VIT®

Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

School of Information Technology & Engineering

M.Tech Software Engineering

Course : SWE2008 - Android Programming

Project Review

Project Title : AnswerArea Community

Submitted By:

Reg.No : 16MIS0433

Name : Mano Bala.R

Mob : 9566394246

Under the Guidance of

Mr.Senthil Murugan,

Software Development Cell,VIT University,

Vellore.

DECLARATION BY THE CANDIDATE

This is to certify that this Project Report entitled "**AnswerArea Community**" which is submitted by **Mano Bala.R (16MIS0433),** in the partial fulfillment, for the award of the Android Programming is a record of bonafide project work carried out by me under the guidance of **Senthil Murugan.B**.I further declare that the work reported in this project has not been submitted and will not be submitted ,either in part or in full,for the award of any other course in this institute or university to the best of my knowledge and belief **.**

Place : Vellore

Date : 13-11-2018

Signature of the Candidate:

Mano Bala.R

Introduction

In today's world, Smart phones have changed our lives and have become an indispensable part of our lives because of its specialty to simplify our routine work and thereby saving our time. A Smartphone with an Android OS offers excellent functionality to the users offering a distinct experience. Android is a Linux based operating system and it was bought by Google in 2007.There are tons of application available and one of the prime reason for this vast number is android being an open source. On the other hand, android based device like mobile, tab are very user friendly. A survey has done by "Light Castle Partners" research wing which indicates that though other operating system mobile users exist but the majority users are goes with android operating system.

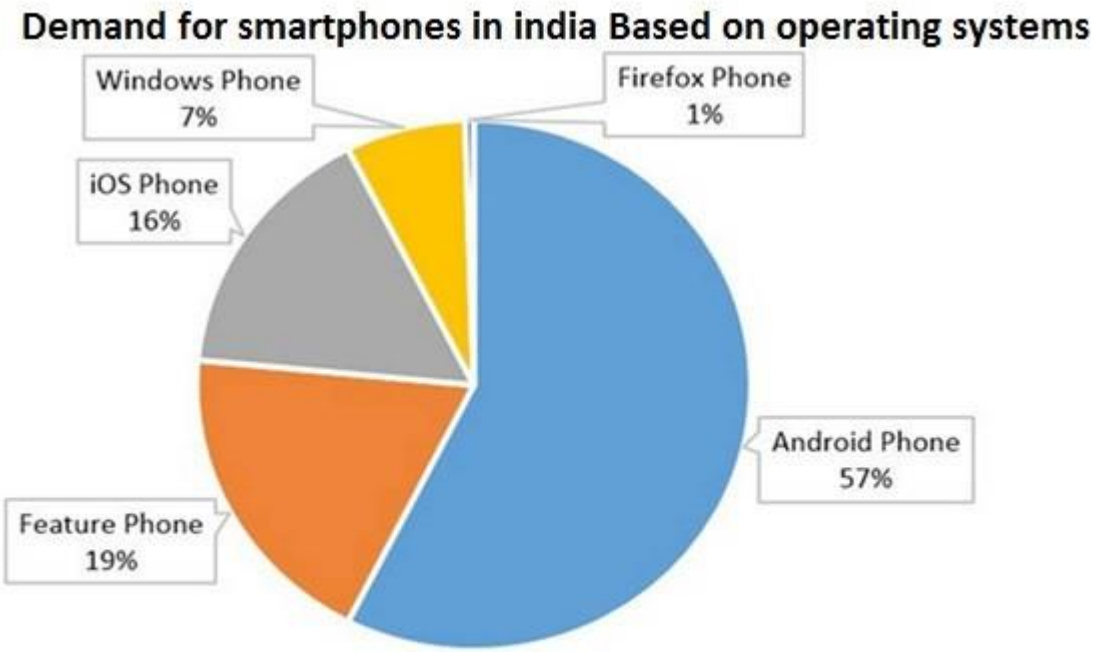


Figure 1: A survey result on a random sample of different age groups of mobile phone users in India, based on their preferred operating systems

In this context, Project **application** is developed based on **android platform**. The name of application is define as '**AnswerArea**'. Aim of this project is to develop an android platform supported Question and Answer application named "AnswerArea". It is an online webview application where user with login privilege can do task like add, delete and edit from application user interface (UI) and viewers can participate for answering the questions asked by other users.

So, **goals of this project** to facilitate users to configure questions as well as giving answers with this android based smart phone. User friendly environment configuration is also another goal for this project application.

Objectives

The main objective of "AnswerArea" is to facilitate a user friendly environment for all users where they can share information and gain knowledge. In past days questions are not much answered and not reached to everyone.But with the use of technologies in this generation our app can help peoples solve lots of problems. The functional requirements include to create questions that are going to be answered by the users itself, automatic score and mark generation based on the questions and answers answered by the user gives administrative tasks like add, delete, update the questions as well as answers. In this application, all the permissions lies with the administrator

Problem Statement

To design and implement an **Android Webview** App for online question answering platform to ask questions and connect with people who contribute unique insights and quality answers.The App runs online where the site(answerarea.com) is hosted in **Amazon Web Server**.The site is constructed using Wordpress theme and it is compatible to view in any device.While there are other apps like quora,stack overflow and yahoo answers,this app can be helpful to the local users,where it can be multilingual in the future which helps most of the users to view content in their desired language.

Implementation:

Technologies Used

- Microsoft Windows 7 or 10
- Java Development Kit
- Android SDK
- Intel Hardware Accelerated Execution Manager (HAXM)

Microsoft Windows 7

It should be mentioned that all tools and technology are installed for development work at windows 7 or 10 operating system 64 bit platform. Windows 7 is a personal computer operating system developed by Microsoft.

