Emergency Ambulance Tracking System using GPS Android Application

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Abstract:- Emerging research results on medical devices, wireless communication, sensors and software applications contribute to the advancement of healthcare facilities. This document uses different methods to implement Android mobile applications to provide efficient and convenient rescue service.Emergency services providers install the app and collect details of available emergency services. The applicant can use the outpatient facilities by registering the details in the application or directly in emergency situations. The applicant can determine the locations of the ambulance manually. Providing the location details or automatically invoking the required option..The mobile application provides the quickest service by distinctive the nearest automobile and guiding through the shortest route to the patient's web site and any to the hospital. international Positioning Service (GPS) facility is employed to trace the placement of registered ambulance services. Google Maps are accustomed show the shortest distance and fastest route. Cloud storage is used for storing the main points of ambulance and users of the application. the foremost valuable service are going to be created on the market tothe destitute with the appearance of existing and trending technologies.

Keyword: - Mobile ambulance, GPS, GIS, tracking , cloud storage, INTEL COREi3 2.4 GHZ, Regional based, XML Design, MYSQL, SERVER 2008, JSON, Optical Mouse.

I INTRODUCTION

In recent years, mobile technology has become an important part of our lives with increasing popularity. Although the use of the mobile core is for telecommunications, currently mobile applications have created several feasible things that were unimaginable. Currently, however, the days for daily activities have changed significantly with the advent of smartphones. In today's world, everyone owns their own cell phone and it has simplified life by handling the complexity of work with ease.The mobile application enables service suppliers to give valuable services to an enormous variety of end-users. Generally, mobile applications are designed for playacting a selected task.With reduced time consumption the popularity of mobile applications has been created noticeable.

II RELATED WORKS

A. P.K. Binu and Viswara.

Ambulance service suppliers install the application and register the main points of the out there machine services. world Positioning Service (GPS) facility is employed to trace the placement of registered ambulance services. Google Maps arewont to show the shortest distance and quickest route. however theaccuracy of positioning isn't abundant sensible compared to positioning system due to the activity and propagation problems. For the connections between the GPS module and Arduino Uno the TXD finish of the GPS ought to be connected to the RXD end of the arduino uno and vice versa, GND ports of both the modules are connected and the voltage provide are connected.

B. Devigayathri P, Amritha Varshini R, Pooja MI, S Subbulakshmi.

Ambulance service suppliers install the application and register the main points of the accessible car services. Global Positioning Service (GPS) facility is employed to trace the placement of registered ambulance services. Google Maps are wont to show the shortest distance and quickest route. however the accuracy of positioning isn't abundant sensible compared to positioning system due to the measuring and propagation problems. For the connections between the GPS module andArduino Uno the TXD finish of the GPS ought to be connectedto the RXD end of the arduino uno and vice versa, GND ports of both the modules are connected and the voltage offer are connected. Cloud storage is employed for storing the main pointsof car and users of the application.

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C. Panahi, S. and Delavar

The proposed system is based mostly on integration ofgeospatial system (GIS) and real-time traffic conditions. in this system dynamic shortest path is employed for emergency vehicle routing. Accomplishing an efficient routing of emergency vehicle will minimize its latent period and can so improve the response performance. holdup could be a essential downside in geographical region that influences the period of vehicles. The aim of this study is developing a spatial decision support system (SDSS) for emergency vehicle routing.The proposed machine is primarily based totally on integration of geospatial information machine (GIS) and real-time site visitorsconditions. In this machine dynamic shortest route is used for emergency car routing. Finally, it's miles proven that the usage of GIS in emergency routing gives a effective functionality for community evaluation, visualization and control of city traffic community. Spatial evaluation abilities of GIS are used to locate the shortest or quickest direction via a community. The person's region is pointed at the Google map or even the ambulance this is close by the person's region is pointed at the Google map. Suppose if there are 3 ambulances in that specific region, their range and longitude are in comparison with all three ambulances, then the only specific ambulance that is round or close by the person is proven. Spatial evaluation abilities of GIS are used to locate the shortest or quickest direction via a community.

