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Listing 1: ./build.gradle

```
1 buildscript {
2     repositories {
3         jcenter()
4     }
5     dependencies {
6         classpath 'com.android.tools.build:gradle:2.3.3'
7         classpath 'com.google.gms:google-services:3.1.0'
8     }
9 }
10
11 allprojects {
12     repositories {
13         maven { url 'https://maven.fabric.io/public' }
14         maven { url 'https://maven.google.com' }
15         maven { url 'https://jitpack.io' }
16         jcenter()
17     }
18 }
19
20 task clean(type: Delete) {
21     delete rootProject.buildDir
22 }
```

Listing 2: ./gradle.properties

```
1 # Project-wide Gradle settings.
2
3 # IDE (e.g. Android Studio) users:
4 # Gradle settings configured through the IDE *will override*
5 # any settings specified in this file.
6
7 # For more details on how to configure your build environment visit
8 # http://www.gradle.org/docs/current/userguide/build\_environment.html
9
10 # Specifies the JVM arguments used for the daemon process.
11 # The setting is particularly useful for tweaking memory settings.
12 org.gradle.jvmargs=-Xmx1536m
13
14 # When configured, Gradle will run in incubating parallel mode.
15 # This option should only be used with decoupled projects. More details,
16 # visit
17 # http://www.gradle.org/docs/current/userguide/multi\_project\_builds.html#
18 # sec:decoupled_projects
19 org.gradle.parallel=true
```

Listing 3: ./gradlew.bat

```

1 @if "%DEBUG%" == "" @echo off
2 @rem
   #####

3 @rem
4 @rem  Gradle startup script for Windows
5 @rem
6 @rem
   #####

7
8 @rem Set local scope for the variables with windows NT shell
9 if "%OS%"=="Windows_NT" setlocal
10
11 @rem Add default JVM options here. You can also use JAVA_OPTS and
   GRADLE_OPTS to pass JVM options to this script.
12 set DEFAULT_JVM_OPTS=
13
14 set DIRNAME=%~dp0
15 if "%DIRNAME%" == "" set DIRNAME=.
16 set APP_BASE_NAME=%~n0
17 set APP_HOME=%DIRNAME%
18
19 @rem Find java.exe
20 if defined JAVA_HOME goto findJavaFromJavaHome
21
22 set JAVA_EXE=java.exe
23 %JAVA_EXE% -version >NUL 2>&1
24 if "%ERRORLEVEL%" == "0" goto init
25
26 echo.
27 echo ERROR: JAVA_HOME is not set and no 'java' command could be found in
   your PATH.
28 echo.
29 echo Please set the JAVA_HOME variable in your environment to match the
30 echo location of your Java installation.
31
32 goto fail
33
34 :findJavaFromJavaHome
35 set JAVA_HOME=%JAVA_HOME:"=%
36 set JAVA_EXE=%JAVA_HOME%/bin/java.exe
37
38 if exist "%JAVA_EXE%" goto init
39
40 echo.
41 echo ERROR: JAVA_HOME is set to an invalid directory: %JAVA_HOME%
42 echo.
43 echo Please set the JAVA_HOME variable in your environment to match the
44 echo location of your Java installation.
45
46 goto fail
47
48 :init
49 @rem Get command-line arguments, handling Windowz variants
50
51 if not "%OS%" == "Windows_NT" goto win9xME_args

```

```

52 if "%@eval[2+2]" == "4" goto 4NT_args
53
54 :win9xME_args
55 @rem Slurp the command line arguments.
56 set CMD_LINE_ARGS=
57 set _SKIP=2
58
59 :win9xME_args_slurp
60 if "x%~1" == "x" goto execute
61
62 set CMD_LINE_ARGS=%*
63 goto execute
64
65 :4NT_args
66 @rem Get arguments from the 4NT Shell from JP Software
67 set CMD_LINE_ARGS=%$
68
69 :execute
70 @rem Setup the command line
71
72 set CLASSPATH=%APP_HOME%\gradle\wrapper\gradle-wrapper.jar
73
74 @rem Execute Gradle
75 "%JAVA_EXE%" %DEFAULT_JVM_OPTS% %JAVA_OPTS% %GRADLE_OPTS% "-Dorg.gradle.
    appname=%APP_BASE_NAME%" -classpath "%CLASSPATH%" org.gradle.wrapper.
    GradleWrapperMain %CMD_LINE_ARGS%
76
77 :end
78 @rem End local scope for the variables with windows NT shell
79 if "%ERRORLEVEL%"=="0" goto mainEnd
80
81 :fail
82 rem Set variable GRADLE_EXIT_CONSOLE if you need the _script_ return code
    instead of
83 rem the _cmd.exe /c_ return code!
84 if not "" == "%GRADLE_EXIT_CONSOLE%" exit 1
85 exit /b 1
86
87 :mainEnd
88 if "%OS%"=="Windows_NT" endlocal
89
90 :omega

