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Real time communication for emergency treatment and nearest hospital searching IOT based system using android application

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Abstract: The IoT (Internet of Things) has been broadly used to interconnect the accessible medical assets and offer brilliant, reliable and successful social insurance administration to the general population. Health monitoring for dynamic and helped living is one of the standards that can utilize the IoT favourable circumstances to enhance the elderly way of life. Proposed system represents an IoT architecture customized for healthcare applications. This system stores collected data on database server for analysis and processing purpose and send result to the user. This proposed system is able to send emergency information from an ambulance to nearby hospital after searching and availability. Most important feature of system is ambulance admin takes some personal information of accidental person by using thumb scanning device and starts nearest hospital searching as per Patient's situation and Send request to hospital about availability. If availability is there then send details immediately to the hospital.

Keywords: Wireless Communication, Mobile applications, Hospital system, Finger Print Device, Blood Bank Management.

I. INTRODUCTION

In daily life, human doesn't take care about own health just focusing on daily work. That extending or ignoring health issues then get affected by new types of health issue which rapidly increases. At that level there is no crisis level facility available including real time communication. Also in some cases an ambulance and hospital doesn't provides immediate care to victims of accidents before trained medical workers arrive. As per the Victim's current situation, there is no any facility available in ambulance which suggests to the care taker nearest hospital according to the hospital facility and Doctor's availability. Almost all hospitals need to fill the form before admitting any patient. To avoid this situation, proposed android application provides a real time communication between hospitals and ambulance. Also provide all details and register before patient enters in the hospital.

II. MATHEMATICAL MODULE

System Description: Mathematical Model for Proposed System

1. Let S be a system that describes patient details. S={…..}
2. Identify input as I S= {I,..} Let I={i} The input will be patient finger prints
3. Identify output as O, S = {I,O,…} O= The ambulance admin will receive the all details of patient like Name, Address, Mobile No, blood group.
4. Identify the processes as P S={I,O,P,…..} P={E,D} E={parameter, Patient Details, Nearest hospital } D={parameter, Availability of blood group}.
5. Identify failure cases as F, S={I,O,P,F,….} F=Failure occurs when internet connection is not available
6. IDENTIFY SUCCESS AS S. S={I,O,P,F,S,…} S=WHEN DATA IS ACCESSED BY HOSPITAL ADMIN/ AMBULANCE ADMIN

III. SYSTEM

Module Wise Explanation

Module 1: Ambulance Admin

Ambulance admin scan thumb of accidental person by using thumb scanner. After that he search nearest hospital and send request to that particular hospital with patients details.

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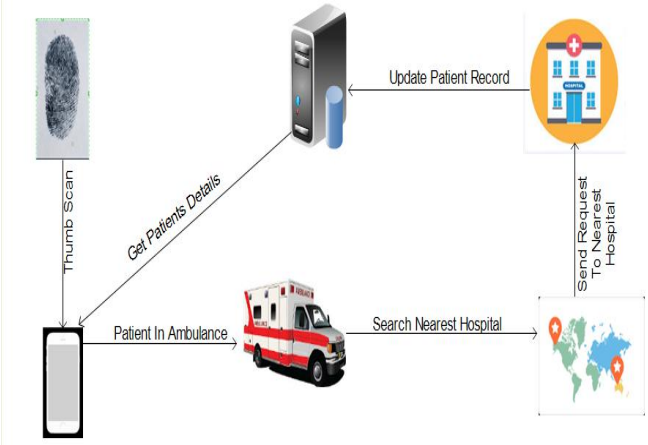


System Architecture

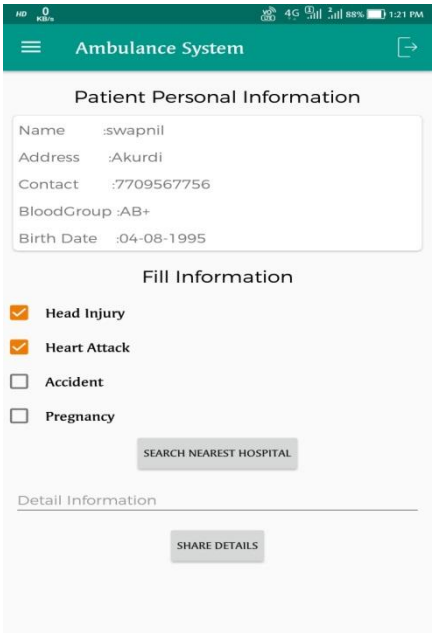
Module 2: Hospital Admin
See the request of ambulance admin and check the details of patients. Check the availability of doctors and machinery. Send the reply to the ambulance admin.

