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Emergency Location Sharing- Share Your Location

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Abstract - *Our idea is to use a smartphone in the emergency vehicles which can be used to track their location. So if we consider a case in which the vehicle stuck in traffic or any issue, the location could be shared with the nearby traffic police for the essential arrival and effectual clearance of the roadways. Also provided with the information of the arrival of emergency vehicles to their respective locations. So, this application should be installed by the emergency vehicle drivers (Maybe a local vehicle, ambulance, or any lifesaving vehicles) and the traffic police. If the driver needs the traffic police to clear the traffic he can set his location in the app and send a request message to the traffic police. Once the request is sent to the traffic police he will get a message alert and they can track the vehicle to help them.*

Key Words: **Global Positioning System, API, CFLP, Firebase, Route Match Extension.**

1. INTRODUCTION

More number of deaths are caused in ambulances due to traffic delays. Certain times, the ambulances or emergency patients are unseen in a traffic which leads to death. Our idea is to use smartphones in the emergency vehicles which can be used to track their location. So if we consider a case in which the vehicle is stuck in a traffic or any issue, location could be shared to the nearby traffic police for the essential arrival and effectual clearance of the roadways. Also providing with the information of arrival of emergency vehicles to their respective locations. So, this application should be installed by the emergency vehicle drivers (Maybe a local vehicle, ambulance or any lifesaving vehicles) and the traffic police. If the driver is in need of the traffic police in order to clear the traffic, he can set his location in the app and send a request message to the traffic police. Once the request is sent to the traffic police, he will get a message alert and they can track the vehicle in order to help them. Our approach is simple to execute and uses very less operating power, low cost and more advantageous. During the emergency situation the Traffic signal automatically switches to green and allows the ambulance to pass through the road intersections, and the Android application in the mobile phone shares GPS location using interactive map API's, can be shared further by GSM mobile services. Using this data, the ambulance can get the remote traffic assistance from the traffic control room. Station and communication networks, trained professionals, administrators aiming to work in coordination for success. Having the primary concern as emergencies, planning of this system requires significant work to ensure serving the public at its best. Other than administrative decisions, planning of physical infrastructure, primarily locating emergency vehicles con-statutes a major part in the performance of the system. Various criteria could be important in deciding the locations of emergency vehicle server locations. In addition to location of the vehicles, strategic decisions.

2. LITERATURE SURVEY

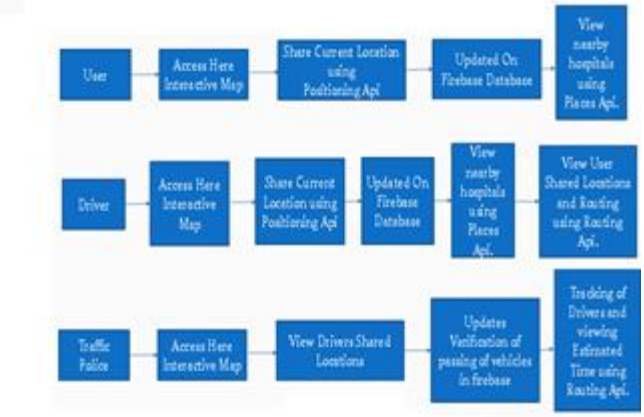
The traffic light control plays a main role in any traffic management system. The green light sequence and green light time span are the two main keys to be considered in traffic light control. In many countries, most traffic lights feature fixed sequences and light length duration. Fixed control methods are however only suitable for stable and regular traffic, but not for dynamic traffic situations. Looking at the present state of practice, the green light sequence is determined without taking the possible presence of emergency vehicles into account. Therefore, emergency vehicles such as ambulances, police cars, fire engines, etc. Which delays their arrival at their destination causing loss of lives and property. Deterministic and probabilistic studies are reported on both location analysis of ES in the literature. Hakimi first proposed a p-Median model for the locations of switching centres in telephone networks as a deterministic deliberant used coverage decay function in a generalization of maximal coverage and median-based models. Used weighted p-median problem in assigning medical assistants to population centre's and then Capacitated Facility Location Problem (CFLP) was solved to assign these medical assistants to resupply centre's.

3. METHODOLOGY

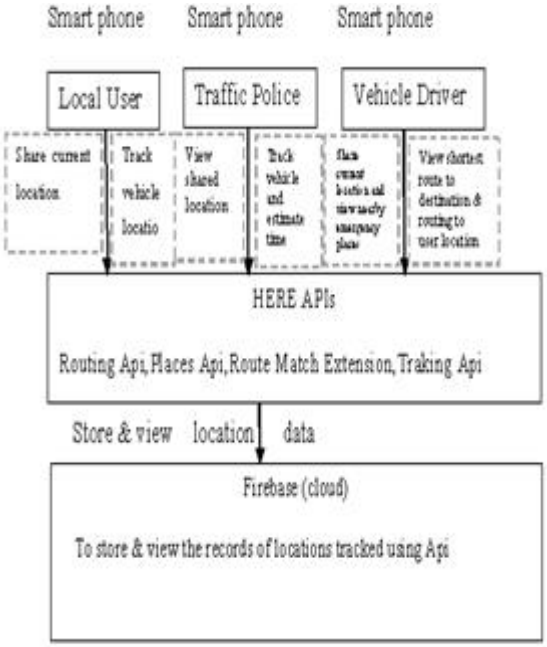
The main goal of this is to reduce the travel time of an ambulance to the hospital by automatically clearing the lane, before the ambulance reaches the intersection. This system is to make it possible for the ambulance to reach a particular location without having it to stop anywhere until the destination is reached.