Component	Operating system architecture	
	32-bit	64-bit
Processor	1 GHz IA-32 processor	1 GHz x86-64 processor
Memory (RAM)	1 GB	2 GB
Graphics card	DirectX 9 graphics processor with WDDM driver model 1.0 (Not absolutely necessary; only required for Aero)	
Free hard drive space	16 GB	20 GB
Optical drive	DVD-ROM drive (Only to install from DVD-ROM media)	

Table I: Windows 7 Minimum Hardware Requirement

The maximum amount of RAM that Windows 7 supports varies depending on the product edition and on the processor architecture, as shown below figure

Edition	Processor architecture	
	IA-32 (32-bit)	x64 (64-bit)
Ultimate	4 GB	192 GB
Enterprise		
Professional		
Home Premium		16 GB
Home Basic		8 GB
Starter	2 GB	

Table II: Physical memory limits of Windows 7

Java Development Kit (JDK)

A Java Development Kit (JDK) is a program development environment for writing Java applets and applications. It consists of a runtime environment that "sits on top" of the operating system layer as well as the tools and programming that developers need to compile, debug, and run

Android SDK

The Android SDK (software development kit) is a set of development tools used to develop applications for Android platform. The Android SDK includes the following:

- Required libraries
- Debugger
- An emulator
- Relevant documentation for the Android application program interfaces (APIs)
- Sample source code
- Tutorials for the Android OS

- Every time Google releases a new version of Android, a corresponding SDK is also released. To be able to write programs with the latest features, developers must download and install each version's SDK for the particular phone.
- API Level is an integer value that uniquely identifies the framework API revision offered by a version of the Android platform. The Android platform provides a framework API that applications can use to interact with the underlying Android system.

The table below specifies the API Level supported by each version of the Android platform

Platform Version	API Level	VERSION_CODE
Android 7.0	25	NOUGAT
Android 6.1	24	MARSHMALLOW
Android 6.0	23	MARSHMALLOW
Android 5.1	22	LOLLIPOP_MR1 Android 5.0 21
LOLLIPOP		
Android 4.4W	20	KITKAT_WATCH
Android 4.4	19	KITKAT Android 4.318
JELLY_BEAN_MR2		
Android 4.2, 4.2.217	JELLY_BEAN_MR1 Android 4.1, 4.1.1	16
JELLY_BEAN		
Android 4.0.3, 4.0.4	15	ICE_CREAM_SANDWICH_MR1
Android 4.0, 4.0.1, 4.0.2	14	ICE_CREAM_SANDWICH
Android 3.2	13	HONEYCOMB_MR2
Android 3.1.x	12	HONEYCOMB_MR1
Android 3.0.x	11	HONEYCOMB

Table III: API Level supported by each version of the Android platform.

Applications can use a manifest element provided by the framework API <usessdk> to describe the minimum and maximum API Levels under which they are able to run, as well as the preferred API Level that they are designed to support.

Intel Hardware Accelerated Execution Manager (HAXM) :

Intel(r) HAXM is the Intel® Hardware Accelerated Execution Manager is a hardwareassisted virtualization engine (hypervisor) that uses Intel Virtualization Technology (Intel(r) VT) to speed up Android app emulation

on a host machine. In combination with Android x86 emulator images provided by Intel and the official Android SDK Manager, HAXM allows for faster Android emulation on Intel VT enabled systems. The Intel HAXM driver runs inside the emulator as well as on the host machine. It runs on various versions of

Windows, Linux, and Mac OS.The following platforms are supported by the Intel

HAXM.

- Windows 8 and 8.1 (32/64-bit)
- Windows 7 (32/64-bit)
- Windows Vista (32/64-bit)

Tools Used :

Android Studio

Android Studio is Android's official IDE. It is purpose built for Android to accelerate your development and help you build the highest-quality apps for every Android device.It offer tools custom-tailored for Android developers, including rich code editing, debugging, testing, and profiling tools.

- Operating System

  A recent version of Windows, OS X or Ubuntu

- Memory

2 GB RAM (available memory, rather than total memory)

- Java Runtime

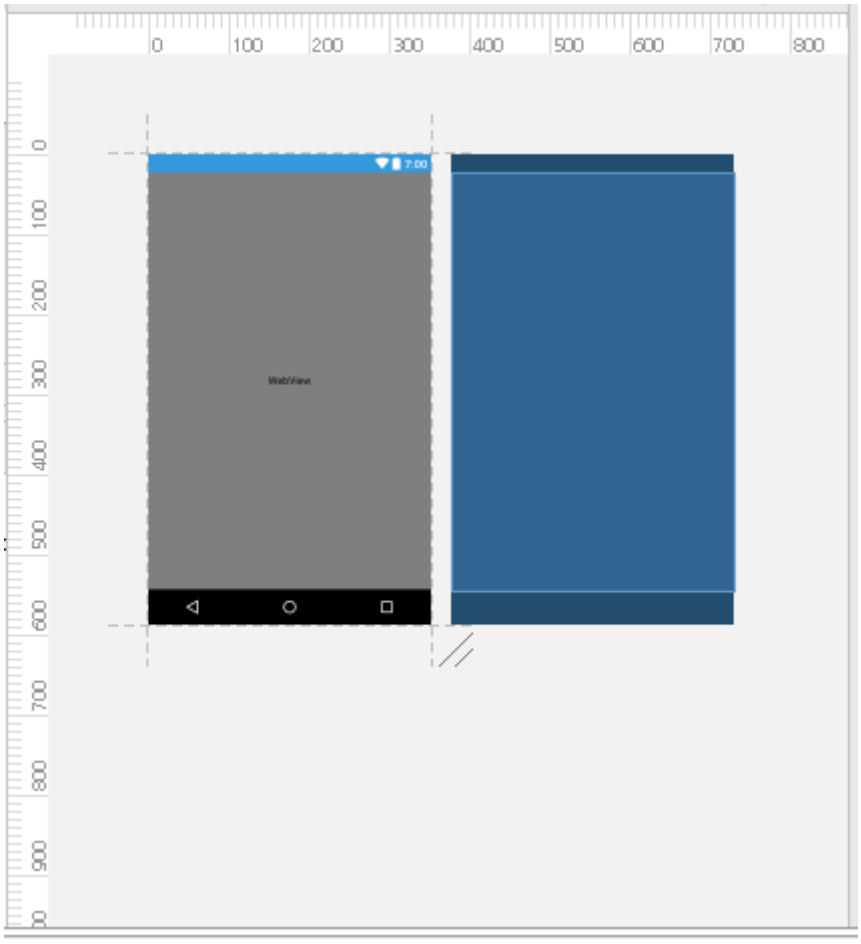
  Oracle JDK (no other brand of Java is suitable)

