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A Donor - Mobile Application for Saving Human Life

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Abstract

In these modern days, Mobile Application is very popular to mobile users. The main objective of this Application design is to save the human life by providing proper communication when and where the blood is available and donors of human organs further details of where the medical camp is scheduled in district and state wise. Today, many websites are available for this type of services but they are not much popular among the people. But users have mobile phone with lots of Application for communication they are more familiar because it is easy to use. The proposed Mobile Application consists of Donor details and Camp details, so everyone can make use of it when needed. The function of this application is to send messages about the need of blood and human organs and it is sent by everyone who needs the service. A requester who needs blood or any organ should register in this application before itself. Likewise, the persons who are all willing to donate blood or any organ they can also register in this application. The proposed Application has the advantage of saving the time, human life and easily finds the donors.

Index Terms - SDK, GSM

1. INTRODUCTION

A donation is when a donor gives blood at a blood bank or hospital to an unknown recipient. Blood donation is one of the noblest donations someone can ever make in his Life. It is a great service that a person can offer to the society. In the medical field, someone needs blood to save someone's life every minute. In developing countries like Bangladesh, local blood banks receive blood from various donors, monitor the blood groups database and send the required blood to the hospitals in case of emergencies. But the blood resource lacks in quantity which is a barrier to save others life in a critical moment. The decentralized nature of donor and limited information hampers blood availability at serious times. It is quite difficult tracking the database for particular blood group and maintains it updated using existing system. The Mobile Application that have been developed to connect the patients who need blood and those who are willing to donate. Once your request for blood or organ is placed, the application runs algorithms to match potential donors based on location and the blood group, and notifies than your blood group, the application will share just that while informing the recipient that there is a donor in a particular area.

Fig.1. Overview of Donor Android Application

2. ANDROID AND ITS APPLICATION

- Google acquired the startup company Android Inc. in 2005 to start the development of the Android Platform. The key players at Android Inc. included Andy Rubin, Rich Miner, Nick Sears, and Chris White.
- In late 2007, a group of industry leaders came together around the Android Platform to form the Open Handset Alliance
- The Android SDK was first issued as an "early look" release in November 2007.
- In September 2008 T-Mobile announced the availability of the T-Mobile G1, the first smartphone based on the Android Platform.
- A few days after that, Google announced the availability of Android SDK Release Candidate 1.0.
- In October 2008, Google made the source code of the Android Platform available under Apache's open source license.
- Android is a Linux-based operating system designed primarily for touchscreen mobile devices such as smartphones and tablet computers.
- Initially developed by Android, Inc., whom Google financially backed and later purchased in 2005,Android was unveiled in 2007 along with the founding of the Open Handset Alliance: a consortium of hardware, software, and telecommunication companies devoted to advancing openstandards for mobile devices.The first Android-powered phone was sold in October 2008.
- A software platform and operating system for mobile devices
- Based on the Linux kernel
- Developed by Google and later the Open Handset Alliance (OHA)
- Allows writing managed code in the Java language
- Unveiling of the Android platform was announced on 5 November 2007 with the founding of OHA

Android is open source and Google releases the code under theApache License. This open source code and permissive licensingallows the software to be freely modified and distributed by device manufacturers, wireless carriers and enthusiast developers.

Additionally, Android has a large community of developers writing applications ("apps") that extend the functionality of devices, written primarily in a customized version of the Java programminglanguage.

In October 2012, there were approximately 700,000appsavailable for Android, and the estimated number of applications downloaded from Google Play, Android's primary app store, was 25 billion.

These factors have allowed Android to become the world's mostwidely used smartphone platform and the software of choice for technology companies who require a low-cost, customizable, lightweight operating system for high tech devices without developing one from scratch. As a result, despite being primarily designed for phones and tablets, it has seen additional applications on televisions, games consoles and other electronics.

Android's open nature has further encouraged a large community of developers and enthusiasts to use the open source code as community-driven projects which add new features for advanced user or bring android to devices which were officially released running other operating system.

Android had a worldwide smartphone market share of 75% during the third quarter of 2012, with 500 million devices activated in total and 1.3 million activations per day. However, the operating system's success has made it a target for patent litigation as part of the so-called "smartphone wars" between technology companies.

Android has a growing selection of third party applications, which can be acquired by users either through an app store such as Google Play or the Amazon Appstore, or by downloading and installing the application's APK file from a third-party site.The Play Store application allows users to browse, download and update apps published by Google and third-party developers, and is pre-

installed on devices that comply with Google's compatibility requirements. The app filters the list of available applications to those that are compatible with the user's device, and developers may restrict their applications to particular carriers orcountries for business reasons.Purchases of unwanted applications can be refunded within 15 minutes of the time of download,and some carriers offer direct carrier billing for Google Play application purchases, where the cost of the application is added to the user's monthly bill. As of September 2012, there were more than 675,000 apps available for Android, and the estimated number of applications downloaded from the Play Store was 25 billion.

Applications are developed in the Java language using the Android software development kit (SDK). The SDK includes a comprehensive set of development tools,including a debugger, software libraries, a handset emulator based on QEMU, documentation, sample code, and tutorials. The officially supported integrated development environment (IDE) is Eclipse using the Android Development Tools (ADT)plugin. Otherdevelopment tools are available, including a Native Development Kit for applications or extensions in C or C++, Google App Inventor, a visual environment for novice programmers, and various cross platform mobile web applications frameworks.

3. TECHNOLOGIES

3.1GSM

Short message service is a mechanism of deliver the messages over the mobile networks. It is a store and forward way of transmitting messages to and from mobiles. The message (text only) from the sending mobile is stored in a central short message center (SMS) which then forwards it to the destination mobile. This means that in the case that the recipient is not available, the short message is stored and can be sent later.

