**AmbuSearch**

**A Mini-Project Report**

**Under**

**IMPLEMENTATION OF TECHNOLOGY**

***Submitted by***

***MRIDUL AGRAWAL***

***ABHIJEET CHAKRAVORTY &***

***AVNISH KANUNGO***

***Under The Guidance Of***

**PROF .RATNESH CHATURVEDI**

***in partial fulfillment for the award of the degree***

***of***

**MBATech**

**IN COMPUTERS**



**at**

**nmIMS’S mUKESH PATEL SCHOOL OF TECHNOLOGY MANAGEMENT & eNGINEERING, mUMBAI**

**APRIL, 2016**

***CERTIFICATE***

This is to certify that the project entitled **AmbuSearch** is the bonafide work carried out by Mridul Agrawal, Abhijeet Chakravorty, Avnish Kanungo of MBATech (Computer Engineering), MPSTME (NMIMS), Mumbai, during the fourth semester of the academic year 2015-2016, in fulfillment of the requirements for the award of the Degree of MBAtech as per the norms prescribed by NMIMS. The project work has been assessed and found to be satisfactory.

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Ratnesh Chaturvedi

Internal Mentor

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Examiner 1 Examiner 2

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Dean

Dr. Sharad Y .Mhaiskar

***DECLARATION***

We, Mridul Agrawal, Abhijeet Chakravorty, Avnish Kanungo of MBATech (Computer Engineering), semester- IV, understand that plagiarism is defined as anyone or combination of the following:

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4. We have made sure that all the ideas, expressions, graphs, diagrams, etc., that are not a result of our work, are properly credited. Long phrases or sentences that had to be used verbatim from published literature have been clearly identified using quotation marks.

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Name: \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

Roll No. \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

Place: Mumbai

Date: April 2016

***ACKNOWLEDEMENT***

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Our thanks and appreciations also go to our batch mates in developing the project and people who have willingly helped us out with their abilities.

**Abbreviations**

|  |  |
| --- | --- |
| **Abbreviation** | **Description** |
| ADB | Android Debugging Bridge |
| ADT | Android Development Tools |
| Android SDK | Android Software Development Kit |
| ART | Android Runtime |
| CPU | Central Processing Unit |
| GPU | Graphic Processing Unit |
| IPS | In-Plane Switching |
| LCD | Liquid Crystal Display |
| RAM | Random Access Memory |
| SQL | Structured Query Language |
| XML | Extensible Markup Language |

***ABSTRACT***

Modern hand held devices such as smart phones and PDAs have become increasingly powerful in recent years. Dramatic breakthroughs in processing power along with the number of extra features included in these devices have opened the doors to a wide range of possibilities. In particular, most cell phones regularly include cameras, processors comparable to PCs from only a few years ago, and internet access, these features can help to revolutionise the emergency response systems.

Rate of road accidents have considerably increased with increased number of vehicles on the road as well as driver's carelessness in few cases or pedestrian. In case of a road accident or any other medical emergency such as heart attack or an illness that poses an immediate risk to a person’s life or long term health, ambulance service play a vital role in providing immediate medical attention to the patient and transporting the patient to the hospital quickly and safely.

Any response to an emergency medical situation will depend strongly on the situation, the patient involved and availability of resources to help them.

The prime objective of AmbuSearch is to create a full fledged Android application which that enables and helps users to contact nearby hospitals on the basis of the type of medical emergency. They receive results on the basis of the type of emergency and the vicinity of the patient to the hospital.

The Project is developed in Java Programming Language by using the Android Studio Integrated Development Environment (IDE). We used the Android Software Development Kit (SDK) which includes a variety of custom tools that help us develop mobile applications on the Android platform. The most important of these are the Android Emulator, HXAM Accelerator and the Android Development Tools (ADT) packages for Android Studio.

**Table of contents**

**CHAPTER NO. TITLE PAGE NO.**

List of figures 8

Abbreviations 5

Abstract 6

1. INTRODUCTION 9

1.1 Project Overview 11

1.2 Hardware Specification 12

1.3 Software Specification 13

1.4 Review of literature 14

2. ANALYSIS & DESIGN 15

3. METHODS IMPLEMENTED 26

4. RESULTS & DISCUSSION 27

5. CONCLUSION & FUTURE SCOPE 28

6. REFERENCES 29

***LIST OF FIGURES***

**CHAPTER NO. TITLE PAGE NO.**

1. INTRODUCTION

Fig 1 - Android Architecture Diagram 9

2. ANALYSIS AND DESIGN

Fig 2 - Screenshot\_AppOnPhone 15

Fig 3 - Screenshot\_MainActivity 16

Fig 4 - Screenshot\_SignIn 17

Fig 5 -Registration Screen 18

Fig 6 - registration successful 19

Fig 7 - login successful 20

Fig 8 -GPS Integration1 21

Fig 9 - GPS Integration 2 22

***INTRODUCTION***

**Introduction to Android:**

Android is an open source and Linux-based operating system for mobile devices such as smart phones and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies.

