been taking part all around. Only minor of the affected are meant to be survived, this may be due to the time gap taken for the proper delivery of the affected one from the prescribed location. The system that we proposed will provide a straight forward gateway to reach at a particular destination in an emergency situation. Vehicular traffic is increasing everywhere in the world and can cause terrible traffic congestion. The system can moreover be implemented in the situation of ultimate emergency traffic congestion at intersections. The traffic lighting system that are exiting was designed with the aim of reducing traffic congestion. But this application is being implemented in the situations of high probe emergencies, this may converge into violent conditions causing the scarcity of proper general resources. The implementation of this type system may succeed up to an extent in situations such as the proper facility for extent emergency situation is null. The situation thus expands through the means of their personal properties which in turn associates with the authority in achieving the mission with utter safety and maximum efficiency.

The existing system involves an automated time traffic model in urban areas. The behavioral characteristics have interactions with the traffic congestion. The signal lightings are allotted a time interval which in turn causes jerk for an emergency encounter. The driving habits; that is the driver's psychological changes are included as a factor. Although officials carried out researches and made a number of specification recommends, there are still some issues that needs further investigation. The existing system only describes about the behavioral aspects of human being in controlling traffic congestion. The proposed

system aims at not only the traffic control also avoid accidents. The project mainly aims to correlate the traffic congestion control and helping people to reach at required destination. The major scope for applying this concept is to simplify the congested traffic. The task can be attained through traffic police.

2.1 Major Roles

- To provide a straight forward gateway to reach a particular destination in case of the occurrence of any emergency.
- Public and traffic police play the key roles in the system.
- Public submits the emergency request.
- Admin receives the request and forwards to traffic police.
- Traffic police identifies the least congested route and forward to user.
- User achieves the mission through the path directed by traffic police.
- After mission, associated proofs must be submitted by the user to the admin.
- If no proof or fake proof is received a fine will be charged to the user.

3. CONCLUSION

Congestion is a real social problem that needs to be resolved because of its serious effects. The whole traffic control involves directing vehicular and pedestrian traffic around a specified zone, thus ensuring the safety of emergency response teams. This can be done in terms of making an alert to the control room about the emergency and the correspondent authority will be notified about the respective route details. Applying the system will reduce the complexity of public in the aspect of congested or heavy traffic. This can be reduced by implementation of the control over the traffic by an effectively authorized personality or a group. Direct communication among the public and authorities in regard may lead to the simplification of traffic in their terms, and there by congestions caused over the traffic can be removed. Public and Traffic authority plays the key role in this system. Major feature is that the both strategies must go hand in hand. The role of a traffic police is to undertake general traffic and road management tasks. The public must follow the instructions of traffic police so as to make the consistent traffic smoother with regard to the priority. Even though the emergency is encountered for the public, they alone couldn't attain the cent percent completion of task with ease. Such that the traffic authorities join hands with public in achieving the spontaneous emergency tasks simpler and effective. By the implementation of such a kind of strategy, it is clear that the effective mode of achieving emergency in personal means is succeeded. Thus they plays the major roles in the system.

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