Synopsis

Blood Bank Application

The aim of the project is to create an android application that allows users to locate nearby donors and blood banks. The application acts as a platform to connect those in dire need of blood with the donors who are willing to donate blood, hence saving time and thereby saving lives.

The application would need to provide service for two categories of users-Those in need of blood and those who are willing to donate blood. The location - in the form of longitude and latitude coordinates - of the donors will have to be stored in database.as and when a request for blood is created the app will have to fetch the current location of the person who initiated the request using GPS and find the nearest few donors or blood banks and display their details onscreen, if there are no donors in the immediate region, the area for which the search is performed is to be increased until one is found, or until a predefined limit is reached. Once a list of donors is created, the user may attempt to contact them to request blood. The application must also allow users to store certain data such as geolocation, last blood donation date and blood type and contact details. The blood type has to be matched during the search for nearby donors, also those who have donated blood within the past three months are to be excluded from the search result. Geolocation of the donors and the other users is to be fetched using GPS and location of blood banks can be found and computed at the time of search using google map’s Places API.

Methodology:

There are 3 methodologies for detecting the donors location using GPS

1. During the registration the process the user has to upload his location. This is done automatically by GPS and its considered to be his “home location” which is stored in the database, and while searching for the donors in that region the details of the donors could be retrieved by the registered requester.
2. We can even search for the donors registered contact from the database.
3. A general push message that includes the current location of the requestor is sent to all the registered users irrespective of the place they are travelling, to visit the app only if they are near the feasible requested location

Once the app has been opened the GPS will been enabled and the location of the donor can be fetched using Geolocation API, and finally the nearer distance between donor and receiver is calculated using Google map distance matrix API

The outcome expected out of the project is that, the application will prove to be useful in meeting the divide between the vast majority of the people who have the ability to donate blood and those who need it. Typically Blood can only be stored for 42 days, then discarded if not used. Hence the most efficient way to meet the need for blood is by having a platform that could keep track of the nearest donors so that they can be called on when needed.