Android provides a rich application framework that allows you to build innovative apps and games for mobile devices in a Java language environment.

Android Architecture:

Android operating system is a stack of software components which is roughly divided into five sections and four main layers as shown below in the architecture diagram.



Fig 1.1

Android gives you a world-class platform for creating apps and games for Android users everywhere, as well as an open marketplace for distributing to them instantly. Android operating system is a stack of software components which is roughly divided into five sections and four main layers as shown below in the architecture diagram.

You will find all the Android application at the top layer. You will write your application to be installed on this layer only. Examples of such applications are Contacts Books, Browser, Games etc. These comprise both the native applications provided with the particular Android implementation (for example web browser and email applications) and the third party

applications installed by the user after purchasing the device. Applications created by third party users or developers will be installed here.

**Introduction to Application:**

AmbuSearch is an app on the android platform that enables and helps users to get emergency response to medical situations through their smart phone hence saving precious time which might otherwise be wasted in making calls and providing information to the hospital administration.

The app’s purpose is to streamline the procedure by which an ambulance arrive to a patient

by providing all the necessary information about the patient such as personal information, contact information, address , past medical history etc.

Users can find specific hospitals on the basis of their medical emergency. They are also provided a full list of hospitals nearby out of which they can choose. The app is connected to the gps and provide the shortest route to the destination and provides traffic info to make the journey fast.

Any response to an emergency medical situation will depend strongly on the situation, the patient involved and availability of resources to help them.

Project Overview:

AmbuSearch is an app on the android platform that enables and helps users to get emergency response to medical situations through their smart phone.

Its silent features include:

* Ambulance locator
* Contains patient ID, name, phone no., etc
* Links patient medical history to the app
* Contains road traffic info
* Accident spot
* Hospital groups based on area
* Availability of beds also included in app in different hospitals
* Hospitals within a range of 2km are located

Hardware Specification

Colleger is not a hardware intensive application, thus requires very basic level of hardware, as its application ranges across all devices, low end to high end, phones to tablets. Thus, the following are the minimum hardware specifications required to run the application:

* Processor:
  + Quad-core 1.2 GHz
  + PowerVR SGX 540 GPU.
* Memory:
  + 768 MB RAM
  + 1 GB of Flash Memory
  + Micro-SD card slot (Optional)
* Screen:
  + 3.5-inch LCD display
  + Capacitive or Resistive touch

During Development of the application, a Nexus 4 was used to develop and test the application.

Software Specification

Colleger is designed to work on Android 4.0, Ice Cream Sandwich and above.

Apart from Android 4.0 and above, the application, like most android applications can run on the following Operating Systems:

* Blackberry OS 11
* Sailfish OS
* Chrome OS
* Color OS
* INUI OS
* YUN OS
* Nokia X mobile Platform

Some of these are based on android, while some (Bbos 11, Sailfish OS) are made compatible to run android applications. Following is the list of Android versions on which Colleger has been tested:

* Android 4.0 (Ice Cream Sandwich)
* Android 4.2 (Jellybean)
* Android 4.3 (Jellybean)
* Android 4.4 (KitKat)
* Android 5.0 (Lollipop)
* Android 5.0.2 (Lollipop)
* Android 5.1 (Lollipop)

This gives the application a broad platform, as these operating systems are in majority of smart phones being used by prospective users.

The application needs an stable internet connection to run efficiently.

Review of Literature

A literature review is a text of a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. Most often associated with academic-oriented literature, such as a thesis, dissertation or a peer-reviewed journal article, a literature review usually precedes the methodology and results section although this is not always the case. Literature reviews are also common in a research proposal or prospectus. Its main goals are to situate the current study within the body of literature and to provide context for the particular reader. Literature reviews are a basis for research in nearly every academic field.