System Requirement

Device	Operating System (OS)	OS Version	RAM	Disk Space
Android Mobile/Tab	Android	4.0.x to higher	64 MB or higher	18 Mb

Table V: Minimum System Requirement

Layout Design



As the project is developed as **webview**,it has no more buttons needed inside the Interface.

Some Features Included in the app are:

1. SplashScreen with sleeptime
2. Go to Home on pressing home key.
3. Go to back on pressing back button.
4. Orientation Adaptable.
5. App Icon is Added.
6. Swipe Down to Refresh
7. Notification Bar Colour Blue is Added
8. On no network connection,displays connect to Internet image as message to the user.

Coding:

Package:aa.answerarea->MainActivity.java

```
package aa.answerarea;

import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.net.ConnectivityManager;
import android.net.NetworkInfo;
import android.net.Uri;
import android.nfc.Tag;
import android.os.Handler;
import android.provider.ContactsContract;
import android.support.v4.widget.SwipeRefreshLayout;
import android.support.v7.app.ActionBar;
import android.support.v7.app.ActionBarActivity;
import android.os.Bundle;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.util.Log;
import android.view.Menu;
import android.view.MenuItem;
import android.view.Window;
import android.webkit.WebChromeClient;
import android.webkit.WebSettings;
import android.webkit.WebView;
import android.webkit.WebViewClient;
```

```
public class MainActivity extends AppCompatActivity {


    WebView myWebView;
    SwipeRefreshLayout swipe;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        swipe = (SwipeRefreshLayout) findViewById(R.id.swipe);
        swipe.setOnRefreshListener(new SwipeRefreshLayout.OnRefreshListener() {
            @Override
            public void onRefresh() {

                LoadWeb();
            }
        });

        LoadWeb();


    }
        public void LoadWeb(){

            myWebView = (WebView) findViewById(R.id.webView);

            WebSettings settings = myWebView.getSettings();
            settings.setLoadWithOverviewMode(false);
            settings.setUseWideViewPort(false);

            myWebView.getSettings().setJavaScriptCanOpenWindowsAutomatically(true);

            myWebView.getSettings().setJavaScriptEnabled(true);
            myWebView.getSettings().setUserAgentString("Android");
            myWebView.getSettings().setAppCacheEnabled(false);
            myWebView.getSettings().setSupportMultipleWindows(false);
            myWebView.getSettings().setCacheMode(WebSettings.LOAD_NO_CACHE);
            myWebView.getSettings().setSavePassword(false);

            myWebView.getSettings().setDomStorageEnabled(true);

            myWebView.loadUrl("https://www.answerarea.com/");
            swipe.setRefreshing(false);



            myWebView.setWebViewClient(new WebViewClient(){



                public void onReceivedError(WebView view, int errorCode, String description, String failingUrl) {

                    myWebView.loadUrl("file:///android_asset/error.html");
                }

                public  void  onPageFinished(WebView view, String url){

                    //Hide the SwipeReefreshLayout

                    swipe.setRefreshing(false);
                }
```

```
        });
    }


  @Override
  public void onBackPressed() {
    if (myWebView.canGoBack()) {
      myWebView.goBack();
    } else {
      super.onBackPressed();
    }
  }

 // public static final String USER_AGENT_FAKE = "Mozilla/5.0 (Linux; Android 4.1.1; Galaxy Nexus Build/JRO03C) AppleWebKit/535.19 (KHTML, like Gecko) Chrome/18.0.1025.166 Mobile Safari/535.19";

}
```

Package:aa.answerarea ->MyApp.java

```
package aa.answerarea;

import android.app.Application;
import android.os.SystemClock;

/**
 * Created by Mano Bala on 21-08-2017.
 */

public class MyApp extends Application {

  @Override
  public void onCreate() {
    super.onCreate();
    SystemClock.sleep(1500);
  }
}
```

Package:aa.answerarea ->SplashActivity.java

```
package aa.answerarea;

import android.content.Intent;
import android.os.Bundle;
import android.support.annotation.Nullable;
import android.support.v7.app.AppCompatActivity;



public class SplashActivity extends AppCompatActivity {

  @Override
```

```
    protected void onCreate(@Nullable Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        Intent intent =new Intent(this,MainActivity.class);
        startActivity(intent);
        finish();
    }



}
```