Module 3: Blood Bank Admin
In this module blood bank admin receive request and check availability of particular blood group.

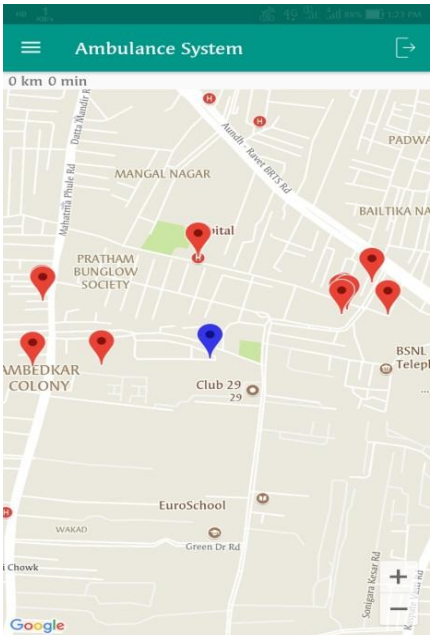
Module 4: Database Server
Database server stores information about people or patient's details.

IV. ANDROID APP LAYOUT

1. Admin Login Window
2. Matching finger print of victim
3. Providing details
4. List of nearest hospitals
5. Route finding



Providing details



List of nearest hospitals

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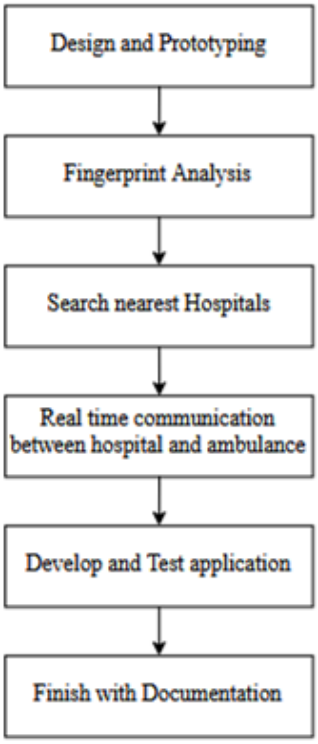
IV. PROTOTYPING

Design Process:



VI. HARDWARE

- Processor : Dual core/Quad core
- Internal Memory : 80gb(min)
- RAM : 4GB
- Connectivity : Continuous Internet connectivity.

Technical specification:

- Operating System : Android and Windows
- API : Content provider
- Coding language : JSP
- Database : MySQL
- Tool : Android Studio, IDE: Eclipse

VI. COMPONENTS:

Finger Print Device:

Fingerprint scanners are security systems of biometrics. They are now used in police stations, security industries, for government documents like aadhar card, healthcare centers and most recently on computers and mobile devices. Everyone has marks on their fingers. They cannot be removed or changed. These marks have a pattern and this pattern is called the fingerprint. Every fingerprint is special, and different from any other in the world. Because there are countless combinations, fingerprints have become an ideal means of identification

Finger print device

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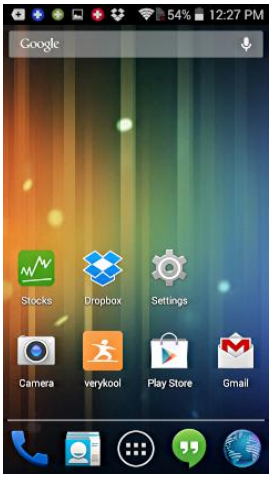
Android Mobile:
Any Android mobile can be used.



VII. WORKING

In the present society using an advanced mobile phone is ordinary. This project presents a prototype model and a system concept to provide an application for ambulance. This system is intended to provide nearest hospital by using GPS system, provide the additional information about facility availability according to injury, and provides patients details by this application. This project aims at the development of a smart application to help the ambulance to find nearest hospital with the facility availability. Utilizing time for searching the hospital with facility by real time communication. Hospital admin a communicate with ambulance and get the details of patient about health condition and accordingly they provide service to patient.

XI. ADVANTAGE

1) The real time communication between Hospital and ambulance admin.
2) Pre-requirements like registration of patient and blood requirement can be specified.
3) Nearest route and navigation assistance for ambulance is provided.
4) Mainly availability of equipment and doctors is checked.

XI. CONCLUSION

This system provides help to the accidental person. This system helps to find out nearest hospitals on the basis of facility requirement. Most important feature of system is when an ambulance meets patient the system takes some of its personal details using thumb scan and starts nearest hospital searching as per accidental person's situation and Send request to hospital about availability. If availability is there then send details immediately to the hospital.

X. ACKNOWLEDGMENT

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