**Java:**

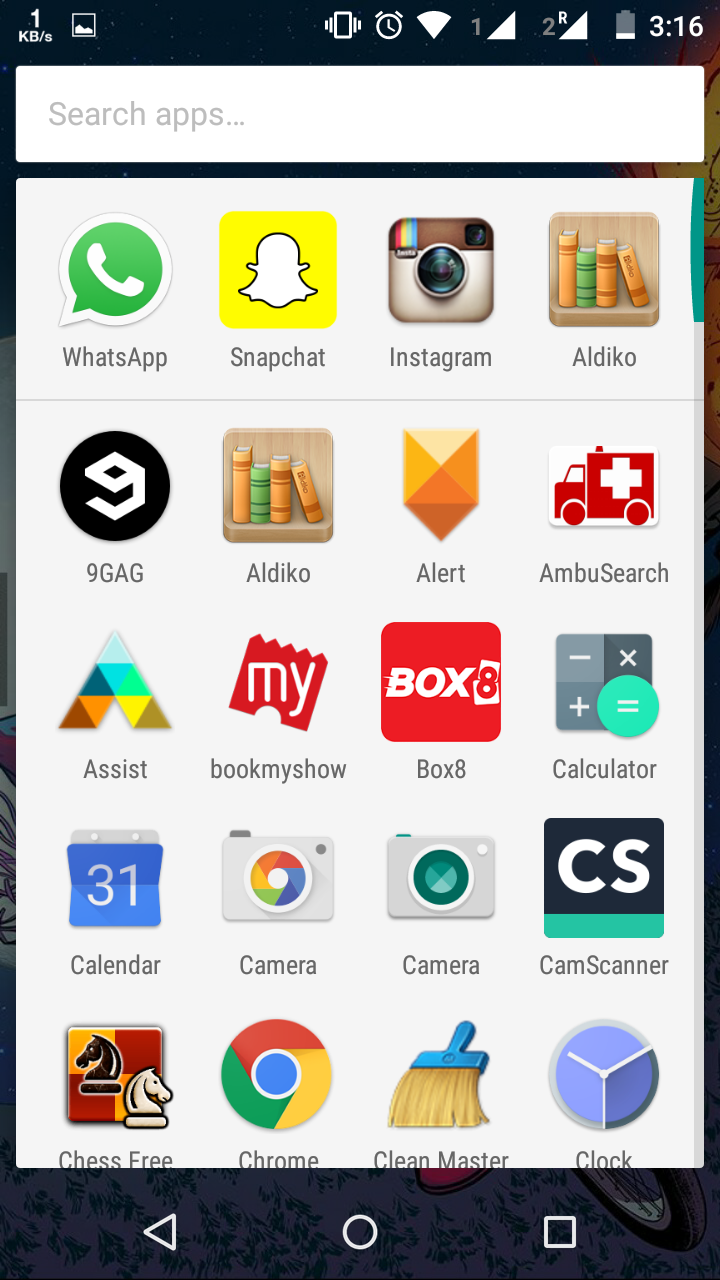
Java is a set of several computer software and specifications developed by Sun. Microsystems, later acquired by Oracle Corporation, that provides a system for developing application software and deploying it in a cross-platform computing environment. Java is used in a wide variety of computing platforms from embedded devices and mobile phones to enterprise servers and supercomputers. While less common, Java applets run in secure, sandboxed environments to provide many features of native applications and can be embedded in HTML pages.

Writing in the Java programming language is the primary way to produce code that will be deployed as byte code in a Java Virtual Machine (JVM); byte code compilers are also available for other languages, including Ada, JavaScript, Python, and Ruby. In addition, several languages have been designed to run natively on the JVM, including Scala, Clojure and Groovy. Java syntax borrows heavily from C and C++, but object-oriented features are modeled after Smalltalk and Objective-C.Java eschews certain low-level constructs such as pointers and has a very simple memory model where every object is allocated on the heap and all variables of object types are references. Memory management is handled through integrated automatic garbage collection performed by the JVM.

