“HEATHIFY”

(Near By Hospitals)

A PROJECT REPORT

Submitted by

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ABSTRACT

Google maps is there for any particular location, any particular landmark etc. but there is an application for Android phones which helps people find only the hospitals, clinics and health service places at and around any particular location, which is indeed a helpful thing when someone needs to find a health care centre around the place they are, in emergency but can't find anything through Google maps because of the limited knowledge of the usage where one could not sort the results in particular.

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Introduction

Healthify application enables you to know all the hospitals in the proximity. Apart from their address, and you get to know more relevant details viz number of doctors, number of beds, rating and contact details. The application is linked to the Google maps from within its interface, and when you want to find the particular hospital and its location on the map, it would take you to the highest zoom and most of the other landmarks around it are given, making it easier for you to find the exact location while you are traveling.

If you are not familiar with the places which you are searching for, the option of searching based on the radius around a place comes out handy. One can search for hospital within the area of maximum 20 km from the place where you are searching. Increasing the radius area would help in getting more results, and also you could find the places which you are familiar with, making things easier when you are in an emergency.

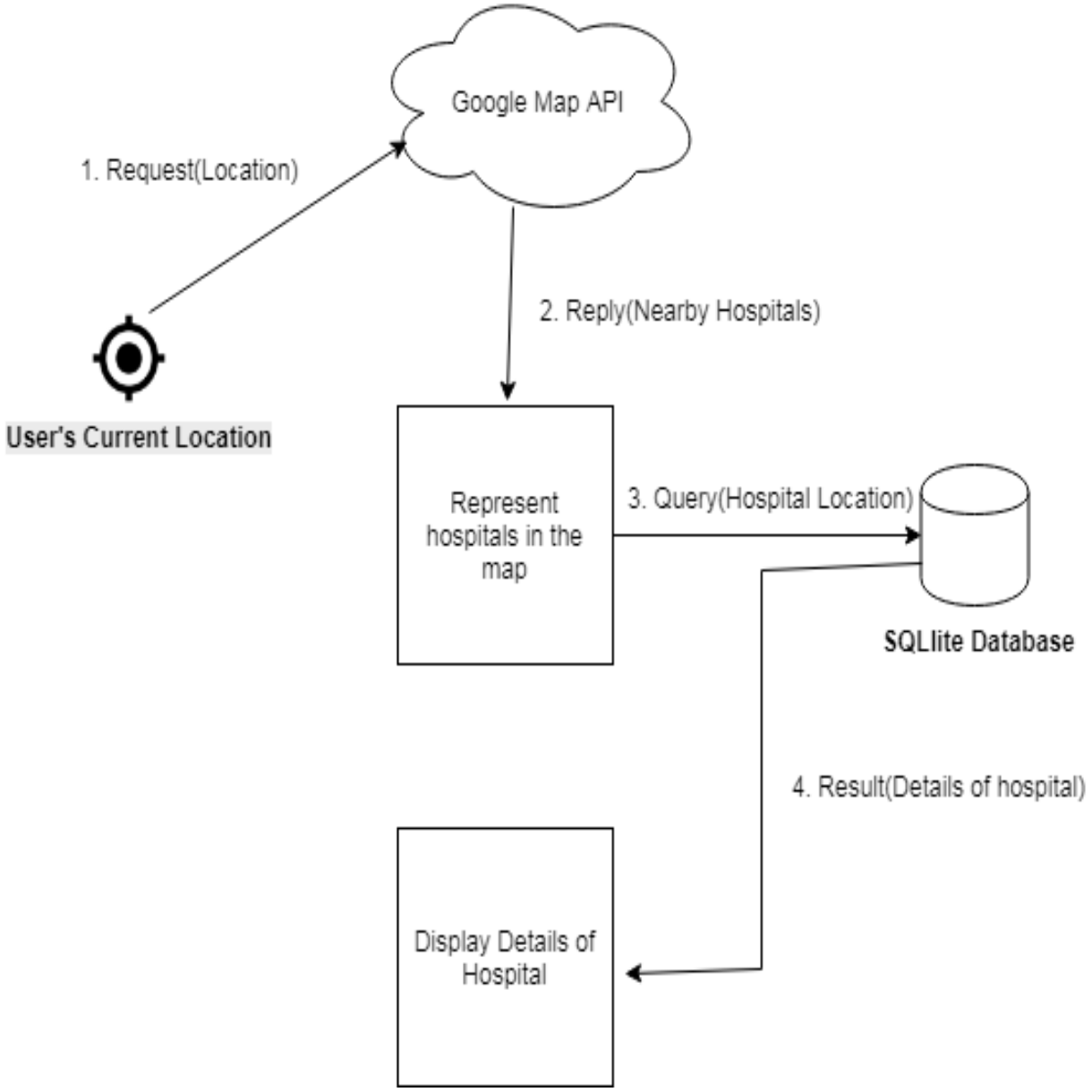
There aren't always the same times when you would not be able to make a call for emergency, and would need to rely on the applications or the internet. The Hospital Finder app could be the best help in such cases.

