

Review on Android Blood Bank

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Abstract- *In today's world a blood is a saver of all living beings. The task of the Blood bank application is to receive blood from various donors and monitors the blood groups database to send the required blood during the need to the hospital in case of emergencies. The problem lies when there is not insufficient of numbers of donors, but to find the willing donors at the right time and place. We try to build network of people who can help each other in case of emergencies. We have provided new users to register them self for authentication and according to their requirement and perspectives users have to login. The application mostly are updates the information for regarding to the donors where the administrator are accesses the whole information about the Blood Bank system. The donors required to enter the individual's details like name, Blood Group, phone number and donor location emergency in the time of a blood requirement. This application required active internet connection so that it helps to find the nearby hospital and donors instantly by tracing the user's location using GPS. The users get the route to reach the desired location and he won't have to ask manually, therefore time can be saved.*

Keywords- Android Studio, Database, SQLite, java, xml, Jason, GPS

I. INTRODUCTION

Blood is a body fluid in humans and other animals that deliver necessary substances such as nutrients and oxygen to the cell, and transports metabolic waste product way from those same cells. The task of our Blood bank application is to maintain the details of many donors and to monitor the blood groups database in requirement of users. The problem arises when a required donor is not insufficient, but it is finding a willing donor at the right time. The blood bank is a center for where blood the gathered as a result of a blood donation it store, and the preserved for the later use in blood transfusion. In some situations that the patient is an unable to get the required need of blood at the right time, due to the lack of interrelationship among different blood bank. That is which leads to the lack of knowledge, and the update for record of all the blood donors. So, we have to build a network of people who they can help each other during an emergency. If someone needs blood, at first he has to search within his family members then the nearest hospital, and blood

banks. After that if they cannot manage blood in these ways, it is really hard for them to collect blood within short period. That is the problem we are want to solve this through our application. The system uses an over server to store data which consists of database where the individual's information cannot be accessed by unauthorized person since the database will be encrypted. Our application aims to reduce the time to spend to search for blood donor in case of emergency. The system allows in need the users to view the donor's details such as name, phone number, locality and their blood groups. At First, the users have to log in into the system which will be hardly take the few seconds, and then the user gets access to all the available group of bloods using details of those who can donate blood in emergency. This Android application is developed are easily to search for blood in nearby the areas for emergency. In this Android app one think will get clear access to the blood in real time, and in the right place.

II. METHODOLOGIES

1. ANDROIDSTUDIO

Android Studio is the official (IDE) for Google's Android operating system, built on JetBrains IntelliJ IDEA software and designed specifically for Android development. That is available for download on the Windows, for macOS and Linux based on operating systems or as a subscription-based service in 2020. It is a replacement for the Eclipse and Android Development Tools (ADT) as the primary IDE for the native Android application development. The Android Studio for offers flexible Gradle-based build in a system, code templates to the help you build and common app features, rich layout editor with the support for drag and drop theme editing, built-in support for Google Cloud Platform, making it easy to the integrate Google Cloud Messaging and the App Engine and much more. Android Studio features a new and improved interface the design perspective for where you can view the interface for you are working on and it's related the components.

Android Studio provides a number of the user interface tools to the assist you with creating and layouts, implementing style themes, and the building graphic or text resources for your app. The Android build system is the toolkit you can use to build, test, run and the package your apps. The

build systems can be run as an integrated tool from the Android Studio menu and independently from the command line.

2. SQLite DATABASE

SQLite is an open source SQL database which stores data to a text file on a device. Android comes with built-in SQLite database implementation. SQLite supports all the relational database features. In order to access this database, you don't need to establish any kind of connections for it like JDBC, ODBC etc. SQLite is a relational database management system (RDBMS) contained in the C library. SQLite is a popular choice as the embedded database software for the local/client storage in the application software such as web browsers.

i. Database –Package

The main package is the `android.database.sqlite` that contains the classes to manage your own databases.

ii. Database –Creation

In order to create a database you just need to call this method for open or Create Database with your database name and mode as a parameter. It returns the instance of SQLite database which you have to receive in your own object.

iii. Database –Insertion

We can create the table or insert data into the table using `execSQL` method defined in the SQLite Database class.

iv. Database –Fetching

We can retrieve anything from the database using an object of the Cursor class. We will call a method of this class called `rawQuery` and it will return a result set of with the cursor pointing to the table. We can move the cursor forward and retrieve the data.

v. Database – Helper class

For managing all the operations related to the database, and its helper class has been given and is called SQLiteOpenHelper. It automatically manages the creation and update of the database.

