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Ambulance Service

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Abstract: As in India every minute's one person dies because he is not able to reach the hospital in time so we are developing an application which will reduce the time. The main function of these project will reduce the time between ambulance driver and the Patients and it will save someone's life. When the patient or user will open the user application on his smartphone and when he click on emergency button given on application it will directly send its location to the ambulance driver which are available nearby him. We will require two smartphones one for user and other for ambulance driver. Global Positing System (GPS) hardware and uses Google Map Application Programming Interface (API) to plot details of the user and driver on Google Map of the Smartphone. Because of these application we save time as well as we save a life of a human.

Keywords: API, GPS, Ambulance services, IoT.

1.INTRODUCTION

As in India most of the cities are going to be Smart city but as in under the smart city we much back to achieve the word of smart. If we improve efficiency in healthcare sector it is not easy task because of these we will require some time but we can do it. As our project i.e. ambulance application which we have got idea by seeing our day to day life where we can see that every minute and every hour some die because of not reaching. Hospital within time. By seeing these we are developing an application which will easily provide availability of ambulance and decrease extra time which is consume. In our project there is facility of availing the ambulance within the time. In these two java based application are created i.e. one for user based application in which user can call ambulance by clicking one button and second application is for driver of the ambulance where he will receive the notification of the user who is in emergency. Ambulance driver can locate the user by tracking him by GPS. User can also locate that where the ambulance is reached means user can track him by the GPS in user end.

2. OVERVIEW OF OUR PROJECT

2.1 Android

Android is the world's most popular and dominant mobile operating system. It is based on Linux kernel and is open source operating system. It runs on wide variety of hardware including smartphone, smartwatches, cars, televisions, digital cameras, games console and more. It was founded by Andy Rubin and three others in October 2003 and got acquired by Google in August 2005. Android application are easy to develop n easily understandable by everyone. [2.1]

Main Function of android is-

- Broadcast receiver.
- Activity.
- Services.

2.2 GPS

GPS or Global Positioning System **is** a network of orbiting satellites that send precise details of their position in space back to earth. The signals are obtained by GPS receivers, such as navigation devices and are used to calculate the exact position, speed and time at the vehicles location. [2.2].

2.3Firebase database

Firebase is a mobile and web
Application development platform developed by Firebase, Inc. in 2011, then acquired by Google in 2014.
Firebase evolved from Envolve, a prior startup founded by James Tamplin and Andrew Lee in 2011. Envolve provided developers an API that enables the integration of online chat functionality into their websites. After releasing the chat service, Tamplin and Lee found that it was being used to pass application data that weren't chat messages. Developers were using Envolve to sync application data such as game state in real time across their users.
Its main function are storing data, Notification and Authentication. [2.3]

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3. LITERATURE SURVEY

3.1 OLA cab service: - Ola Cabs was founded on 3 December 2010 by Bhavish Aggarwal, currently CEO, and Ankit Bhati. As of 2017, the company has expanded to a network of more than 600,000 vehicles across 110 cities. In November 2014, Ola diversified to incorporate autos on trial basis in Bangalore. Post the trial phase, Ola Auto expanded to other cities like Delhi, Pune, Chennai and Hyderabad and Kolkata starting December 2014. In December 2015, Ola expanded its auto services in Mysore, Chandigarh, Indore, Jaipur and Guwahati, Visakhapatnam. Ola was valued at $US5 billion as of September 2015. [3.1]

3.2) UBER Cab service: - Uber was founded in 2009 as Uber Cab by Garrett Camp, the cofounder of Stumble Upon, and Travis Kalanick, who had sold his Red Swoosh start up for $19 million in 2007. Kalanick joined Camp and gives him & quot full credit for the idea & quot of Uber. On New Year's Eve, Camp spent $800 hiring a private driver with friends and had been mulling over ways to decrease the cost of black car services ever since. He realized that sharing the cost with people could make it affordable, and his idea morphed into Uber. & quot Garrett is the guy who invented that shit, & quot Kalanick said at an early Uber event in San Francisco. The first prototype was built by Camp, and his friends, Oscar Salaza and Conrad Whelan, with Kalanick being brought on as & quot mega advisor & quote to the company. [3.2]

3.3) E-AMBULANCE: Real-Time Integration Platform for Heterogeneous Medical Telemetry System:-
(IEEE Paper by: - *Basem Almadania, Manaf Bin-Yahyaa, Elhadi M. Shakshukib Year 2015)*

The aim is to advance the existing healthcare services with the improvement of sensor networks, Medical devices, wireless communication, middleware software, and end software applications. Indoor and outdoor health monitoring systems attracts many researchers, because they provide early detection of diseases, emergency help, and reducing the medical costs. In health status monitoring systems, periodic physiological statuses of people must be collected using sensors and delivered to medical professionals through a communication system. Alongside this periodic data, these systems must provide emergency reports under critical situations. Gathering of different vital signs depends on the purpose of the healthcare system and its concern. Many patients with critical conditions lose their lives while they are inside an ambulance. This is because they need urgent aid to survive. Medical professionals who may be able to save their lives are serving in medical centers. Therefore, only first aid can be provided in an ambulance and essential treatments will take place in medical centers. Towards this end, this paper proposes an E-Ambulance system to provide remote health monitoring with automatic responses while patients are still in the ambulance. In normal situations, the ambulance is summoned to carry Patients to medical center (such as a hospital). Many issues may occur in regards to patients' conditions and the need to deliver them to a medical center. These issues are classified into two categories: monitoring patients' status and providing urgent responses, and Reaching nearest suitable medical center as soon as possible. The latter category is not fully covered in this paper due to space limitations. [3.3]