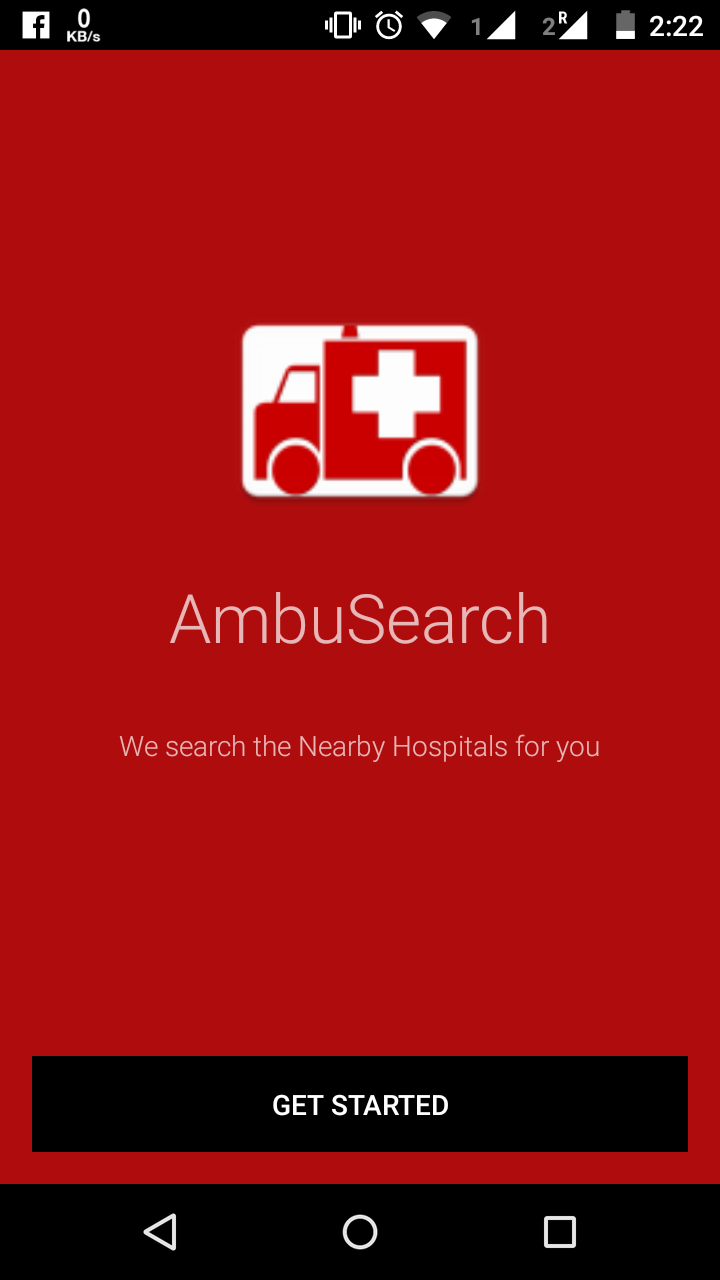
***ANALYSIS & DESIGN***

During the conception of the application, the requirements were mapped out first. This included analyzing the need of this application, its features and figuring out a list of functions it would perform during operation. This largely consisted of the analysis.

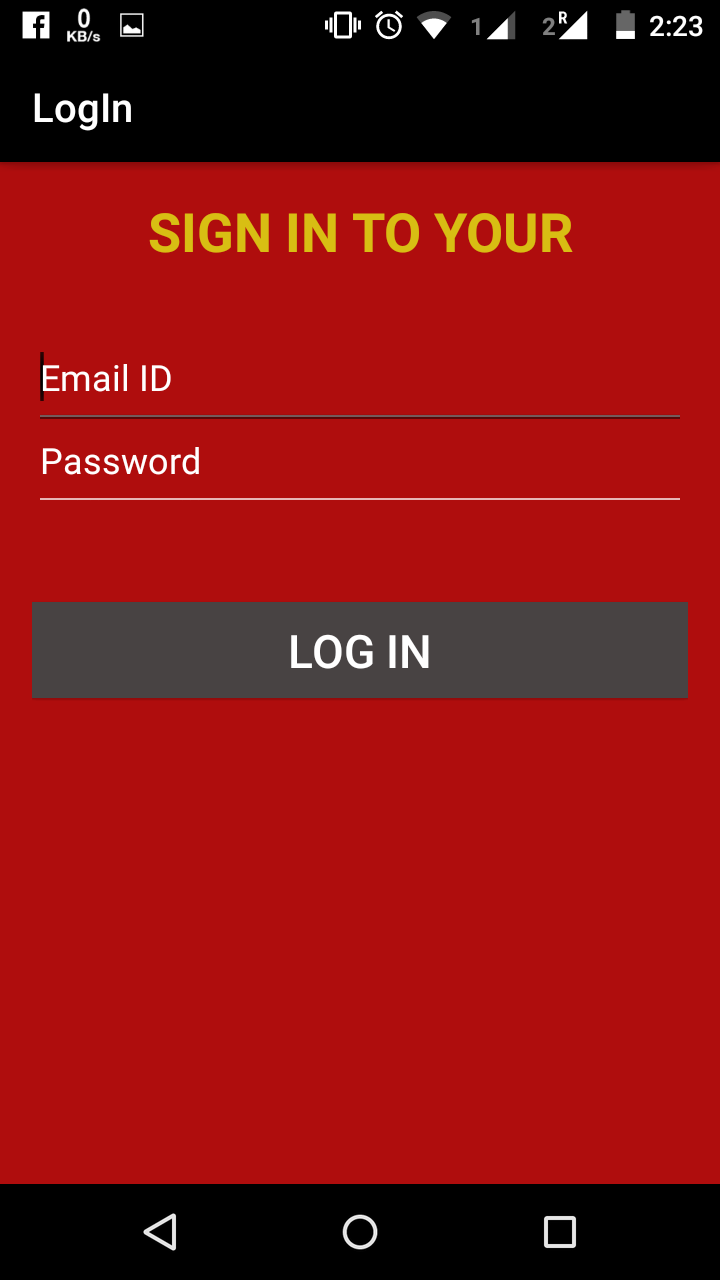
After performing a complete analysis, the design of the application was pursued. AmbuSearch was designed on android studio. It consists of minimal information to be filled to obtain the required services. It has its own database which stores all the registration information and medical history of the user.