3. JAVA

Java is a programming language that produces the software for multiple platforms. When the programmer writes a Java application, for which the compiled code is (known as bytecode) runs on the most of operating systems (OS), including Windows, Linux and MacOS. The Java derives much of its syntax from the C and C++ programming languages. The Java language is a key pillar in the Android, an open source mobile operating system. Although the Android, built on the Linux kernel, is written largely in C, the Android SDK uses the Java language as the basis for Android applications but does not use any of its standard for GUI, SE, ME or other established Java standards. The bytecode language are supported by the Android SDK is incompatible with the Java bytecode and runs on its own virtual machine, optimized for low-memory devices such as smartphones and tablet computers. Depending on the Android version the bytecode is either interpreted by the Dalvik virtual machine or compiled into native code by the Android Runtime.

4. XML

The Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding and documents in a format that is both human-readable and machine-readable. It is a textual data format with strong support via Unicode for the different human languages. Basically XML is used for layout designing. All the UI and layout of this app is designed using XML. Unlike Java (which is the Back Bone of your app), XML helps you to design this app, how it will look, and how components like buttons, text view, etc. will be placed and their styling. XML data is also known as self-describing or self-defining, meaning that the structure of the data is embedded with the data, thus when the data arrives there is no need to pre-build the structure to store the data; it is dynamically understood within the XML.

The XML format can be used by any individual or the group of individuals or companies that they want to share the information in a consistent way. XML is actually a simpler and easier-to-use subset of the Standard Generalized Markup Language (SGML), which is the standard to create a document structure.

5. JSON

JSON (JavaScript Object Notation) could be a lightweight data-interchange format. It's easy for humans to read and write. It's easy for machines to parse and generate. It is based on JavaScript Programming, Language, and Standard

3rd Edition - December 1999. JSON is a language-independent format. It had been derived from JavaScript, but many modern programming languages include code to come up with and parse JSON-format data. It is an open standard file format in which data interchange and format, that uses human-understanding text to store and transmit data objects consisting of attribute–value pairs, and array data type. Its official Internet media for JSON is application/JSON. JSON filenames use the extension JSON. Douglas Crockford originally specified the JSON format in the early 2000s. JSON was first standardized in 2013, as ECMA-404.

6. GPS

In our android blood bank application we are using GPS so that it is really helpful to trace the nearby hospitals and donor locality. The Global Positioning System (GPS), originally NAVSTAR GPS, is a satellite based system owned by the United States government and it is operated by the United States Space Force. It is one of the global navigation satellite systems (GNSS) that provides relocation and time information to a GPS receiver anywhere on or near the Earth where there is an unhampered line of sight to more than four GPS satellites. Obstacles like buildings and mountains block the relatively weak signals. The GPS does not allow the user to transmit any data. It unconventionally operates of any internet reception, though these technologies it enhance the convenience of the GPS positioning information. The GPS provides capabilities to civil, military and commercial users around the world. The US government created the system, maintains, and makes it freely accessible to an individual with a GPS receiver.

III. LITERATURE SURVEY

[1] Ramya Naidu [1] ANDROID BLOOD BANK Volume 3, Issue 9, May 2016

The blood is specialized bodily fluid that delivers necessary substances to the body's cells such as nutrients and oxygen. Blood banking is a cache or bank of blood or blood components, gathered as a result of blood donation, stored and preserved for later use in blood transfusions. In addition to this, the blood type of patients also needs to be determined for compatibility sake for a blood transfusion.

[2] Prof. Snigdha¹, Varsha Anabhavane², Pratikshalokhande³, Siddhi Kasar⁴, Pranita More⁵, Android Blood Bank Vol. 5, Issue 4, April 2016

In this Blood Bank App provides list of blood banks in your area.. Since almost everyone carries a mobile phone

with him, it ensures instant location tracking and communication. Only a registered person, with willingness to donate blood, will be able to access the service. In this application we are using the GPS technology that will be used to trace the way to the blood bank. The user will get the route to reach the desired location and he won't have to ask manually, therefore time can be saved. This Android application is developed to easily search for blood in nearby areas for emergency. In this Android app one will get clear access to blood in real time and right place.

[3] Prof. Snigdha¹, Varsha Anabhavane², Pratikshalokhande³, Siddhi Kasar⁴, Pranita More⁵ Android Blood Bank Vol. 4, Issue 11, November 2015.

Blood is a saver of all existing lives in case of emergency needs. The task of blood bank is to receive blood from various donors, to monitor the blood groups database and to send the required blood during the need to the hospital in case of emergencies. The problem is not insufficient number of donors, but finding a willing donor at the right time. We want to build a network of people who can help each other during an emergency. This application timely updates the information regarding the donors where the administrator accesses the whole information about blood bank management system.