```

Listing 4: ./mobile/google-services.json

```

1 {
2   "project_info": {
3     "project_number": "1031152713592",
4     "firebase_url": "https://apptransparenciaeducativa.firebaseio.com",
5     "project_id": "apptransparenciaeducativa",
6     "storage_bucket": "apptransparenciaeducativa.appspot.com"
7   },
8   "client": [
9     {
10      "client_info": {
11        "mobilesdk_app_id": "1:1031152713592:android:209e3b12be1e4463",
12        "android_client_info": {
13          "package_name": "app.transparenciaeducativa"
14        }
15      },
16      "oauth_client": [
17        {
18          "client_id": "1031152713592-ftrl5la7qt7dc7u9h6iu1446f2tauaf0.apps
19            .googleusercontent.com",
20          "client_type": 3
21        }
22      ],
23      "api_key": [
24        {
25          "current_key": "AIzaSyDUAF16nOGrlOP3UbJr_v_2hhlZ93Xr0GQ"
26        }
27      ],
28      "services": {
29        "analytics_service": {
30          "status": 1
31        },
32        "appinvite_service": {
33          "status": 1,
34          "other_platform_oauth_client": []
35        },
36        "ads_service": {
37          "status": 2
38        }
39      }
40    ],
41    "configuration_version": "1"
42 }

```

Listing 5: ./mobile/proguard-rules.pro

```
1 # Add project specific ProGuard rules here.
2 # By default, the flags in this file are appended to flags specified
3 # in /home/iury/Android/Sdk/tools/proguard/proguard-android.txt
4 # You can edit the include path and order by changing the proguardFiles
5 # directive in build.gradle.
6 #
7 # For more details, see
8 #   http://developer.android.com/guide/developing/tools/proguard.html
9
10 # Add any project specific keep options here:
11
12 # If your project uses WebView with JS, uncomment the following
13 # and specify the fully qualified class name to the JavaScript interface
14 # class:
15 #-keepclassmembers class fqcn.of.javascript.interface.for.webview {
16 #   public *;
17 #}
18
19 # Uncomment this to preserve the line number information for
20 # debugging stack traces.
21 #-keepattributes SourceFile,LineNumberTable
22
23 # If you keep the line number information, uncomment this to
24 # hide the original source file name.
25 #-renamesourcefileattribute SourceFile
```

Listing 6: ./mobile/build.gradle

```

1 apply plugin: 'com.android.application'
2
3 android {
4     compileSdkVersion 26
5     buildToolsVersion "26.0.1"
6     defaultConfig {
7         applicationId "app.transparenciaeducativa"
8         minSdkVersion 21
9         targetSdkVersion 26
10        versionCode 1
11        versionName "1.0"
12        testInstrumentationRunner "android.support.test.runner.
    AndroidJUnitRunner"
13    }
14    buildTypes {
15        release {
16            minifyEnabled false
17            proguardFiles getDefaultProguardFile('proguard-android.txt'), '
    proguard-rules.pro'
18        }
19    }
20    packagingOptions {
21        exclude 'META-INF/LICENSE'
22        exclude 'META-INF/LICENSE-FIREBASE.txt'
23        exclude 'META-INF/NOTICE'
24    }
25 }
26
27 dependencies {
28     compile fileTree(dir: 'libs', include: ['*.jar'])
29     androidTestCompile('com.android.support.test.espresso:espresso-core
    :2.2.2', {
30         exclude group: 'com.android.support', module: 'support-annotations'
31     })
32
33     // compile 'com.android.support.constraint:constraint-layout:1.0.2'
34
35     // compile 'com.github.PhilJay:MPAndroidChart:v3.0.2'
36     compile 'com.google.firebase:firebase-database:11.0.2'
37     compile 'com.github.PhilJay:MPAndroidChart:v2.1.0'
38     compile 'com.androidplot:androidplot-core:1.5.1'
39     compile 'com.android.support:appcompat-v7:26.+ '
40     compile 'com.android.support:support-v4:26.+ '
41     compile 'com.android.support:design:26.+ '
42     compile 'com.android.support:cardview-v7:26.+ '
43     compile 'com.android.support.constraint:constraint-layout:1.0.2 '
44     testCompile 'junit:junit:4.12'
45 }
46
47 apply plugin: 'com.google.gms.google-services'

```


Listing 7: ./mobile/src/test/java/app/transparenciaeducativa/ExampleUnitTest.java

```
1 package app.transparenciaeducativa;
2
3 import org.junit.Test;
4
5 import static org.junit.Assert.*;
6
7 /**
8  * Example local unit test, which will execute on the development machine (
9  * host).
10  * @see <a href="http://d.android.com/tools/testing">Testing documentation
11  * </a>
12  */
13 public class ExampleUnitTest {
14     @Test
15     public void addition_isCorrect() throws Exception {
16         assertEquals(4, 2 + 2);
17     }
18 }
```