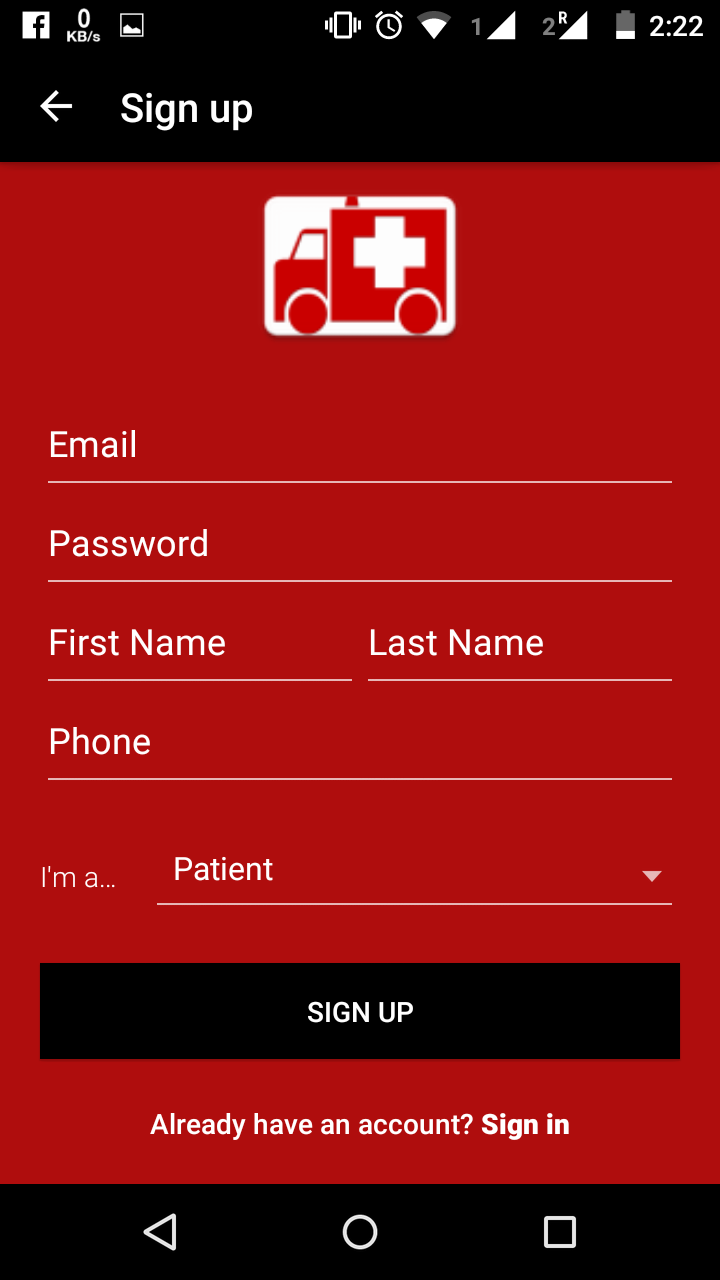
**Fig 2: App on Phone Menu**

**Fig 3: Main Activity**

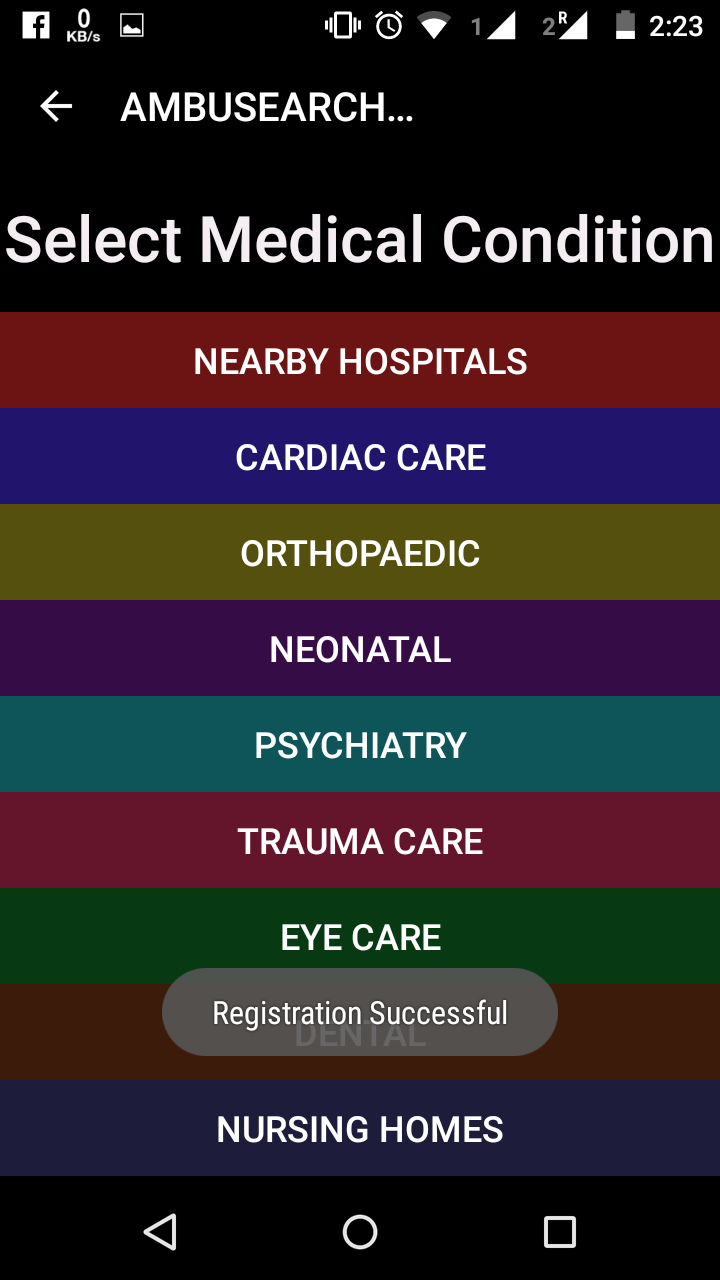
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