D . Shantanu Sarkar

This paper is to endorse a GPS system wherein the GPS tracker could be installation in the ambulance in order that the hospital control can tune down the place of the ambulanceat any time and in the event that they get a name for an emergency case they are able to tune down the ambulance nearest to that place and ship the ambulance to that place to select out up the affected person, this could shop time and couldassist the affected person to attain the medical institution as early as possible. Due to giant growth with inside the range of sufferers the medical institution unearths it tough to ship an ambulance from the medical institution to each affected person's place and if there's a severe case then the affected personmay even die if now no longer taken to the medical institution in time.In the paper An Approach in the direction of Traffic Management System the usage of Density Calculation and Emergency Vehicle Alert , they proposed a machine referred to as Smart Traffic Light Control System that controls the change of traffic lights at intersection factors and offers excessive precedence to emergency motors and Smart Congestion Avoidance System which chooses the shortest routes to the vacation spot having least congestions. According to the paper GPS Based Shortest Path for Ambulances the usage of VANETs, motors may be changed into efficient data creditors through getting them prepared with communique devices.

E. Dr. Senthil Kumar T

The road accident records evaluation use data mining and machine learning techniques, that specialize in figuring out elements that have an effect on the severity of an accident. The manufacturing of this system offers the region of the ambulanceso that it will be proven on Google Maps and on which hospital control is capable of redirect the ambulance to the patient's region. Also, combining the original approach and our proposed approach is expected to further growth the accuracy in detection and make ensemble version greater robust. Cloud computing inaccident evaluation is wanted for fast and well timed computation of sources which includes garage, processing and verbal exchangewhile dealing with the accident in parallel. Cloud computingframework offers many blessings for accident evaluation. While dealing with avenue accident, many computations are involved.

III METHODOLOGY

We proposed an android app for drivers and additionally for users. Modules work at the principle of IoT with the assist of REST APIs. First module is used to discover places of ambulances inside the 5km radius from consumer's area. Once the request has been accepted by the driver, it automatically shares the area. The user can also capable of see the Drivers area. This area is transmitted to the server by executing POST request. Ambulance service providers set up the utility and sign in the info of the to be had ambulance services.

JSON stands for JavaScript Object Notation. JSON is a light-weight layout for storing and transporting statistics. JSON is frequently used whilst statistics is sent from a server to an internet page. JSON is "self-describing" and clean to understand. Aprecursor to the JSON libraries become utilized in a kid's virtual asset buying and selling sport undertaking named Cartoon Orbit at Communities.com for Cartoon Network, which used a browser aspect plug-in with a proprietary messaging layout to govern Dynamic HTML elements . Upon discovery of early Ajax abilties,digiGroups, Noosh, and others used frames to pass facts into theconsumer browsers' field of vision with out fresh a Webapplication's visible context, figuring out real-time wealthy Webprograms the usage of best the usual HTTP, HTML and JavaScript capabilities of Netscape 4.0.5+ and I

Data types

Number: a signed decimal number which can incorporate a fractional element and might use exponential E notation, but cannot consist of non-numbers which includes NaN. The layout makes no difference among integer and floating-point. JavaScript makes use of a double- precisionfloating-point layout for all its numeric values (until later also helps BigInt), however different languages implementing JSON may also encode numbers differently.

String: a sequence of 0 or more Unicode characters. Strings are delimited with double-quotation marks and assist abackslash escaping syntax.

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International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
NCICCT – 2022 Conference Proceedings

Array: an ordered list of 0 or greater elements, every of which can be of any type. Arrays use square bracket notationwith comma-separated elements.

Object: a collection of name–value pairs in which the names (also known as keys) are strings. Objects are meant to represent associative arrays, in which every key is specific insidean object. Objects are delimited with curly brackets and use commas to split every pair, even as inside every pair the colon ':' person separates the important thing or call from its value, null: an empty value, the use of the phrase null.

