

Auto Ambulance System

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Abstract: *Operating Ambulance is much confronted as compared to carriage. Every fundamental demand spare facilities such as biomedical accessories, nurses, doctors and many more. So every fundamental need to be handled with human interaction, and its extremely difficult to brutalize it. As Ambulance utility per day is very less compared to carriage, one driver will be advance to maintain multiple vehicles based on the Accessories. So a driver app attached to a special vehicle will make no sense for operators. In this project an android app namely (.....)has been defined. There is most common rescue service 1122 which is guided through phone calls but it's a separate idea in itself in which one can book an ambulance using an android smart phone. The request for an Ambulance formed by the Boosted App is directly refresh on assemble mainframe office, where 24/7 server will automatically inquiry the request figure coordinates and response back to the user and it's several nearest station. That supplication is in progress and from which station ambulance will come. All this process and mainframe will handle practically. The whole antiquity will maintain on server side and also on user side. When task is done then situation on app and sever side will be update. It develops for plate humanity in the situation of emergency by using absolute and accurate results. As we monitor the word 'Ambulance' the first thing comes to mind is the salvage process. In the modern era where the population is increasing day by day, people feel cramped and frightened due to danger bearing of road accidents, some known and unknown endemic which required the quickly remedy but unfortunately due to couple of minute delay some important lives are lost..*

Keywords: Ambulance.

I. INTRODUCTION

In this modern day era current where mostly everything runs on smartphones and applications, the need of quick and efficient services are almost important in every aspects especially when it comes to medical services. Patients are mostly having issues on handling the locations and searching of ambulance their availability due to limited service in the time of emergency .The lack of such attention and information may lead to several casualties .The question arises where the user have to find ways to check the availability for the ambulance to find the user's precise location in the quickest time . Thus the ambulance diver have to provide proper information and location . So both the user and ambulance driver won't get lost or by searching each other .The main aim is to reduce the time of calling the fraud calls and to allow ambulance driver to locate the victim easily by using GPS signal

As we monitor the word 'Ambulance' the first thing comes to mind is the salvage process. In the modern era where the population is increasing day by day, people feel cramped and frightened due to danger bearing of road accidents, some known and unknown endemic which required the quickly remedy but unfortunately due to couple of minute delay some important lives are lost. Therefore, to give the quick first-aid to the patient rescue system of every country should be maintained and trained well for the prosperity of human beings and to avoid the dying which occur due to delay in relief process. So our first goal is to guard the ambulance service system first by making android application for the relief process. It will provide all the rescue centers to stand on one staging through ambulance service application. In compact of any smash we call an ambulance for help via call. There are many alignment which provide ambulance services in Pakistan. But there is a problem with this alignment that they did not work well-organized. So that, when there an accident shake people call for ambulance of explicit alignment like 'Eidhi', 'Cheepa' , 'Rescue 1122', 'FIF' etc. There can be possibility that the ambulance of that alignment will not prepared near the place of accident. So this application will help people to find ambulance near them of any alignment.

1.1 Proposed Project

We have intended an android app namely (.....). User will suitably sign up in the app with his mobile and CNIC number for evidence so that trivial person will not use this app without any reason. In case of emergency he will request for an ambulance made from his phone that will be directly updated on a compact main office where 24/7 server will naturally check his request, calculate coordinates and will check the occasion of ambulance in very nearly station, if there is no ambulance available in that station, then server will inquiry up next near station and response back to the user that request is in progress and how much time it takes to grasp, and from which station. All this process and mainframe will be handled morally using defined algorithm. The whole history will retain on server side. When task is done then stage and number of ambulance will be renew on server.

There are situations when calling a hospital for an ambulance is can be very time taking and risky, there is a need for a more convenient solution that is easily accessible and have special features for emergency situations, A mobile application is a solution for a lot of modern problems.

II. LITERATURE SURVEY

To understand the current problem in depth, researching into various resources are needed to prove the reliability of the current system. Here, we will be analysing the problems statement and justifications.

