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Research Article

A REVIEW ON HEART ATTACK PREDICTION IN VEHICULAR ADHOC NETWORK

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A R T I C L E I N F O

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A B S T R A C T

In this paper we have discussed about E-Health application in Vehicular adhoc network and IOT. Various road models are discussed in VANET for maximizing throughput and reducing delay. The main purpose of studying these models is to reduce collision amongst vehicles. This study analyzes how the information is gathered from the environment by the vehicles and is fed to the drivers for and managing the traffic. Various wearable Sensor based techniques are discussed which outcomes in each qualitative E-Health application.

INTRODUCTION

In today world the focus of automobile engineering has been solely on the driver safety, and with the introduction of a number of security features, the number of automobile casualties can be drastically decreased. Although, modern vehicles are equipped with features such as: GPS (Global Positioning System), augmented reality display, and integration with smartphone devices. However, there is no dedicated facility in the automobiles that can track the physical health condition of the driver or the passengers. Contrarily, various smartphones and smartwatches are equipped with health n sensors such as: heart rate monitor, temperature monitor and calorie counter that can be used by individuals to track their health status on the go. The vehicular adhoc networks is the self-configuring type of network which can join or leave the network when they want. The vehicle can converse with each other to interchange information with each. The vehicles will pass the sensed information to the servers which can take required actions as soon as possible. The internet of things is the technology which can pass the information to the internet.

LITERATURE REVIEW

Samr Ali *et.al* (2017) stated in this paper [1] that there are large numbers of researches being done in the fields of IoT due to their growing popularity. The area which is gaining popularity in very recent times is the E-health application in IoT networks. With the introduction of new concepts such as Mobile Edge Computing (MEC) which is characterized by latency sensitivity and geographical awareness, the networking and communication fields are facing problems. The programming of the network with the separation of data plane and control level is known as the Software Defined Network (SDN). This also provides global intelligence for the networks. A novel IoT e-health service is proposed in this paper by merging all such technologies. The Real-time Heart Attack Mobile Detection Service (RHAMDS) method is proposed here with the help of voice and gesture controls provided from the smart watches. The response time of emergency aid for heart attack patients is enhanced with the utilization of RHAMDS within the VANETs specifically. This helps in preventing any types of collisions amongst the vehicles. The experiments are conducted to analyse the performance of this proposed technique. It is seen through the simulation fallouts the planned method achieved improved results in comparison to the existing approaches.

MoumenaChaqfeh, *et.al* (2016) presented in this paper [2] that in order to provide latest services to smart cities, the IoT aims to connect the innumerable sensors present with the Internet. There might raise the progression of Internet of Vehicles (IoV) from prevailing systems which might help in delivering the numerous services to drivers. The services might be provided by incorporating the vehicles, sensors, and the mobile devices with the global network. With the aim to improve the daily lives of users by providing them solutions related to the traffics on roads, the Vehicular Cloud Computing (VCC) has been evolving. It also provided the computation resources to the VANET applications. The Intelligent Transportation Systems

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(ITS) are benefitted with the help of the solutions provided to various applications and services. Within the ITS, data collection is an vital part which can help in serving the online mobile systems with the help of Vehicular Cloud (VC). For introducing a data assembly model to improve the ITS systems, a novel design of VCC is proposed in this paper. There is less participation of vehicles in dynamic VC as shown in the results achieved through the experiments conducted. This helps in providing collection of meaningful data to the users.

Prof.Dr.SaadTalib Hasson, *et.al* (2017) proposed in this paper [3] a clustering methods along with various road models which are the part of VANET environment. The Netlogo simulator version (5.2.1) was used in order todesign, run and evaluate the proposed method. In this paper, the various performance parameters were used for analysing the performance of this proposed technique. The parameters included were throughput, endways delay, and the number of packets received. Once all the simulations were performed, various results were achieved. It was seen through these results that the proposed method improved the existing outcomes. Within the two-way road model, the throughput and endways delay were maximized with the growth in the coverage area. Here, in all the three models, the numbers of messages being received are reduced. It is seen that with change in the pause time of the simulation, the throughput also reduces in the single-way road and junction road. However, this is opposite in the case of two-way road that has two pause times in it. Within the two-way, the number of messages being received will increase when there is 50 seconds of pause time given.