**4: Login Screen**

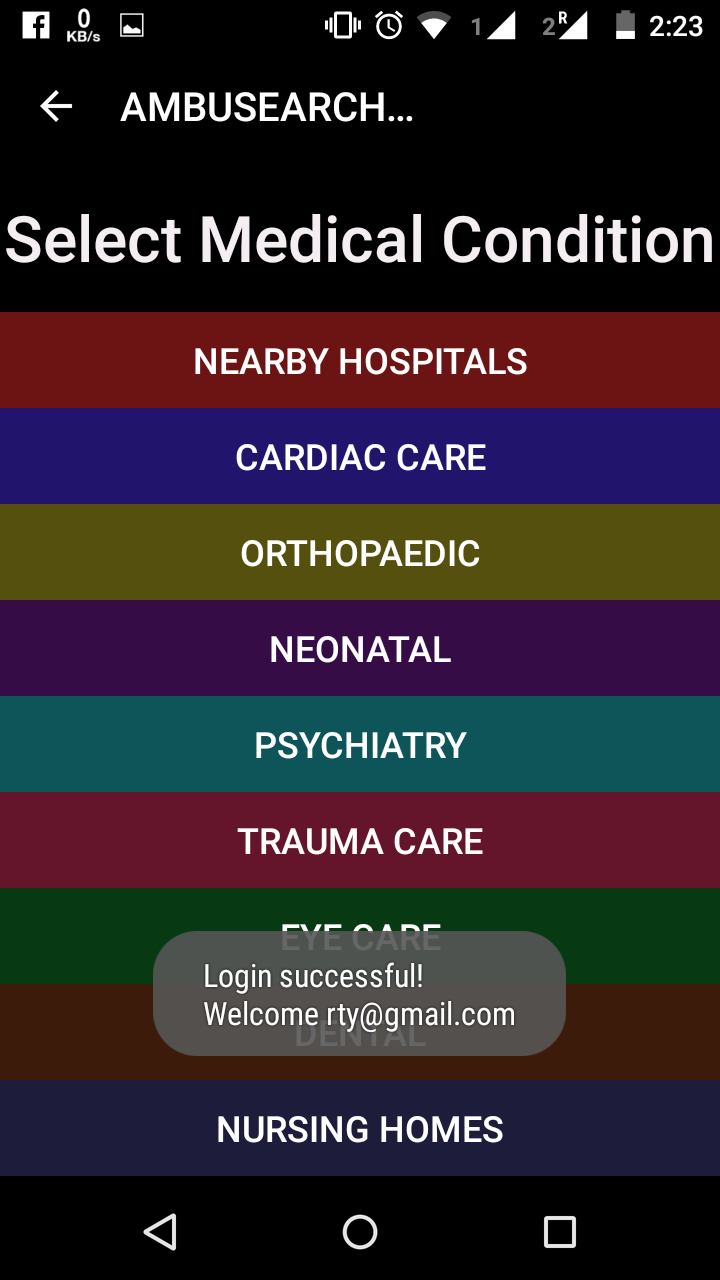
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**Fig 5: Registration Screen**