Emergency Medical Service (EMS)

Emergency medical service (EMS) is a service which is responsible for leading the department in providing proper planned and organized emergency management resources which is capable of responding to public emergencies whenever it is need. (Jadhav et al. 2014). Ambulance can be categorize as a limited resources in EMS and since the congested and rapid development of urbanization and concrete jungle in each and every part of the world, the route to search and rescue for human shelter is very complex. This reflects the performance of the ambulance driver to reach the emergency spot on time (Kumar & Benedict 2011). These issues helps to identify that the need and responsibility of an EMS is vital and equally important to save lives, utilizing and improvising this system will sure helps the community to be safe and worry less on the service provided by the authority.

III. FUNCTIONAL REQUIREMENTS

Registration and Authentication

The user must fill the form to register an account on the system and login on the system using it. The system should authenticate the details received from the user.

Performance Requirements

The performance of the system will give results within time. It increases the accuracy of the system.

3.1 Hardware Requirements

64 bit Microsoft Windows 8/10

x86_64 CPU architecture ; 2nd generation Intel Core or newer, or AMD CPU with

Support for a Windows Hypervisor. 4 GB RAM or more

8 GB of available disk space minimum (IDE + Android SDK + Android Emulator) 1280 x 800 minimum screen resolution

3.2 Software Requirements

Operating System : Windows 10/11

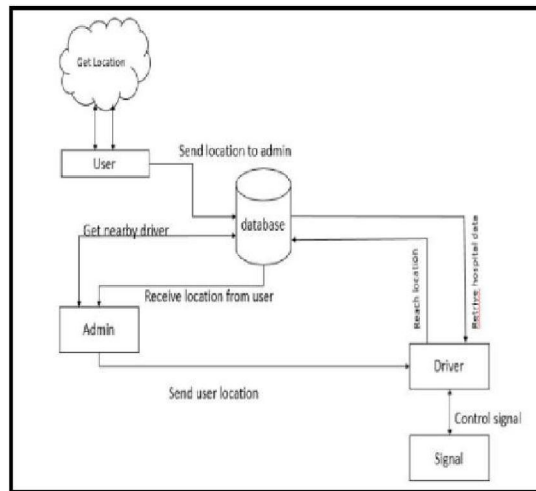
Coding Language : JAVA (JDK 7.0)

Database : MySQL 5.0

IDE : Android Studio

IV. ANALYSIS AND DESIGN

4.1 Architecture Diagram



The above diagram provides an overview of the project in the pictorial form.

Using the above diagram we will create pre model of the project and analyse the function of the project .The explanation of the project with block diagram over view is given as follows:

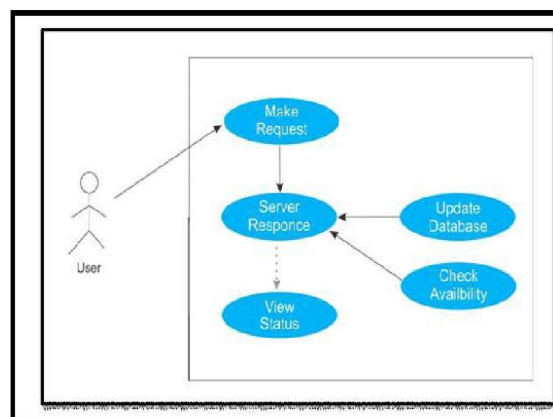
Block diagram explains the flow of the application. Here user will send an accident spot location to the admin this location will stored in database then admin will get an nearby driver location after this admin will share an accident spot location to driver.

After reaching the accident spot driver will send an notification to admin then driver can retrieve the hospital location.

V. DETAILS OF THE MODULE

This project has three modules.

MODULE 1- User has to register. This is the first activity that opens when user installs the app. User needs to provide a correct contact number and a password, which user enters while registering, in order to login into the app. If information provided by the user matches with the data in the database table then user successfully login into the app else message of login failed is displayed and user need to reenter correct information. A link to the register activity is also provided for registration of new users.



MODULE 2 - Admin: Admin will receive the accident spot location by the user this location will be shared to ambulance driver. Their driver availability is checked by the admin by calculating latitude and longitude values. Once the driver reached the location he will send an notification to admin and admin will allocate the hospital by calculating latitude and longitude value where the driver have to reach.