3.4) Smart Ambulance System
(IEEE Paper by**: -** Poonam Gupta, Satyasheel Pol, Dharmanath Rahatekar, Avanti Patil)
Emergency medical response in India is lagging behind other countries. This is partially because of lack of technology implementation at ground zero. To address the issue, we are introducing smart ambulance system. It would take India to competitive position in emergency services around the globe. Over the last few years there is a revolutionary development in the field of Internet of Things (IoT). It can be used seamlessly & widely in large number of end system where subset of a large amount of data can be accessed and processed easily and powerfully. IoT and smartphone technologies helps in building a platform which serves every smartphone user. The application collects location information from Global Positing System (GPS) hardware and uses Google Map Application Programming Interface (API) to plot details of the ambulances on the Google Map Client of the Smartphone App. Same functionality can be used for the other module which enables user to find the hospitals with the number of services provided by those in brief manner. With the help of medically equipped and technologically powered ambulance, information about patient's health details can be sent to the hospital in order to take further action. Interaction between the smartphone and the centralized database can be done using Representational State Transfer Application Programming Interface (REST APIs). The platforms that are used, capable of molding into various services that are implemented and it is believed that these technologies can make a revolutionary work in public GPS work if utilized properly.[3.4]

3.5) Smart Band Ambulance System
(IEEE Paper by: - Shubhanshu Singh Patwal, Rohit Kumar, Rishabh Mishra)
In today's time diseases are spreading at a rapid growth especially in densely populated regions, and an easy example is of cardiac which targets specially the elderly people and is more dangerous when they are living alone. To address the issue, we are introducing a smart band ambulance system. It would take India to competitive position in emergency

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services around the globe. In recent times, there has been a revolutionary development in the field of Internet of Things (IoT). It can be used seamlessly to strengthen the emergency medical response via smart band ambulance system, as IoT can also be used widely in large number of end system where large amounts of data can be accessed and processed easily and powerfully. IoT and smart devices helps in building a platform which serves every smart device user where a smart band will continually focus on monitoring heart beats of a person wearing this band. This data will be collected through an application and send to a centralized database, where it will get filtered for any irregularities, and if found any then that person will be informed and if needed an ambulance will be dispatched to their whereabouts. User can see the location of dispatched ambulance with the help of Global Positioning System (GPS) and google maps API on their smartphones. [3.5]

4. TECHNICAL REQUIREMENT

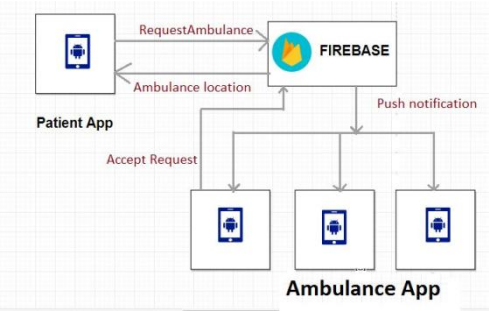
4.1 HARDWARE:-

- Smartphone 2(User and Ambulance Driver)

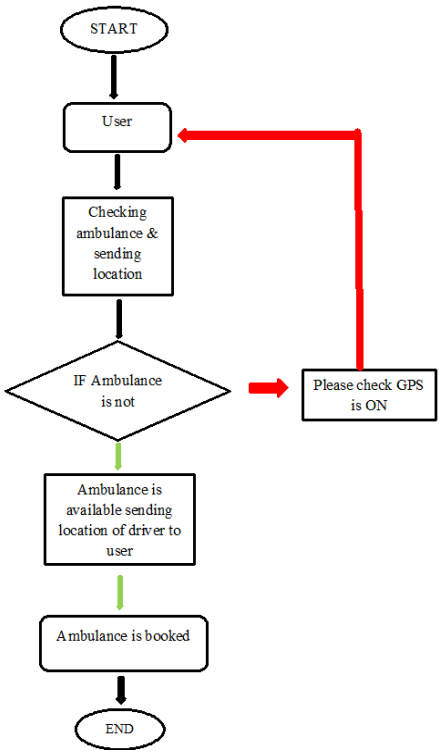
4.2 SOFTWARE:-

- Database
- Android Studio
- GPS connectivity
- Android version 6 and above

5. ARCHITECTURE DIAGRAM



6. FLOWCHART



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6. WORKING OF OUR PROJECT

In our application we are giving facility of booking ambulance like how we book cabs. It will be very important project for us from which we can reduce time and deliver patient on time. In our project there will be two application in which one will be for user/patient and other will be for ambulance driver. It reduces the time which is consumed by third person. In our project data will be kept safely and in systematic way which will easy to keep records of patient and drivers. In our project we can easily locate driver as well as user or patient accurately through which it will reduce the time of calling to each other.

6.1 Algorithm:-

1) Start
2) User
3) Checking ambulance location and sending location to driver
4) IF GPS is not enabled /Enable it.
5) Else
6) Ambulance is available and sending location of driver to user
7) END

CONCLUSION

Our conclusion is that as we have developed our project and it work as we have expected then it will be very successful project which will be useful in our day to day life. And in accordance with smart city project we will be able to go one step forward in health sector.

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