Rahul Talreja, *et.al* (2016) proposed in this paper [4] a method that will help in making the roads a safer place for the drivers. Here, the IoT enabled vehicles are to be used for developing the method. The trust levels of each vehicle are assessed in the proposed method along with the behavioural patterns of the drivers. A mobile Agent (MA) is also to be used here that would identify the misbehaving nodes present within the IoT based VANET system. On the basis of an assumption that all the nodes present within the vehicular networks have sensors present within them which can provide them with the necessary information related to the user and behaviour of sensors, the proposed method is established. The design required to introduce this system is laid upon the IoT infrastructure. Other vehicles can thus utilize the leanings from one of the vehicles. This results in establishing an intelligent and safer scenario for the drivers.

Mario Gerla, *et.al* (2014) proposed in this paper [5] the need to establish a secure environment for the drivers which can help in saving the lives of all others. There have been numerous advancements made within these applications for improving the existing systems to avoid collisions of vehicles. The communications, controls as well as the embedded systems are also to be enhanced in this model which might provide the Intelligent Vehicle Grid. The information is gathered from the environment by the vehicles and is fed to the drivers and infrastructure so that they can help in navigation and pollution control and managing the traffic. Further, various enhancements are made within the internet of autonomous vehicles as well. All the services that are needed for the autonomous vehicles are provided by the proposed method in an enhanced manner. The complete evolution of systems from Smart Vehicle Grid to Self-directed to Internetconnected Vehicles and then further vehicular cloud are explained within this paper as well.

MoeenHassanalieragh, *et.al* (2015) presented in this paper [6] that the applications that are involved within the health care services are of major importance amongst all the applications that involve IoT. The information related to the physical and mental health is collected either by deploying the sensors on the body or within it. This information can only help in providing the detailed update of the patients after certain time duration. This information is attached with the new generation of smart processing algorithms. This can help in providing growth to the medicines that are being utilized from past as per the new diagnosis and provide better treatments to the diseases. This can also provide a personal treatment and management of the options that are targeted specifically at specific situations and are required by different individuals. There is an improvement in the overall outcomes which can thus minimize the costs of the systems.

Mohammed Ghazal *et.al* (2015) propose a smart queue management system that gives you real-time provider demand update to client's smartphones by way of victimization audio and visible feedback. The essential elements of this paper region unit client satisfaction and accelerated individual productiveness rate are at once proportional to the success of the built-in planned system at some point of a provider outlet. This approach additionally focuses on enhancing the high-quality of delayed time on region through providing them a mean of leisure via flooded TV audio, newspapers and downloaded magazines. In the proposed system, the unit is fortified with NFC for scanning their NFC-equipped smartphones and a rapid response (QR) code scanner that may also scan while no longer NFC smartphones and may moreover scan the QR codes for originating a ticket in a system. This paper [7] consists of three units that are Tickets' Registration and Verification Unit, Streaming and Queue Management Unit and an IOT for smart Queuing. The embedded Linux board apparatuses the queue management system via using a database and net servers and enforce a text-to-speech engine that converts the board's data into audio. For streaming, they make use of internet real-time Communications (WebRTC) technology, which has freshly arisen as a leading triumph in web communication systems. By the implementation of this machine the user allows to make a request from virtually any place, alternatively this approach inclined to false ticket improvement wherever user request ticket alternatively now not exhibit up for his or her turn, a model of a denial of service attack.