Assets->error.html (For no network connection display error message)

```
<!doctype html>
<html lang="en" xmlns="http://www.w3.org/1999/html">
<head>
  <meta charset="utf-8">
  <meta name="apple-mobile-web-app-capable" content="yes">
  <meta name="mobile-web-app-capable" content="yes">
  <title>No Connection</title>

<!-- Stylesheets-->
 <style type="text/css">
 body{
  background: #E1e1e1;
}

#cloud{
  width: 320px;
  height: 210px;
  background: #676767;

  background: -webkit-linear-gradient(-90deg,#3498DB 5%, #3498DB 100%);

  -webkit-border-radius: 100px;
  -moz-border-radius: 100px;
  border-radius: 100px;

  position: relative;

  margin: 150px auto 0;
  opacity: .5;
}

#cloud:before, #cloud:after{
  content: '';
  position:absolute;
  background: #3498DB;
  z-index: -1;
}

#cloud:after{
  width: 100px;
  height: 100px;
  top: -50px;
  left:50px;

  -webkit-border-radius: 100px;
  -moz-border-radius: 100px;
  border-radius: 100px;
}
```

```
#cloud:before{
  width: 140px;
  height: 140px;
  top: -70px;
  right: 50px;

  -webkit-border-radius: 200px;
  -moz-border-radius: 200px;
  border-radius: 200px;
}

.shadow {
  width: 300px;
  position: absolute;
  bottom: -10px;
  background: black;
  z-index: -1;

  -webkit-box-shadow: 0 0 25px 8px rgba(0,0,0,0.4);
  -moz-box-shadow: 0 0 25px 8px rgba(0,0,0,0.4);
  box-shadow: 0 0 25px 8px rgba(0,0,0,0.4);

  -webkit-border-radius: 50%;
  -moz-border-radius: 50%;
  border-radius: 50%;

}

h2 {
  color: #fff;
  font-size: 20px;
  padding-top: 15px;
  text-align: center;
  margin: 5px auto;
}

h4 {
  color: #fff;
  font-size: 12px;
  margin: 0 auto;
  padding: 0;
  text-align: center;
}

 </style>

<body>
<div id="cloud">
   <center> <h2>AnswerArea :)</h2></center>
      <center> <h2>No Connection :(</h2></center>
<center><h3>Check your WiFi or Mobile Internet!</h3></center>
<center><h3>Swipe Down to Refresh!</h3></center>
<span class="shadow"></span></div>

</body>
</html>
```

Res->drawable(Icons,Error Image and Splash Image Included)

-ansarea.png

-answerarea.png
-error.png
-splashlogo.png
-whitelogo.png

Res->drawable->background.xml

```
<?xml version="1.0" encoding="utf-8"?>
<layer-list xmlns:android="http://schemas.android.com/apk/res/android">

   <item android:drawable="@android:color/holo_blue_dark"/>

<item>
<bitmap android:src="@drawable/whitelogo"
   android:gravity="center"/>


</item>

</layer-list>
```

Res->Layout->activity_home.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context="aa.answerarea.MainActivity">

</android.support.constraint.ConstraintLayout>
```

Res->Layout->activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">

   <android.support.v4.widget.SwipeRefreshLayout
      android:id="@+id/swipe"
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:layout_alignParentStart="true"
      android:layout_alignParentTop="true"
      android:layout_marginStart="0dp"
      android:layout_marginTop="0dp">

      <WebView
```

```
        android:id="@+id/webView"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:layout_alignParentStart="true"
         android:layout_alignParentLeft="false">
      </WebView>
   </android.support.v4.widget.SwipeRefreshLayout>
</RelativeLayout>
```

Res->menu->menu_main.xml

```
<menu xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools" tools:context=".MainActivity">
   <item android:id="@+id/action_settings" android:title="@string/action_settings"
      android:orderInCategory="100" app:showAsAction="never" />
</menu>
```

Res->values->colors.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>

   <color name="primary">#3498DB</color>
   <color name="primary_dark">#3498DB</color>
   <color name="accent">#3498DB</color>

</resources>
```

Res->dimens->strings.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>

   <string name="app_name">AnswerArea</string>
   <string name="hello_world">Hello world!</string>
   <string name="action_settings">Settings</string>
   <string name="tvMainText">Unit Test</string>

</resources>
```

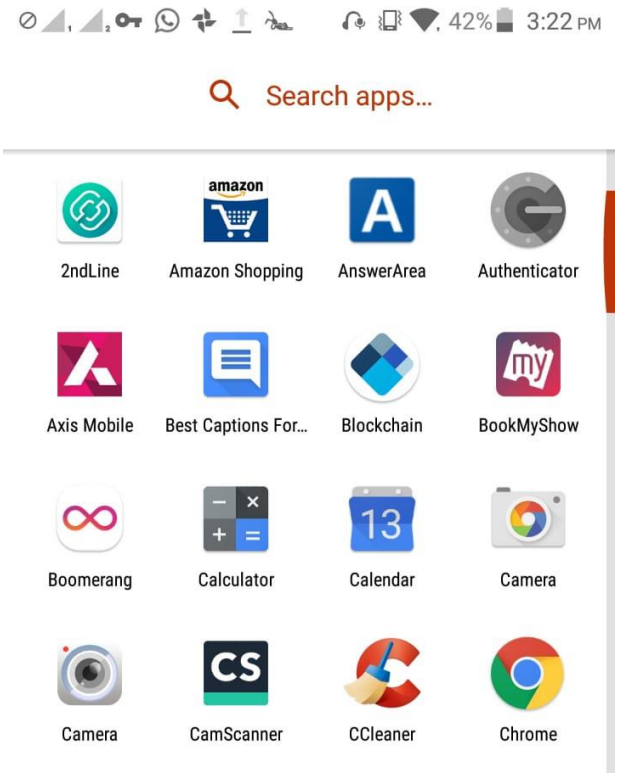
Res->dimens->styles.xml

```
<resources>

   <!-- Base application theme. -->
   <style name="AppTheme" parent="Theme.AppCompat.Light.NoActionBar">
      <!-- Customize your theme here. -->
     <item name="android:colorPrimary">@color/primary</item>

      <item name="android:colorPrimaryDark">@color/primary_dark</item>
```

```
    <item name="android:colorAccent">@color/accent</item>
  </style>

  <style name="SplashTheme" parent="Theme.AppCompat.NoActionBar">
<item name="android:windowBackground">@drawable/background</item>

  </style>

</resources>
```