- In this, it can be integrated to share locations to hospitals regarding arrival of ambulances and their estimated time of arrival.
- This solution can be embedded in every emergency vehicles such that every vehicle will be monitored and in case any problems arise they it can be solved instantly.
- Notifications can be added on traffic police and driver module on any location being shared.
- Providing routes to nearby hospitals with shortest path and providing information regarding the hospital.

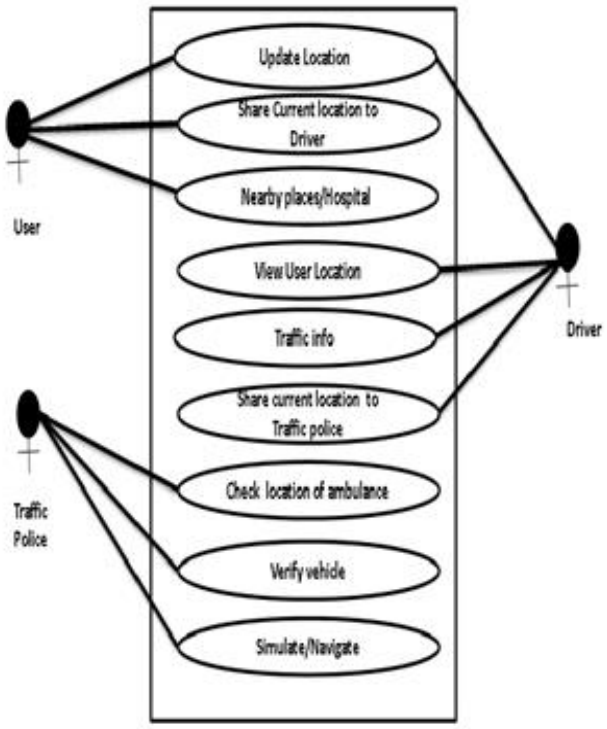
3.1 System Architecture:



3.2 Software Design Implementation:



3.3 Use Cases:



4. RESULT

This Android based Emergency location sharing application will provide flexibility to ambulances and other emergency vehicles to move faster when stuck in the traffic and also when any kind of accident happens it will help to arrange vehicles by sharing the location of the person and it will navigate ambulances from starting places to the nearby hospital. This information will be shared to the traffic police also to make the road clear for the ambulance.

5. CONCLUSIONS

This method can help the ambulance to reach the hospital with lesser time consumption. In critical situations this concept holds good. Our approach is simple to execute and uses very less operating power, low cost and more advantageous. During the emergency situation the Traffic signal automatically switches to green and allows the ambulance to pass through the road intersections. Using this data the ambulance can get the remote traffic assistance from the traffic control room reducing the time delay. The result shows the efficiency in clearing traffic congestion for ambulances. This system is more advantageous when compared to other systems. In future the navigation sensor can also be fitted with the existing system, which is useful in finding the ambulance in 360 degree and controlling the 4 way traffic.

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REFERENCES

[1] Malik Tubaishat, Qi Qi, Yi Shang and Hongchi Shi, Wireless Sensor- Based Traffic Light Control, IEEE CCNC 2008 Proceedings.

[2] X. Li, W. Shu, M. Li, H.-Y. Huang, P.-E. Luo and M.-Y. Wu, Performance Evaluation of Vehicle-Based Mobile Sensor Networks for Traffic Monitoring, IEEE Transactions on Vehicular Technology.

[3] Sharma, R. Chaki and U. Bhattacharya, Applications of Wireless Sensor Network in Intelligent Traffic System: A Review, Electronics Computer Technology (ICECT), 2011 3rd International Conference on Issue Date: 8-10 April 2011.

[4] Azeem Uddin, Draft, 23 March 2009. Traffic congestion in Indian cities: Challenges of a Rising power. http://www.visionwebsite.eu/UserFiles/File/filedascaricare/Scientifci%20Partners,Papers%28Kyoto%29/Draft_koc_Azeem%20Uddin.pdf

[5] FHWA-HRT-06-108.October 2006. TrafficDetector Handbook: Third Edition—Volume-I. http://www.fhwa.dot.gov/publications/research/operations/its/06108/

[6] Bing-Fei Wu. Dept of Electr. And control eng, Nat. Chiao Tung Univ, Hsinchu, Taiwan. A new Approach to Video-based Traffic surveillance using fuzzy hybrid Information Inference Mechanism. March 2013.IEEE Intelligent Traffic Society.

[7] Hussain, T.M.; Dept. of Electr. Eng., City Univ. of New York, NY, USA; Saadawi, T.N. ; Ahmed, S.A.: Overhead infrared sensor for monitoring vehicular traffic: Vehicular Technology, IEEE Transactions on (Volume:42 , Issue: 4) 0018-9545

[8] J.Gan, L. Yuan, Z. Sheng and T. Xu, Construction and Implementation of an Integrated WSID Traffic Monitoring Network System, Proc. 21st Annual International Conference on Chinese Control and Decision Conference.