Applications

Moreover, there are troubles in a few areas like affordability, convenience, and reliability of transport. At instances of emergency, the patient finds it hard to get theambulance facility and they're not capable of cope with the places precise problems which might be relatively unpredictable. Matters are even exacerbated if they're now no longer capable of offer a right cope with while contacting for ambulance provider manually. This consequences in an premature put off of extra than an hour for an emergency provider to attain the accident spot, which in turn delays the treatment process.

GPS (Global Positioning System)

The main cause is to retrieve an appropriate location of the affected man or woman in some unspecified time in the future of the emergency via the GSM Module which mechanically sends the location data through message. It permits to render the ambulance offerings in a brief time feasible. It moreover offers the steering of the shortest course for the ambulance to attain at the destination with the software of modules that uses GSP and Google Maps. Thus, with the usage of the triumphing technology, it's miles feasible to provide the favored ambulance and crucial company on time tothe needy without a lot effort, charge and time. Companies normally start out with the aid of using education algorithms using a large amount of data.

Accident detection and rescue system

They are using an automatically sensing sensor alarmdevice that is embedded in the vehicles.

Cloud Storage

Cloud storage is a service that allows us to store data through the internet to an offsite storage system which is enabled by a third party. There are many various cloud storage systems like personal storage, enterprise storage, etc. which lets to remotely backup solutions where we can securely store and transfer the data.

Cloud has offered data backup, with the use of cloud gateways that utilizes the standard networks protocols to be combined with already existing backup software system and stores the data in thecloud.

IV SYSTEM ARCHITECTURE

2. USER APPLICATION

i). REGISTER

Register includes user name, password, confirm password,address and mobile number.

In this phase, the version is skilled the usage of Sensor flow & Navigation System with the database and if the person faucet the modify button it sends to the ambulance driver who are closer to the person and while the motive force accepts the alert then person can see the region of the motive force through the usage of GPS and GIS. After that, the motive force can stumble on who approached.

V MODULES

The modules include modules in the person and ambulance driving force is processed with the subsequent modules.

1.DRIVER APPLICATION

i) .REGISTER
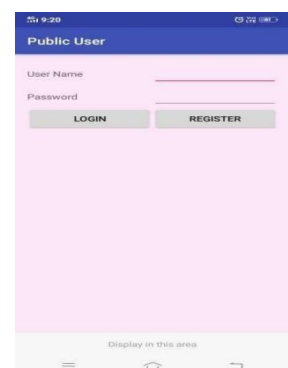Register includes driver name, vehicle number and mobile number.

ii) . LOGIN
By entering the mobile number, Driver can able to login.

iii) . LOCATION ON
The mobile location should be enabled to use this application.

iv) . ACCEPT THE REQUEST
If there is any emergency alerts. The driver need to accept.

ii). LOGIN
By entering the user name and password the user can able tologin.

Special Issue - 2022

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
NCICCT – 2022 Conference Proceedings