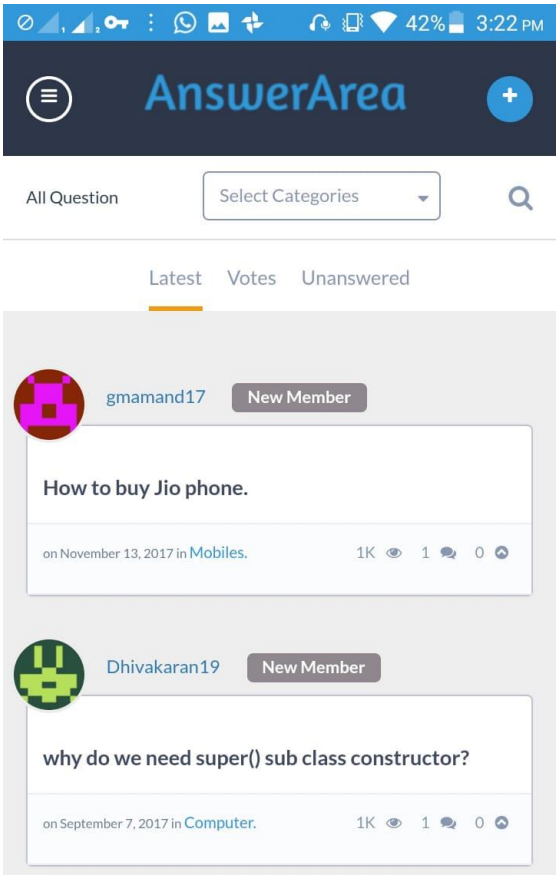
Execution Screenshots(WebView Functions Included) :

1.App Logo:(AnswerArea)

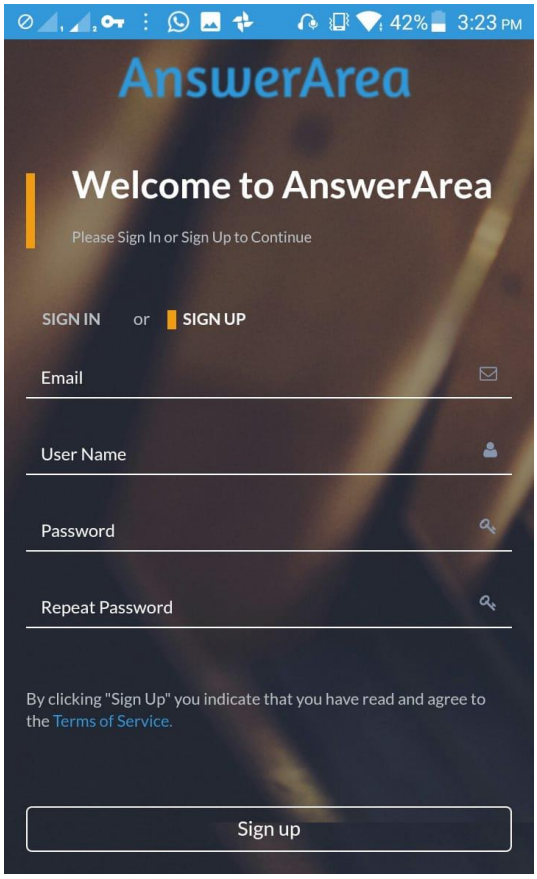


2.SplashScreen:

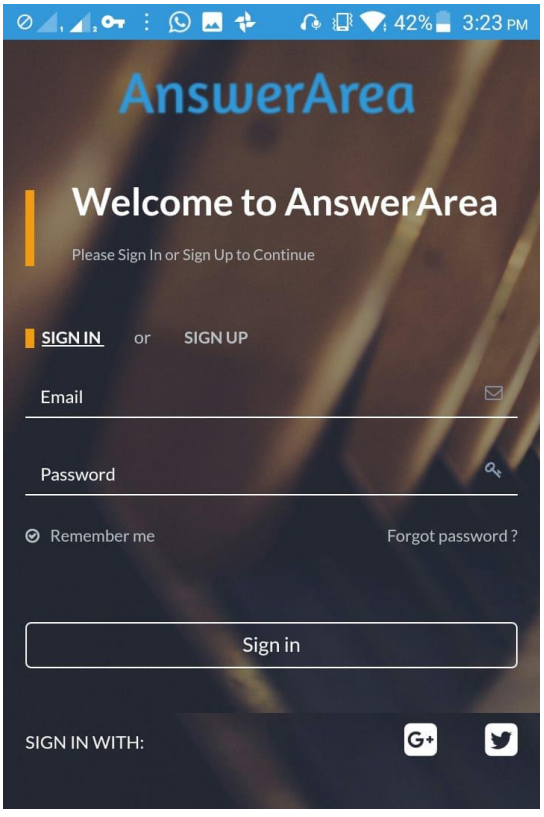
3.MainInterface:



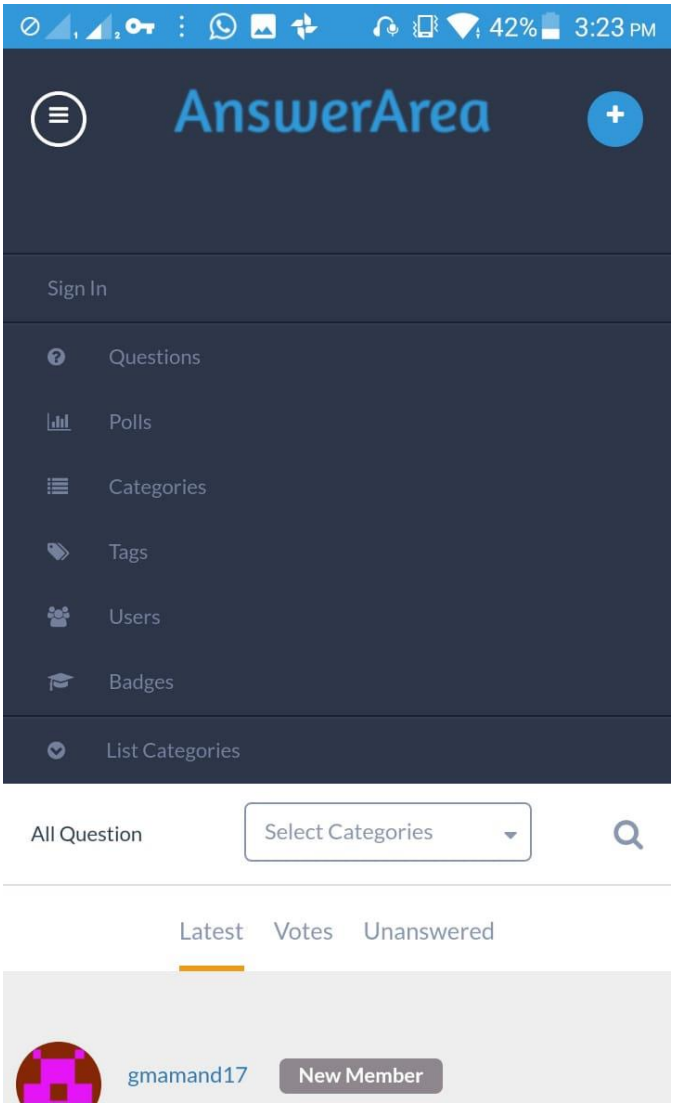
4.SignUp :



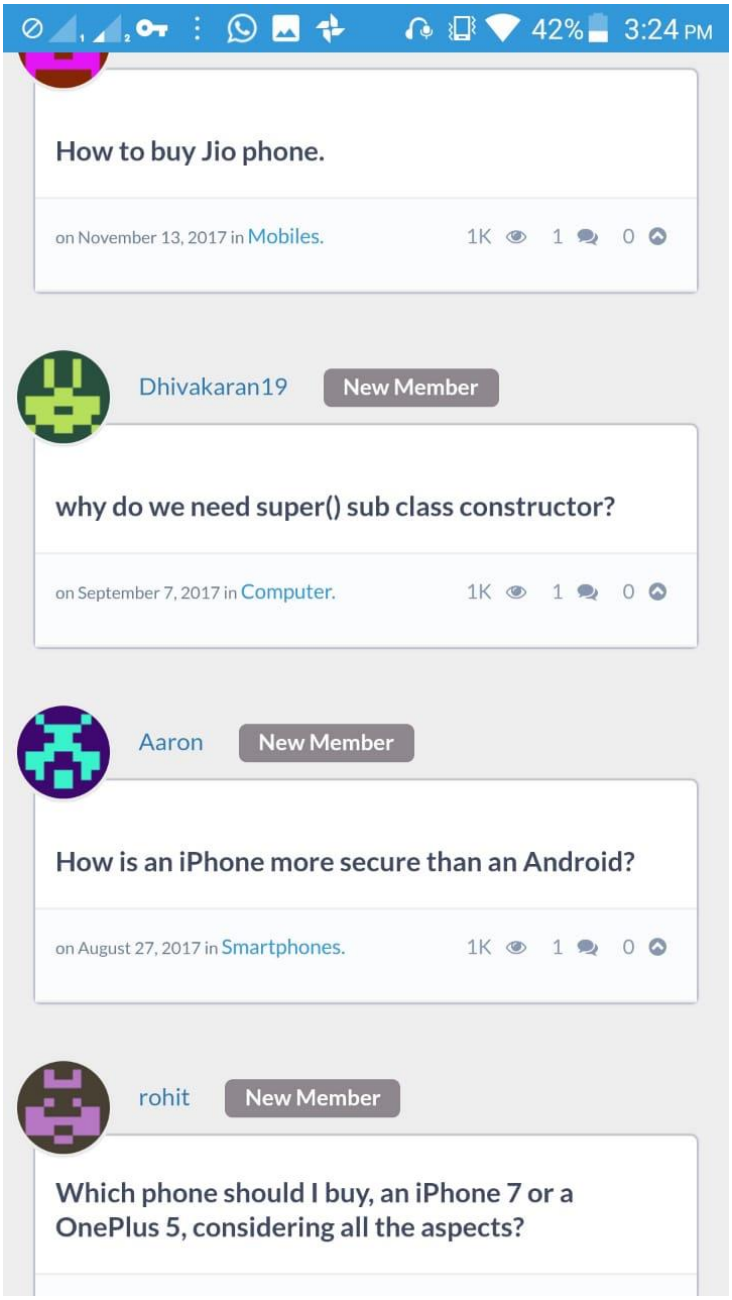
5.Sign In:



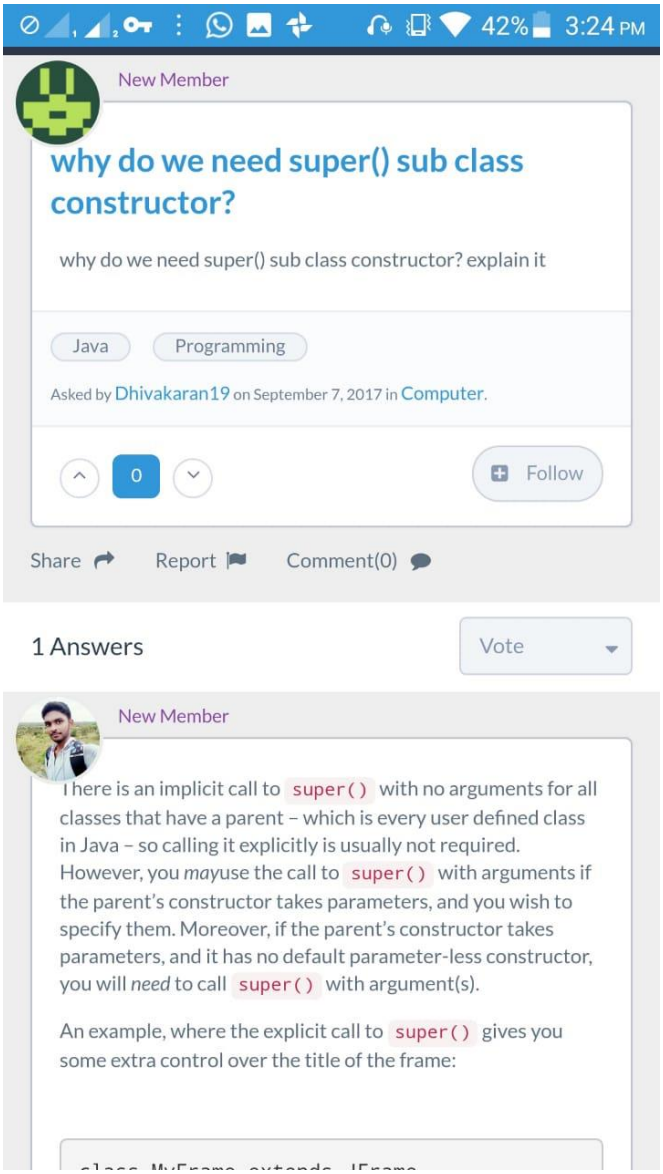
6.Menu:


42% 3:23 PM
AnswerArea
Sign In
Questions
Polls
Categories
Tags
Users
Badges
List Categories
All Question
Select Categories
Latest
Votes
Unanswered
gmamand17
New Member

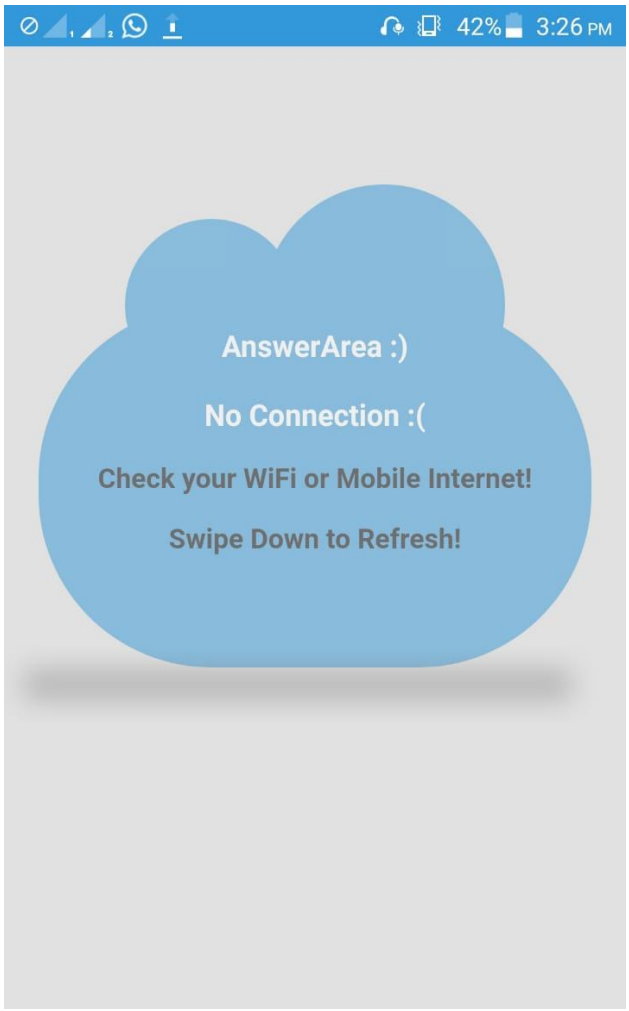
7.Questions :


42% 3:24 PM
How to buy Jio phone.
on November 13, 2017 in Mobiles.
1K 1 0
Dhivakaran19
New Member
why do we need super() sub class constructor?
on September 7, 2017 in Computer.
1K 1 0
Aaron
New Member
How is an iPhone more secure than an Android?
on August 27, 2017 in Smartphones.
1K 1 0
rohit
New Member
Which phone should I buy, an iPhone 7 or a OnePlus 5, considering all the aspects?