Salient Features

Features of the Hospital Finder app for Android:

- Enter your location, or it searches based on GPS – and it finds the hospitals around your location.
- Separate listing for each hospital, having options of calling the number, checking the details of the hospital.
- Opening the location of the hospital in Google maps, where people could search for the directions.
- Adding any hospital to the “My favorite” section, from where you could access it anytime without having to search for it again.

Architecture



Steps involved:

Step1) firstly, we need to find current location through GPS device.

Step2) Now we will send current location to Google API and request to give nearby Hospitals information.

Step3) Google API will reply with Hospitals information in JSON format.

Step4) now we will plot all the hospitals in map using markers.

Step5) User will click on particular marker (hospital name) and we will give detailed information about that hospital from our local database (SQLite).

Informative Survey

The first step was to collect authentic information about doctors and hospitals that could be used in the application database. For this purpose an informative paper based survey was conducted in Electronics city, Bangalore with the aim of acquiring valid information such as hospital name, address, number of beds, number of rooms, payment mode etc. These information is being saved in the database of the application.

GPS in smartphone

Global Positioning System enabled navigation in device that precisely determines geographical location by receiving GPS coordinates information from the GPS satellites. Originally, it was used by the United States Military but later this service is available freely worldwide and now most receivers are integrated into smartphones.

Google Maps API

Google APIs is a set of application programming interfaces (APIs) developed by Google which allow communication with Google Services and their integration to other services. Examples of these include Search, Gmail, Translate or Google Maps. Third-party apps can use these APIs to take advantage of or extend the functionality of the existing services.

The Google Maps APIs give developers several ways of embedding Google Maps into web pages or retrieving data from Google Maps, and allow for either simple use or extensive customization.

SQLite Database

SQLite is an open source SQL database that stores data to a text file on a device. Android comes in 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.

SQL Cipher

The core part of our project is the accuracy and correctness of the details of the hospitals being displayed to the user. Thereby database security is one of the major concern. We have used SQL Cipher for the security of the database being stored in the user's device.

SQL Cipher is an open source library that provides transparent, secure 256-bit AES encryption of SQLite database files.

SQL Cipher has been adopted as a secure database solution by many commercial and open source products, making it one of the most popular encrypted database platforms for Mobile, Embedded, and Desktop applications.

Features

SQL Cipher has a small footprint and great performance so it's ideal for protecting embedded application databases and is well suited for mobile development.