Amir-Mohammad Rahmani *et.al* (2015) presents [8] the construct of Smart e-health gateway that is a bond for medical sensors and home-grown/hospital edifice automation applications for IP based networks and cloud computing platforms. By exploiting the characteristic strategic position of gateways in IOT architectures the Smart e/Health gateway will tackle several of the challenges in ubiquitous healthcare system like energy efficiency, interoperability, and scalability and reliability issues. They have presented an idea implementation of an IOT-based remote health monitoring system in which the demo of a smart e-Health gateway referred to as UTGATE is introduced, that has efficient local services for health monitoring application like:-local repository, compression data standardization, signal processing, protocol translation and tunnelling, Web-Socket

server, firewall, data mining and notification. System demonstrator includes all data flow process from bioelectrical signal gaining at sensor nodes for remote cloud-based aid centre and web shoppers. By facultative present computing, all the healthcare system entities (individuals, appliances, medicine) may be monitored and managed often and the IOT's property provides some way for monitoring, store and utilize health and wellbeing related data on a 24/7 basis.

Zhijing Qin *et.al* (2014) has introduced [9] an authentic SDNcontroller design via victimization IOT Multinetwork who's central, a alternative characteristic is that the layered primarily based architecture that approves elastic, effective, and efficient management of task, flow, network, and resources. They contributed a novel view of duties and sources in IOT environments and embellish how the breach will be unified between summary highlevel duties and unique low-level network/device resources. A variant of Network Calculus model is settled to precisely estimate the end-to-end flow overall performance in IOT Multinetwork, for serving a novel multi restraints stream scheduling algorithm beneath heterogeneous traffic sample and network links. By Simulation-based authentications, they have shown that the planned go with the flow scheduling algorithm gives higher performance whereas evaluating with current ones. The linguistics modelling strategy performs useful resource matching and the GA-based algorithm schedules flow. This novel layered controller structure helps heterogeneity and flexibility is of predominant significance to successfully manage IOT Multinetwork.

Nguyen B.Truong *et.al* (2015) has been proposed in this paper [10] a novel SDN-based architecture which supports the Fog Computing for protective and non-protective services. Resource management and Fog coordination fashions are regarded right here to construct the Fog framework for this SDN-based VANET. Data streaming and Lane-Change help offerings are illustrated in this architecture. By thinking about specific properties of BS and RSUC this model that are cooperative with SDN Controller for network information which enhance the useful resource consumption and service hosting, migration and imitation. At second course to format protocols at SDN controller for optimizing information forwarding rules alteration, to enhancing load-balancing approach and decreasing service latency via the utilization of the available assets in BSs, RSUCs and OBUs built-in in vehicles. The third ought to be a backup/feedback mechanism in case of failure between automobiles to SDN controller for retaining the services. To simulate test-bed for SDN-based machine more than a few simulators can be used such as ns-2, ns-3 and SUMO and actual test-bed could be built the usage of a variety of switchboards.

Robert Richer *et.al* (2015) in this paper [11] a novel wearable gadget with the functionality of computing the user's cardiac features at some stage in the day, from the one-time heart rate extent following non-stop ECG monitoring. Various smartphone software points were united with the probabilities of wearable gadgets like Google Glass and smart-watches primarily grounded on Android Wear. In addition, novel human pc inter-action principle has been integrated for increasing usability and also grant a viable solution for day by day usage. Each element was premeditated for shaping an built-in gadget that are encountered at some stage in day by day usage. Google Fit platforms permits a subsequent supervision and storing the obtained information in the interior database for the user as properly as physician. By using the developed gadget for cardiac monitoring, it outcomes in each qualitative and quantitative evaluation that is useable for each day life. Daily-Heart is included as an extension for future work to beautify the range of features.

CONCLUSION

In this paper we have discussed about E-Health application in Vehicular adhoc network and IOT models for maximizing throughput and reducing delay. This study analyzes how the information is gathered from the environment by the vehicles and is fed to the drivers for and managing the traffic. Various wearable ECG based Sensors are also studied which outcomes in each qualitative E-Health application. The main purpose of studying behind these models is the reduction of collision amongst the vehicles. The proposed improvement leads to increase reliability of the system and reduce delay of the network. In proposed work, we will also consider the parameters to predict heart attack of the driver.

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