MODULE 3 - Driver: The driver sends notification to admin system after sending notification he will receive the location of the hospital where he has to reach. The driver can change the traffic signal of upcoming ambulance route by changing red to green signal.

The system will be functioning as below:

Sends notification to ambulance admin system. - The user can tap the button and the notification will be sent to the ambulance administration centre.

Cuts off waiting time. - The user doesn't have to call and check for availability of the ambulance anymore.

Ambulance will be able to track the location of the user with GPS. - Notifications that sent by the user will provide the GPS location of the user and also provides the user's pre-registered address.

Safe and reliable. - Provides the user all the information of the ambulance that accepted to fetch user – Ambulance name, Driver's name, Ambulance number plate and Driver's phone number.

VI. EXPERIMENT AND RESULT

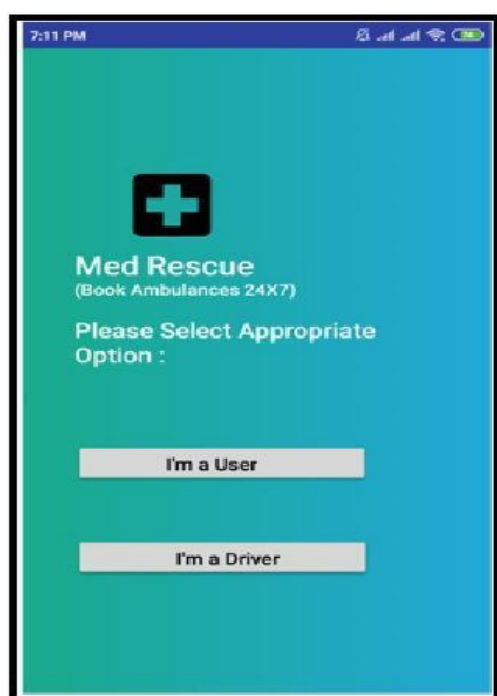


Fig.6.1: Welcome Page

Welcome Page: This page will allow users to choose whether he/she is a Patient or Driver. After this the users will be redirected to their respective logins.

The above figure 6.1 shows the landing page of our application which gives our users the option to register to the application as a patient or as the ambulance driver, the next page will depend on whether the user has logged in as a patient or a driver.

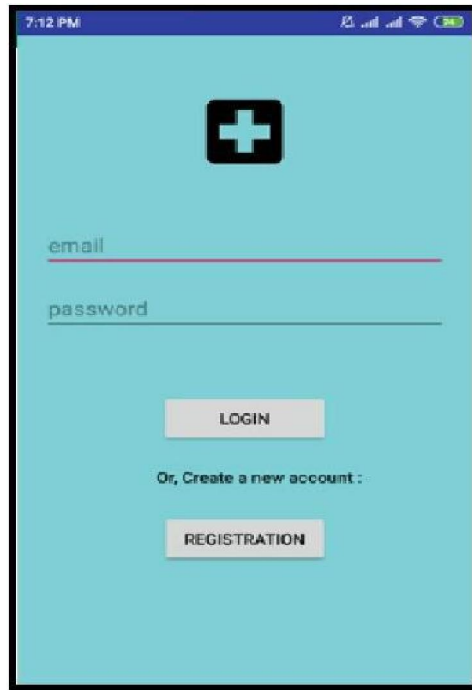


Fig.6.2: Login Page

Login Page: User have to provide their Email-id and password for registration. After that only, all the features can be accessible by the user. Already registered user will authenticate themselves by providing there email id and password.