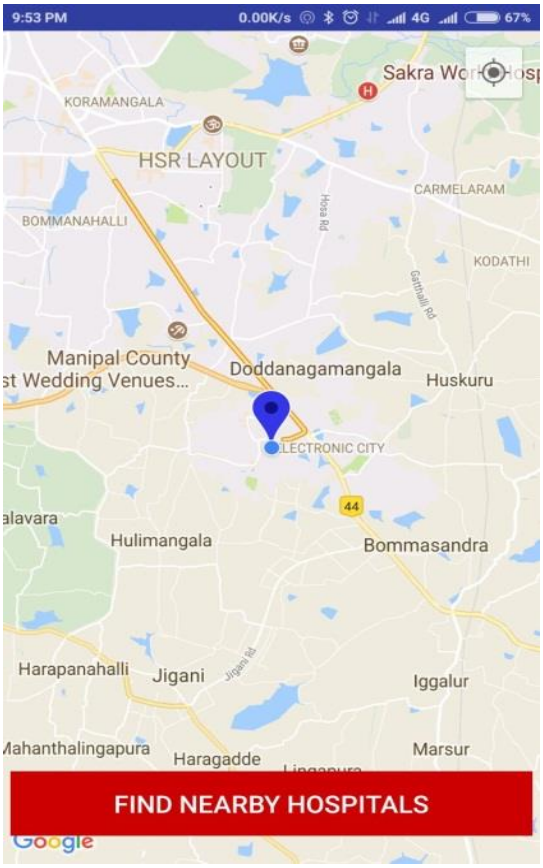
- Blazing fast performance with as little as 5-15% overhead for encryption
- 100% of data in the database file is encrypted
- Uses good security practices (CBC mode, key derivation)
- Zero-configuration and application level cryptography
- Algorithms provided by the peer reviewed OpenSSL crypto library

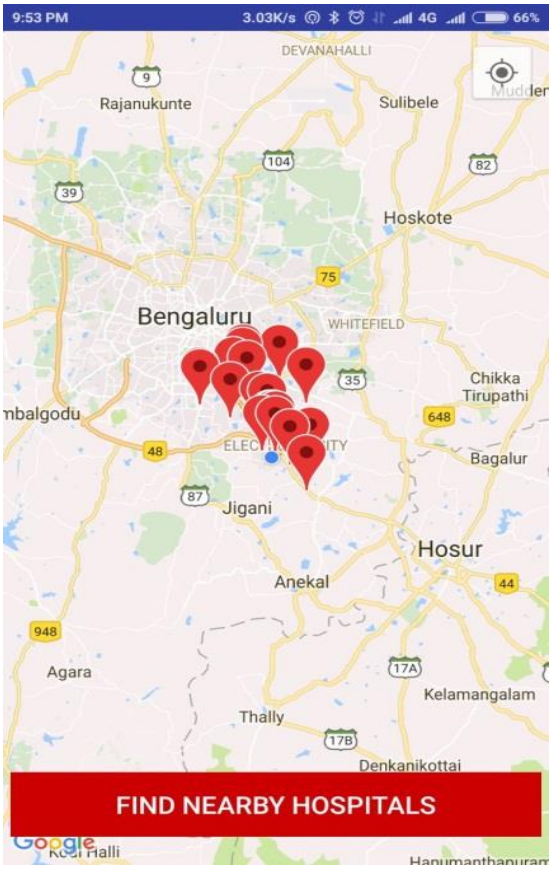
Testing

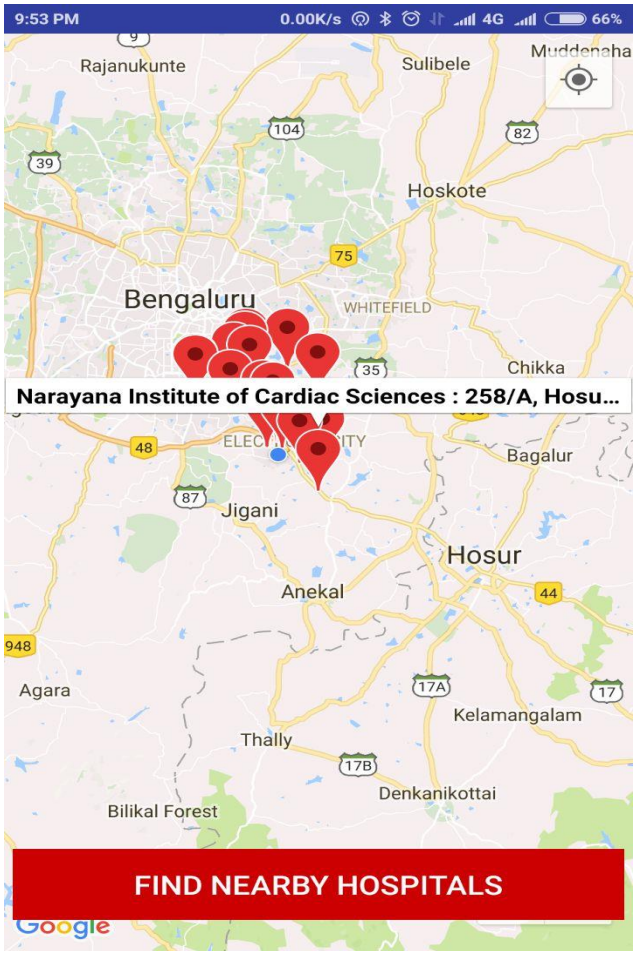
Software Testing is evaluation of the software against requirements gathered from users and system specifications. Testing is conducted at the phase level in software development life cycle or at module level in program code.