iii). LOCATION ON

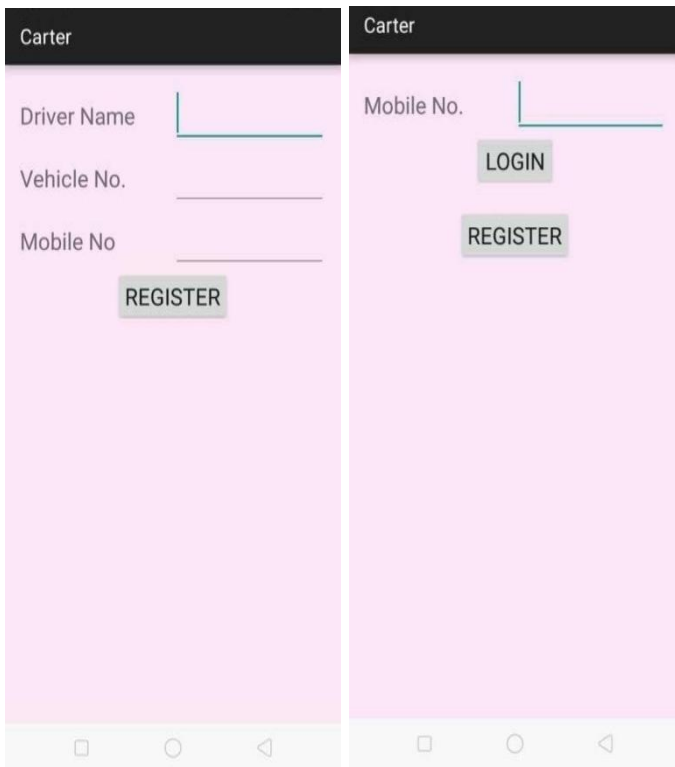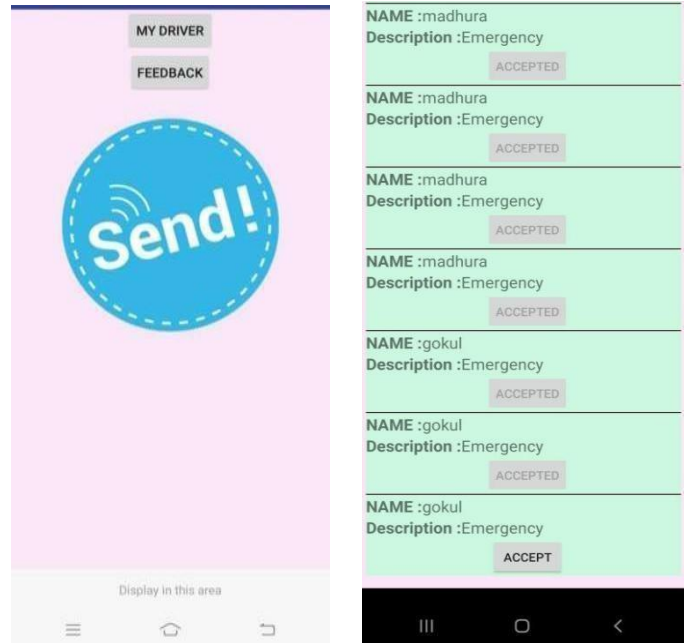The mobile location should be enabled to use this application.

iv). SEND ALERT

There is a button called sent. User have to click that in emergency situation. User can see the location of the driver byclicking (My Driver).

v). FEEDBACK

The feedback is given only by the user. The user can make many ideas if want in that feedback section. So the feedback can bring out new ideas by the user.

3. USER REQUEST AND DRIVER ACCEPTANCE PAGE

VI   CONCLUSION

Android based cell ambulance system, different strategies are carried out for checking availability of ambulance. In this task the person can capable of hint the place of the driver and driver also can capable of hint person's place. (Mobile Driver Application) the usage of the brand new technology like GIS/GPS with Google Map-for identifying the place of person and car in shortest path. It enables to test the places properly for each of them. So, that there may not have any misunderstandings. We advise to realize those functions in an application (Mobile Ambulance Application) the usage of the brand new technology like GIS/GPS with Google Map-for identifying the place of person and car and shortest path, cloud computing-to save the massive range of data. Further this work can consist of functions to hyperlink blood bank facility for making smooth accessibility of blood bank details. Moreover, it could similarly be enriched with the usage of micro controllers for updating patient's situation to respective medical officers. It could assist them to address important conditions at the way to hospital.

VII FUTURE ENHANCEMENT

People close to to the person can enforce the alert to the vicinity wherein the hospital drivers are nearer, and showing the location of the person distance from the individualwould be a similarly study. So the death rates may be decreased.

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ISSN: 2278-0181
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