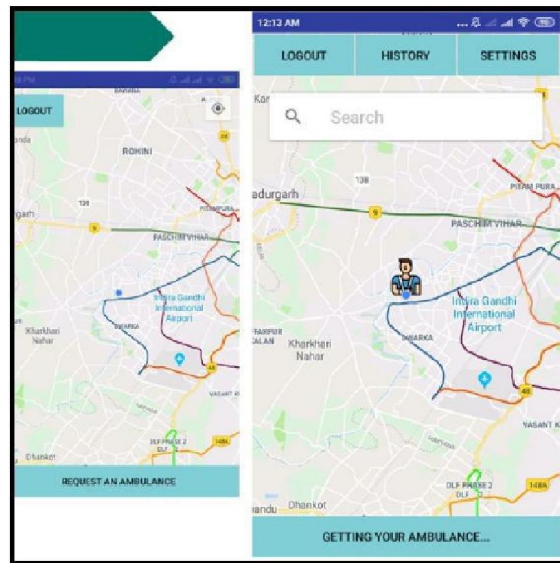


Fig.6.3: Request an Ambulance

Request an Ambulance: This module works just like a modern cab booking facility. User's current location will be fetched by device's GPS. User have to provide drop location (Medical Facility). Drivers access this data to reach that location.

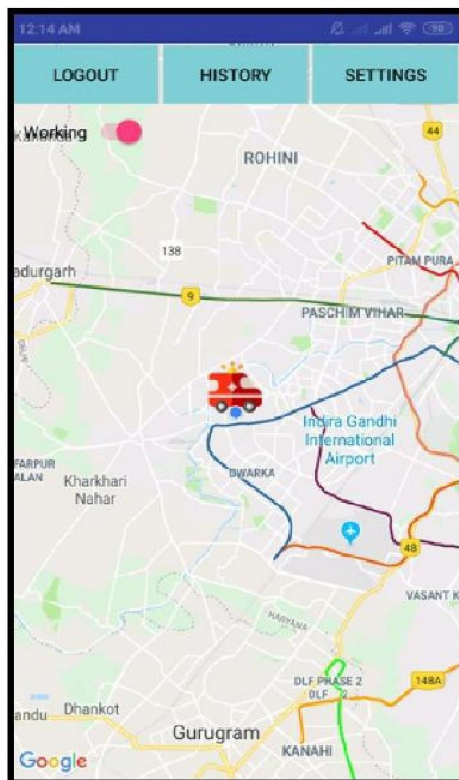


Fig.6.4: Pickup Request

Pick-up Request (For Drivers): Drivers can specify, whether they are working or not by tapping on toggle switch. Ambulance Drivers will receive pickup request from patient. Drivers can accept the pickup request and then route will be shown from driver's location to patient's location.

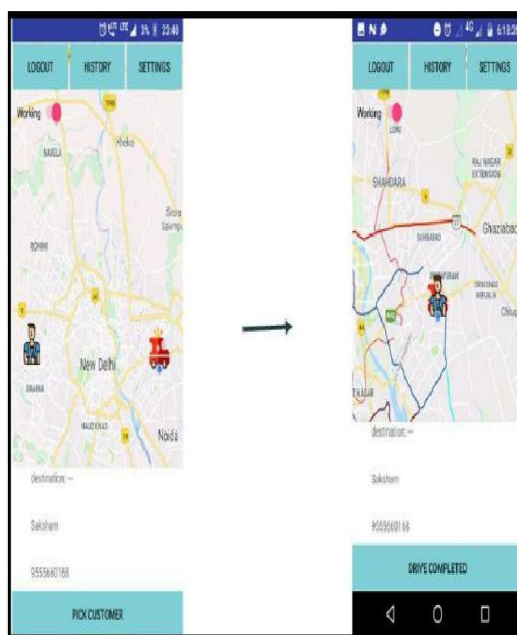


Fig.6.5: Final Output of Request For Ambulance.

CONCLUSION

This application has been developed with main functionality which shows the working on the basic level. There wasn't much effort given to the GUI such as great animation, Utilization of fragment implementation on pages and few others low level bugs that yet to be fixed.

For future enhancement in mobile application platform, Google map will be added to the user side app to show the assigned driver location and estimated time for the driver to reach the destination, this will allow user to feel secure that ambulance has been assigned and it's on the way to fetch the user, as an additional with it, voice command will be implemented using voice implementation system to allow them to straight send signal just by using voice command.

To bring this system for current smart watch era, this system will also be integrated and linked with Android watch. This will allow the user to easily tap the on the watch screen to trigger the alert and send request to the admin.

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