- **Unit Testing:** In unit testing various modules have been tested individually. This has been done manually to test if the expected result is actually seen on the screen.
- **Compatibility Testing:** This application was mainly designed for android smartphones as it helps user to find doctors and hospitals nearest to them according to their requirement. Different android phones have different screen size and resolution. This application has been made compatible with android device regardless of their screen size and different previous versions of android.
- **Location Testing:** A testing was carried out on different centralized locations of the city as mentioned in the form of coordinates. This shows the availability of nearby hospitals in the application on a particular point. The specialized hospitals are more in the city centre coordinates as compared with the other areas.

Screenshots :-



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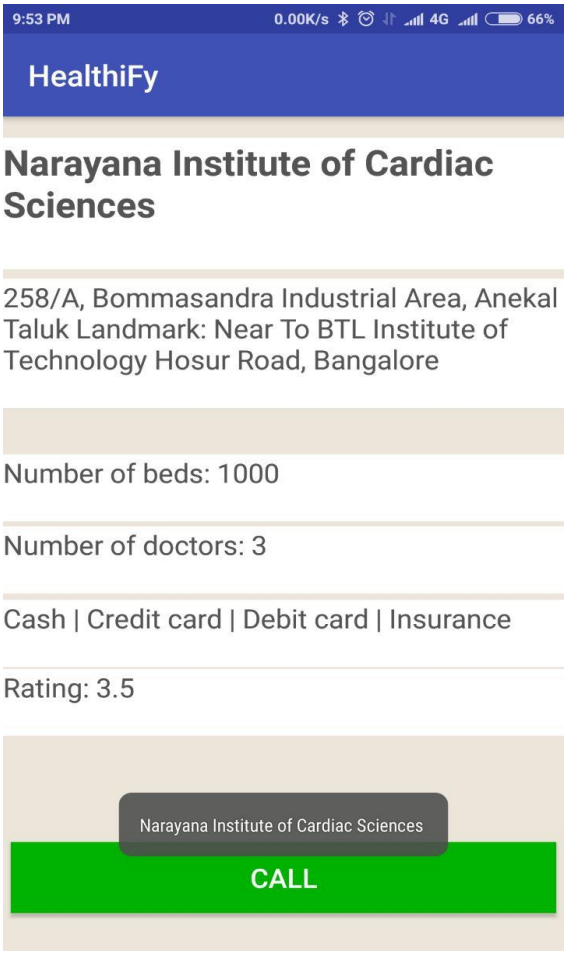
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HealthiFy
Narayana Institute of Cardiac Sciences
258/A, Bommasandra Industrial Area, Anekal Taluk Landmark: Near To BTL Institute of Technology Hosur Road, Bangalore
Number of beds: 1000
Number of doctors: 3
Cash | Credit card | Debit card | Insurance
Rating: 3.5
Narayana Institute of Cardiac Sciences
CALL

Conclusion

In case one has an option to call in case of emergency, the services like Justdial would be helpful but for those with an internet as option to search, the Hospital Finder application is a lot helpful where you don’t have to search for the location and hospitals around, where you get the other listings such as restaurants, pubs, coffee lounges, banks, stations etc. along with the hospitals and health care centres which you are searching for.

Future Enhancement

Currently, this application shows the static list of hospital details. This application can be enhanced to provide real time information about the doctor present in particular time in the specific hospital. This application is designed and tested within the Electronic City, Bangalore. Furthermore, this application can be upgraded to cover more cities and all major hospitals of the country.

Presently a radius of 5km is fixed in the coding and in later versions user can select the radius on his own.

References

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