[4] Aishwarya Shinde¹, Advait Gharat², Varad Sakhalkar³, Rajendra Chapke⁴ A Blood Bank Android Application Volume 04, Issue 04; April-2018.

In health care services, blood donation is a complex process and consumes time to find some donor who has the compatibility of blood group with the patient. The Proposed system is an android based blood bank application to establish a connection between the requester and donor at anytime and anywhere. A blood bank as we know provides blood to people in need at times of emergency. The Blood Bank system is designed in such a way that users can view the information about registered blood donors which will help in the hour of need.

[5] Ashita Jain¹, Amit Nirmal², Nitish Sapre³, Prof Shubhada Mone⁴ Online Blood Bank Management System using Android Volume: 2 Issue: 2 | February 2016

The main aim of this project is to save lives of people by providing blood. Our project Online Blood Bank system using Android is developed so that users can view the information of nearby hospitals, blood banks. This project is developed by three perspective i.e. hospital, blood bank and patient/donor. We have provided security for authenticated

user as new user have to register according to their type of perspective and existing user have to login. This project requires internet connection. This application we are developing helps to select the nearby hospital online instantly by tracing its location using GPS.

[6] Yash Chopda¹, Nirmal Jain², ShreyasNair³, Ved Gindodia⁴ Android application for Blood Donation Volume 6, Issue 5, September- October2017.

The aim of our project is to save lives of people by providing blood to them whenever required. Our project i.e. Blood Donation Application using Android studio is developed so that users can view the information of nearby hospitals, blood banks and they can also receive blood from various donors, to monitor the blood groups database and to send the required blood during the need to our application users in case of emergencies. We are focusing on building a network of people who can help each other during an emergency and provided security for authenticated users as new users have to register according to their requirements and perspectives and existing users have to login. It helps to select the nearby hospital and donors instantly by tracing the user's location using GPS.

[7] Ms. Pradnya Jagtap¹, Ms. Monika Mandale², Ms. Prachi Mhaske³, Ms. Sonali Vidhate⁴, Mr. S. S. Patil⁵ IMPLEMENTATION OF BLOOD DONATION APPLICATION USING ANDROID SMARTPHONE Volume 3 Special Issue 1 March 2018.

An android application system will make sure that in case of need, the blood will be made available to the patient. There will be android app to make this communication faster. It aims to create information about the donor and organization that are related to donating the blood. The methodology used to build this system uses GPS. The Proposed system will be used in Blood banks, Hospitals, for Donors and Requester whoever registers to the system.

[8] Abhijeet Gaikwad¹, Nilofar Mulla², Tejashri Wagaj¹, Raviraj Ingale¹, Prof. Bijendra Gupta², Prof. Kamal Reddy² Optimal Solution for Searching Availability of Blood in Blood Banks using Smart Blood Finder App Vol. 6, Issue 3, March2018.

An Application tends to provide list of blood banks in user area. A large number of blood donors are attracted using an Android application. It ensures instant location tracking and communication. Registered user, who is willing to donate blood can pledge him/her to donate and will be able to access the service. In this application we are using the GPS

technology that will be used to trace the way to the blood bank. The user will get the route to reach the desired location and he/she won't have to ask manually, therefore time can be saved.

[9] Ajinkya M. Ghadge¹, Sagar N. Annaldas¹, Naveen Vaswani² Blood Comfort - A Universal Blood Sharing Android Application Vol. 5, Issue 4, April2016.

Blood Comfort is an android application developed in order to solve this major problem. It helps you look for blood donors of the specific blood type in your city and also connects you with them instantly in need. The application has a vision towards making the most important fluid running in our body available to everyone in the world. Blood Comfort runs on the latest Android OS and has an extremely small size of 2.5Mb.

[10] Nikita M. Lunawat¹, Chetan, D. Kshirsagar², Ashish A. Gawhande³, Rohini M. Rathod⁴, Apurva D. Thool⁵, Shrikant C. Chumble⁶ BLOOD AND ORGAN FOR PATIENT USING ANDRIOD APPLICATION Volume: 05 Issue: 05 | May-2016

This application can also be used by organ donor and seeker where person can register for interested in organ donation. User can get medical stores, hospitals and blood banks location through GPS and calling to them. Will be present.

In B.O.P. there will be use GPS technology that will be used to trace the way to the blood banks and hospitals. The user will get the route to reach the desired location and he does not have to ask manually, therefore time can be saved. An android application provides a way to seeker to search for donors were calling and messaging to friends through app on android kit Kat version 4.4.4.

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