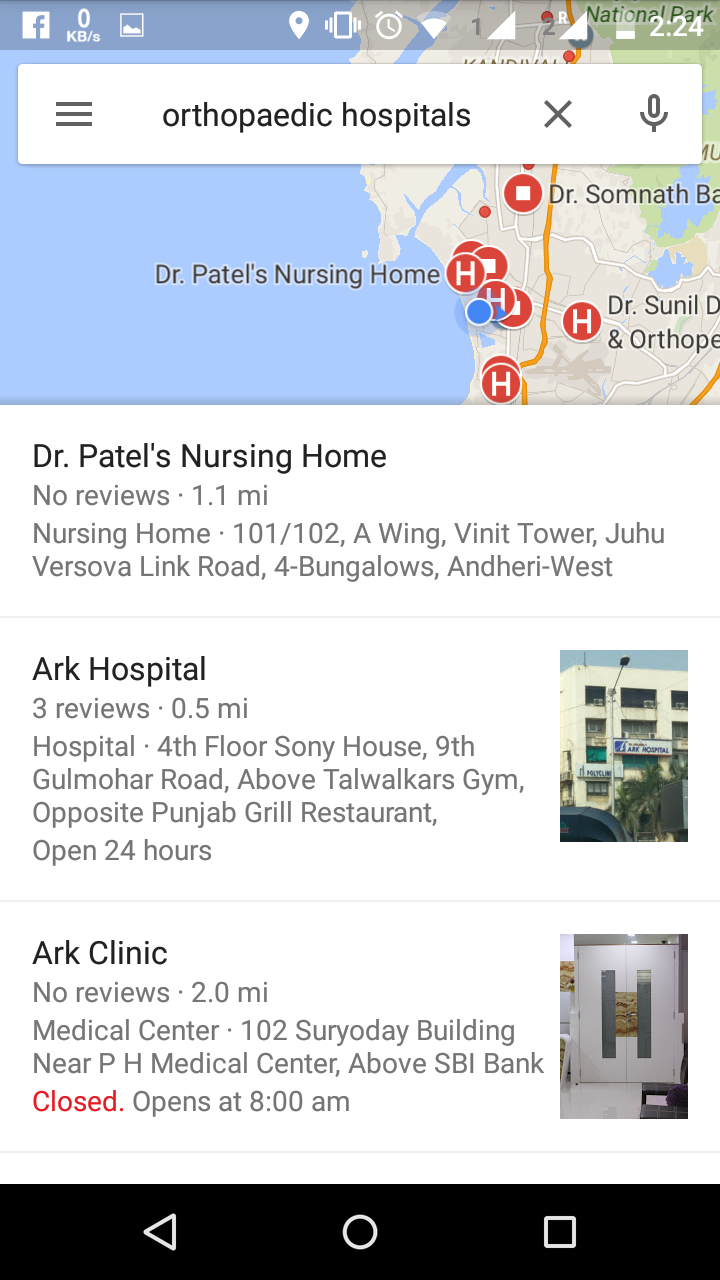
**Fig 6: Registration Successful**

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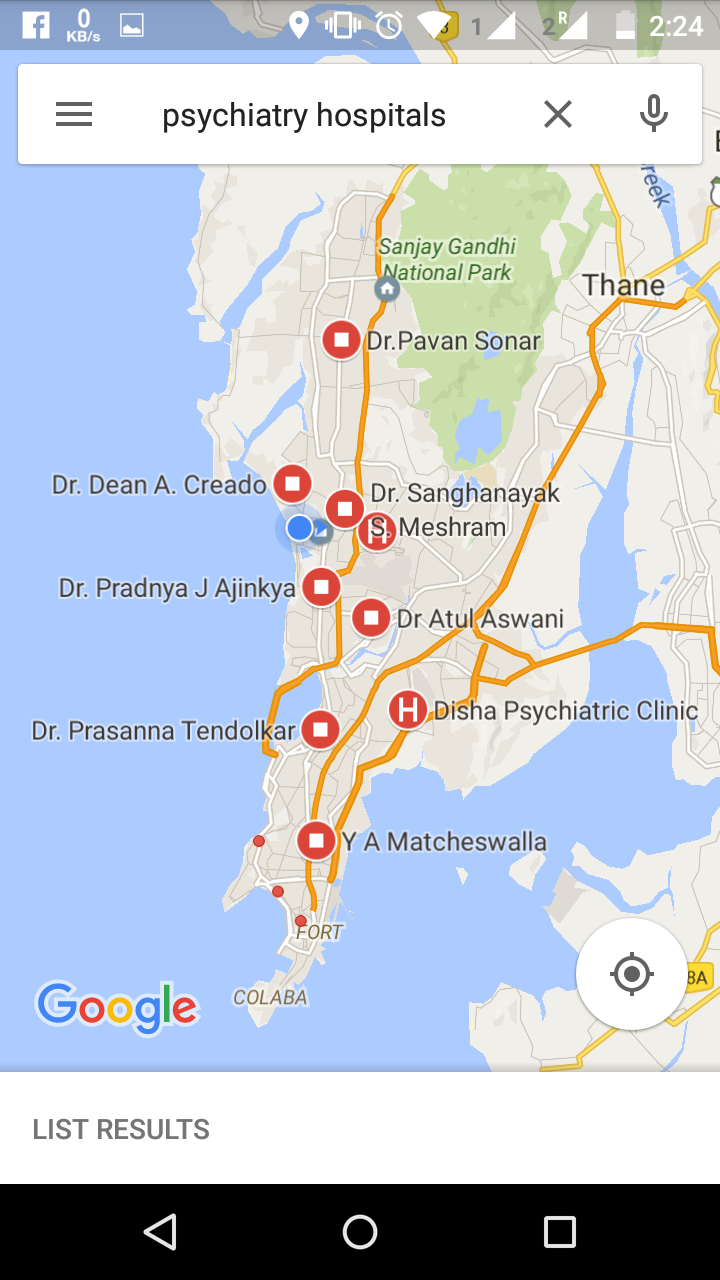
**Fig 7:Login Successful**

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**Fig 8 :GPS integration(eg:nearby orthopaedic hospitals)**

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**Fig 9 :Positions of the nearby Hospitals**

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***METHODS IMPLEMENTED***

**Android Studio:**

Android Studio is the official IDE for Android application development, based on IntelliJ IDEA. On top of the capabilities you expect from IntelliJ, Android Studio offers:

Flexible Gradle-based build system.

Build variants and multipleapk file generation.

Code templates to help you build common app features.

Rich layout editor with support for drag and drop theme editing lint tools to catch performance, usability, version compatibility, and other problems.

ProGuard and app-signing capabilities.

Built-in support for Google Cloud Platform, making it easy to integrate Google Cloud.

Messaging and App Engine.

***RESULTS AND DISSCUSSION***

The main frame of the application has been created . A user can create a profile and view events Internally a lot of features can be still accommodated .We are yet to take the App online . Evevy app needs to be updated with new features and we will continue to upgrade the app with new features and building more user friendly screens for this app.

***CONCLUSION & FUTURE SCOPE***

* The application will be available for public use after it is fully operational & its development is complete.
* The application will be free to download and will be aimed at masses in cities and towns with slow expansion towards rural areas where medical assistance is difficult to obtain.
* The application is not intended for profit purpose and aims to help the community at large.
* We changed the base theme of the app to a dark colour scheme, created the sign up page, sign in option, connected database for login and linked option of hospitals using google search to buttons defined for various medical conditions.

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