Application for Intelligent Transportation and Emergency System

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Abstract – Application for emergency system .when the application is activated by any client, the request is sent to the corresponding server, then server verify the type of request and connect to the required area local traffic server and with mobile agent technology, response is given to the client or user by that local traffic server, by this way traffic controller easy to handle all emergency situation. It is the application for emergency system. Using this application ambulance driver can exactly known accident sport with the help of Google map,more over local traffic controller directly interact with ambulance drive, so in this way traffic controller can know ambulance current location from receive gps co-ordinate from ambulance driver app. Then traffic controller can clear ambulance coming route, ex. Change green signal when ambulance come nearby traffic signal.

Index Terms – Traffic, Signal, Sensor, Congestion.

1. INTRODUCTION

Time is of the essence when ambulances are utilized to save people's lives, but when an ambulance needs to pass through a junction, its speed often must be reduced due to traffic. This complicates situations when the patient in the ambulance needs urgent treatment that can be administered only at a hospital. Due to the unavailability of advanced medical procedures in an ambulance, there is the possibility for patients to suffer a loss of life. In Karnataka, India, the government has introduced a service for ambulances called *108*. This 108 service is used to admit patients to the nearest hospital. For example, in Bangalore, India, this service is being used, but everything gets thrown for a loop whenever an ambulance gets stuck in traffic. It may take hours to clear the traffic and, in the meantime, the patient's situation may become critical. Traffic control is a challenging issue in the urban cities of India, as is the case in much of the rest of the world. Bluetooth technology is a wireless standard designed to operate low-power wireless sensor networks, and it can aid emergency vehicles in dealing with traffic congestion.

2. RELATED WORKS

[1]. It is one of the novel issues of the world regarding the location of ambulance stations within a given area to cover the maximum amount of demand is studied. In this study, the classic version of location problem is improved using the double coverage models so that two radii are considered for covering. Furthermore, the developed study contains the meaningful factors indicating the demand for each patient location covered by each station (vehicle location). In the proposed model, the uncertainty existed in the travel time between the patient locations and vehicle locations have been considered as triangular fuzzy numbers. To solve the proposed model, the goal programming approach is applied in the GAMS software and desired outputs have been achieved. The obtainedresults represent a significant improvement compared to the past models with uncertainty.

[2]. The Internet of Things (IoT) systems enable the communication of a diverse suite of devices and objects, however it is known that security is one of the major problems in these systems. This is mainly due to the fact that IOT devices work with very limited computational power and energy budget and conventional cryptographic techniques will be too expensive. To this end, we propose a novel hybrid security protocol and demonstrate its suitability through a real time ambulance service tracking application. First, we discuss practical problem that is of lack of information shared during transfer of a patient inambulance to hospital. We provide a solution to this with an IOT enabled ambulance tracking system. Second, we provide a secure protocol for IoT devices specific to the tracking system. The protocol uses implementation of AES-CCM optimized for IoT devices. It provides the basic communication requirements such as confidentiality, authentication and data integrity. The system work in a Server-Client model and we use dual channel to

communicate with the IoT module. One secure channel (SMS), through which key exchange occurs, and one insecure(Internet), through which encrypted data is transferred. Finally, we present the evaluation metric of the proposed system including memory footprint and energy consumption.

[3]. The management of pre hospital logistics is addressed by several researchers. That is due to the big impact that has healthcare around the city development. Thus, optimizing emergency traffic helps to smart cities growth. This paper includes coverage problems existing in literature and addresses the ambulance allocation to cover sectors in Casablanca region of Morocco and minimize the lateness of emergency intervention. Our work proposes a comparison between a heuristic method and an ACO 'Ant Colony Optimization' algorithm. Instances are given by real data of the existing emergency location in Casablanca region. As a result, the ACO hybridized by a guided local search provides a distributionof ambulances at potential waiting site (hospital and fire station), and minimizes the total lateness of emergency intervention. The ACO gives best results than the heuristic.

[4]. Over the years, several ambulance location models have been discussed in the literature. Most of these models have been further developed to take more complicated situations into account. However, the existing standard models have never been compared computationally according to the criteria used in practice. In this paper, we compare several ambulance location models on coverage and response time criteria. In addition tofour standard ambulance location models from the literature, we also present two models that focus on average and expected response times. The computational results show that the Maximum Expected Covering Location Problem (MEXCLP) and the Expected Response Time Model (ERTM) perform the best over all considered criteria. However, as the computation times for ERTM are long, we advice to use the MEXCLP except when response times are more important than coverage.

3. EXISTING WORK

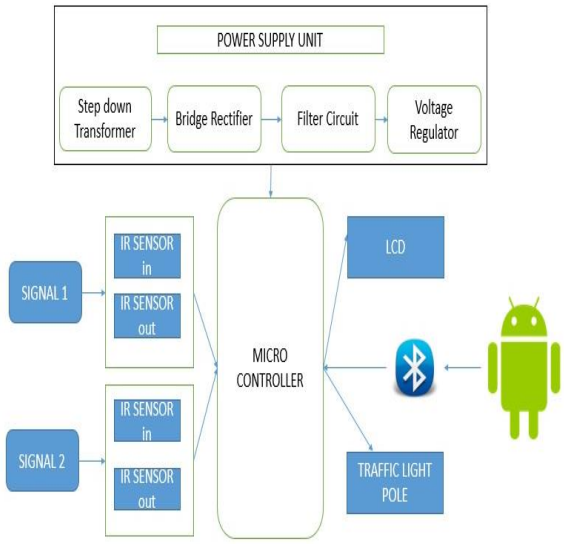
In existing system, public and emt cannot directly communicate with traffic server, if notify any emergency purpose and traffic control officers not manage emergency vehicles (like ambulance), In existing system, there is no client side application for notify accident sport. And also there is no interaction between ambulance driver and local traffic controller. It's a complex system notify any emergency process

1 There is no application for co-ordinate public, ambulance driver, and traffic controller.
2 It's a complex system notify any emergency process.
3 Ambulance driver hard to know exact accident sport

4. PROPOSED WORK

In proposed system we create on client mobile application, client can notify accident location to main server using this application. Main server gets address of the received GPS co-ordinate for find local area medical server. Medical server stored ambulance driver contacts. Then ambulance driver receive notification from medical server. Notification show exact location of accident sport in Google map. And also ambulance driver app automatically synchronized with local traffic controller, so traffic controller can clear traffic for ambulance upcoming route.

5. ARCHITECTURE DIAGRAM



6. CONCLUSION

Thus the automatic traffic clearance system for ambulance will be very useful to the civilians who are in very need of medical attention. With the help of this application the users can find their way to the hospital within less time. In future this project will be having an Artificial intelligence which guides the ambulance automatically without any user guidance.

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