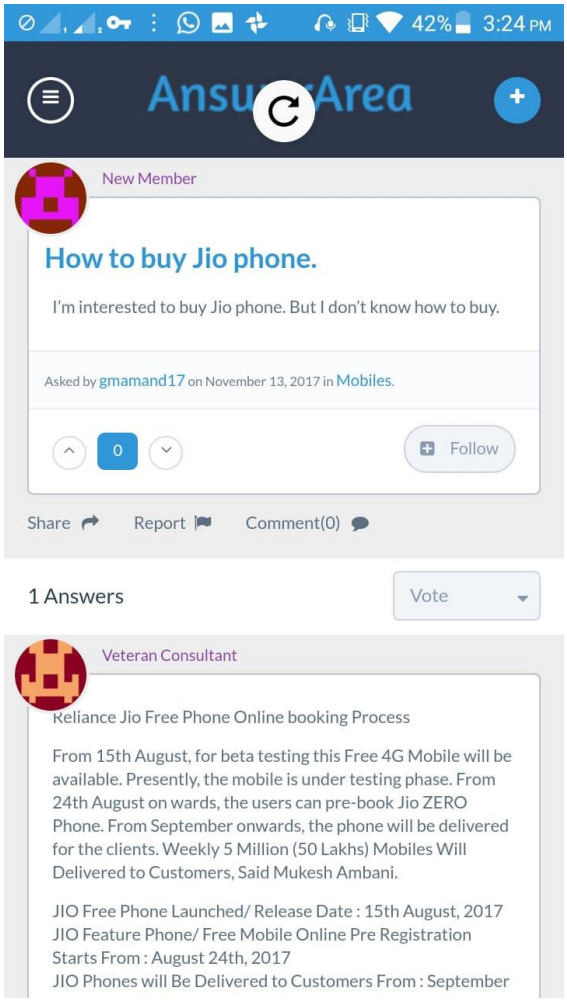
8.Answers :


42% 3:24 PM
New Member
why do we need super() sub class constructor?
why do we need super() sub class constructor? explain it
Java
Programming
Asked by Dhivakaran19 on September 7, 2017 in Computer.
0
Follow
Share
Report
Comment(0)
1 Answers
Vote
New Member
There is an implicit call to super() with no arguments for all classes that have a parent – which is every user defined class in Java – so calling it explicitly is usually not required. However, you mayuse the call to super() with arguments if the parent's constructor takes parameters, and you wish to specify them. Moreover, if the parent's constructor takes parameters, and it has no default parameter-less constructor, you will need to call super() with argument(s).
An example, where the explicit call to super() gives you some extra control over the title of the frame:

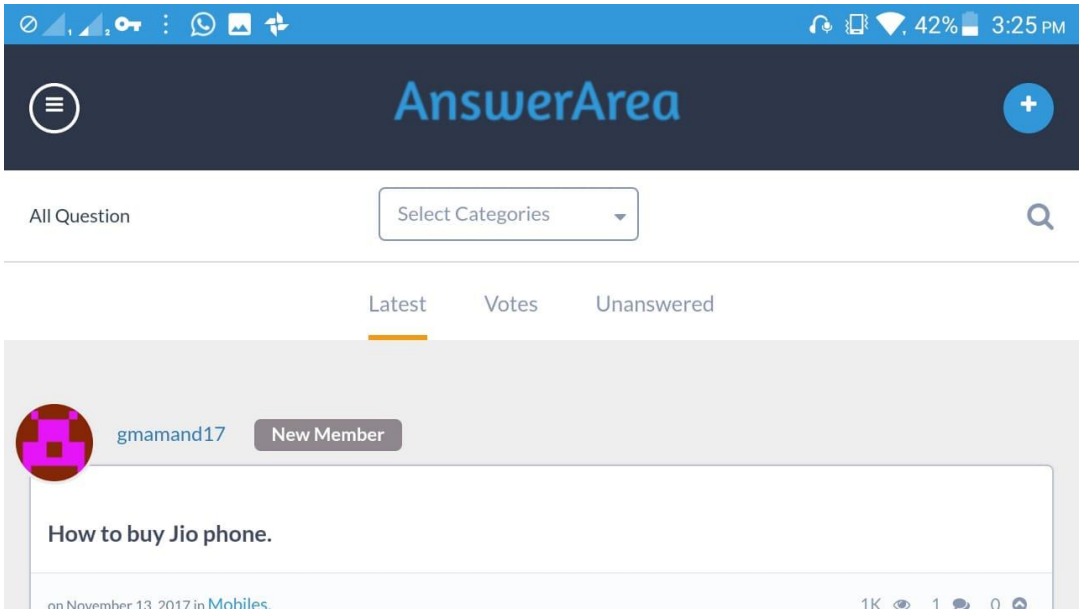
9.Error Message :



10.SwipetoRefresh:



11.Orientation :



Conclusion and Future Work :

- So this app helps to facilitate users to configure questions as well as giving answers with this android based smart phone. User friendly environment configuration is also the speciality of this project. It is an online webview application where user with login privilege can do task like add, delete and edit from application user interface (UI) and viewers can participate for answering the questions asked by other users.

- The site is constructed using Wordpress theme and it is compatible to view in any device.While there are other apps like quora,stack overflow and yahoo answers,this app can be helpful to the local users,where it can be multilingual in the future which helps most of the users to view content in their desired language.

For E.g: View Full site in Tamil Language

References :

1. https://www.developer.android.com
2. https://www.google.com
3. https://www.tutorialspoint.com/android
4. https://www.javatpoint.com/android-tutorial
5. http://www.vogella.com/tutorials/android.html
6. http://www.coreservlets.com/android-tutorial/
7. http://www.androidauthority.com/android-studio-tutorial-beginners