An interesting feature of SMS is return receipts. This means that the sender, if wishes, can get a small message notifying if the short message was delivered to the intended recipient. Since SMS used signaling channel as opposed to dedicated channels, these messages can be sent/received simultaneously with the voice/data/fax service over a GSM network. SMS supports national and international roaming. This means that person can send short messages to any other GSM mobile user around the world. With the PCS networks based on all the three technologies, GSM, CDMA and TDMA supporting SMS, SMS is more or less a universal mobile data service.

The SMC (Short Message Center) is the entity which does the job of store and forward of messages to and from the mobile station. The SME (Short Message Entity) which can be located in the fixed network or a mobile station receives and sends short messages.

3.2 SDK

In this Android Application, is used in Java platform because it is a common language than Objective-C. The tools require to create Application in Android Studio could eventually deliver the same quality of development support as Apple's tool. The SDK is currently used for testing, writing and debugging our application.

4. EXISTING SYSTEM

The recruitment of blood donar when compare with other countries is very less in overall blood donating percentage annually. Besides this recruitment, the screening of donor and the management system is not well maintained. There are some websites present for donating blood were the phone numbers of the donors are present which are not reliable since they don't get often updated. The existing system is done as the data is collected for each organ, blood and camp details is separately and then they are sent to each hospital via email or telephone. So that only the doctors and hospital related people are known for the requirement, then they contact rotary clubs, friends etc., In this process large amount of time is wasted.

5. PROPOSED WORK

In this Mobile Application within a millisecond they can provide information to all persons who have the Application on Mobile phones. By this way so much amount of time is saved and easily contacts the persons who need all the requirements and who are all fulfill the requirements. More websites are created in this type of services but in rural areas they are not aware of it but each and

everyone has Mobile phones in their hand. So, the project has been a great scope to get success.

- The Blood donor app notifies the latest news or information about blood donation camp details.
- A better connection via the mobile application at places where there is slow internet connection.
- The appointment can be fix by the volunteers are reserved for the day and session that they want or free to make blood donation.
- The system provides authenticated and authorized features to the current system whereprivate and confidential data can only be viewed by authorized user.
- The system provides the recording function for every process of the blood in order to keep track of the blood stock accurately.

By this there will be no need for updating the information manually. Communication of various hardware devices in the developing technology has been improved over the last few decades where it enables people to communicate anytime from anywhere by a multiple devices especially via mobile applications. However, this advance technology for communication has hardly been improved in health care industry.

The purpose of this system is to develop a blood donation service and to assist in the management of blood donor records where the ease of controlling the distribution of blood in various parts of the country based on the demands. The high growth in numbers of people and capacity of mobile devices to communicate such as mobile phones are coupled with widespread availability of inexpensive range of web services presents an opportunity for helping other lives in mobile health care application. The communication between the donor and requestor are done by hardware devices.

The proposed system consists of two device types:

1) A Mobile phone with android operating system where the android app is installed.

2) A Server (usually a pc) for the website and the database where the information are stored.

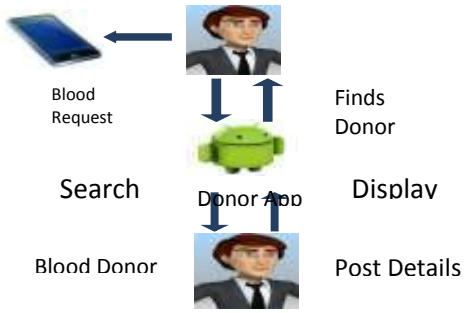

Fig.2. Scenario of the proposed method

Fig 3: Graphical Representation of organ

6. RESULTS AND DISCUSSIONS

In this discussion we have given the sample screen images for clarification of our project. Figure 5 shows the Android App icon placed on the Android mobile phone. Figure 6 and 7 displays the initial procedure for the donating the blood and organs. Figure 8 represents the registration process for both organs and blood.Figure 9 lists out the number of medical camps organized by districts wise and also update the knowledge related to entire details of medical camps. So the steps we carried out for this is 1) to provide the entire donor details and Camp details, so everyone can make use of it when needed. 2) The Government hospitals social organization and private hospitals are conducting many medical camps but we are not aware of that because there is no proper communication between the organizer and the people. By using this Application, we can solve the entire difficulty or finding the proper group of blood donors and organ donors.

Fig 4: Android App

Fig 5: Home Page

Fig 6: Initial procedure for Organ and Blood donation

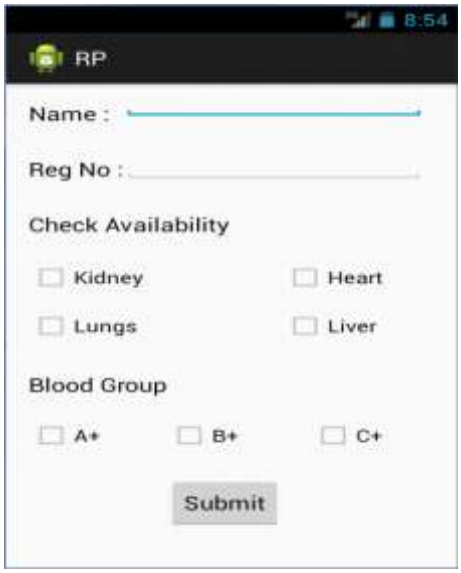

Fig 7: Registration Process

Fig 8: Medical Camp Organized

7. CONCLUSION

In this project, the Mobile Application have been created for saving the human life by sending messages to the users, who have the application on their phone. It is a perfect way to create awareness about the donation and give the information, who needs the help

from the people. It is useful for saving human life through communication.

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