Listing 8: ./mobile/src/main/java/app/transparenciaeducativa/ScrollingActivity.java

```
1 package app.transparenciaeducativa;
2
3 import android.os.Bundle;
4 import android.support.design.widget.FloatingActionButton;
5 import android.support.design.widget.Snackbar;
6 import android.support.v7.app.AppCompatActivity;
7 import android.support.v7.widget.Toolbar;
8 import android.view.View;
9
10 public class ScrollingActivity extends AppCompatActivity {
11
12     @Override
13     protected void onCreate(Bundle savedInstanceState) {
14         super.onCreate(savedInstanceState);
15         setContentView(R.layout.activity_scrolling);
16         Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
17         setSupportActionBar(toolbar);
18
19         getSupportActionBar().setDisplayHomeAsUpEnabled(true);
20     }
21 }
```

Listing 9: `./mobile/src/main/java/app/transparenciaeducativa/ChatRealTimeActivity.java`

```

1 package app.transparenciaeducativa;
2
3 import android.content.DialogInterface;
4 import android.content.Intent;
5 import android.os.Bundle;
6 import android.support.design.widget.FloatingActionButton;
7 import android.support.design.widget.Snackbar;
8 import android.support.v7.app.AlertDialog;
9 import android.support.v7.app.AppCompatActivity;
10 import android.support.v7.widget.Toolbar;
11 import android.view.View;
12 import android.widget.AdapterView;
13 import android.widget.ArrayAdapter;
14 import android.widget.EditText;
15 import android.widget.ListView;
16 import android.widget.TextView;
17
18 import com.google.firebase.database.DataSnapshot;
19 import com.google.firebase.database.DatabaseError;
20 import com.google.firebase.database.DatabaseReference;
21 import com.google.firebase.database.FirebaseDatabase;
22 import com.google.firebase.database.ValueEventListener;
23
24 import java.util.ArrayList;
25 import java.util.HashMap;
26 import java.util.HashSet;
27 import java.util.Iterator;
28 import java.util.Map;
29 import java.util.Set;
30
31 public class ChatRealTimeActivity extends AppCompatActivity {
32
33     private EditText nome_sala;
34     private ListView listViewSala;
35     private FloatingActionButton fab;
36
37     private ArrayAdapter<String> arrayAdapter;
38     private ArrayList<String> list_de_salas = new ArrayList<>();
39
40     private String chat;
41     private String room_name;
42     private String user_name;
43
44     private DatabaseReference root = FirebaseDatabase.getInstance().
getReference().getRoot();
45     private DatabaseReference base;
46
47     private EditText input_field;
48
49     @Override
50     protected void onCreate(Bundle savedInstanceState) {
51         super.onCreate(savedInstanceState);
52         setContentView(R.layout.activity_chat_real_time);
53         Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
54         setSupportActionBar(toolbar);
55         setTitle("Salas de Bate-papo");

```

```

56
57     getSupportActionBar().setDisplayHomeAsUpEnabled(true);
58
59     chat = getIntent().getExtras().getString("chat", "");
60
61     base = root.child(chat);
62
63     fab = (FloatingActionButton) findViewById(R.id.fab);
64     nome_sala = (EditText) findViewById(R.id.msg_input);
65     listViewSala = (ListView) findViewById(R.id.list_view_sala);
66
67     arrayAdapter = new ArrayAdapter<String>(
68         this,
69         android.R.layout.simple_list_item_1,
70         list_de_salas);
71     listViewSala.setAdapter(arrayAdapter);
72
73     fab.setOnClickListener(new View.OnClickListener() {
74         @Override
75         public void onClick(View view) {
76
77             Map<String, Object> map = new HashMap<String, Object>();
78             map.put(nome_sala.getText().toString(), "");
79             base.updateChildren(map);
80
81             nome_sala.setText("");
82
83             Snackbar.make(view, "Criada sala de Bate-papo p blico.",
84                 Snackbar.LENGTH_LONG)
85                 .setAction("Action", null).setDuration(1500).show()
86                 ;
87         }
88     });
89
90     request_user_name();
91
92     base.addValueEventListener(new ValueEventListener() {
93         @Override
94         public void onDataChange(DataSnapshot dataSnapshot) {
95             Set<String> set = new HashSet<String>();
96             Iterator i = dataSnapshot.getChildren().iterator();
97
98             while (i.hasNext()) {
99                 set.add(((DataSnapshot) i.next()).getKey());
100             }
101             list_de_salas.clear();
102             list_de_salas.addAll(set);
103
104             arrayAdapter.notifyDataSetChanged();
105         }
106         @Override
107         public void onCancelled(DatabaseError databaseError) {
108
109         }
110     });
111     listViewSala.setOnItemClickListener(new AdapterView.

```

```

112         OnItemClickListener() {
113             @Override
114             public void onItemClick(AdapterView<?> adapterView, View view,
115             int i, long l) {
116
117                 room_name = ((TextView) view).getText().toString();
118
119                 Intent intent = new Intent(getApplicationContext(),
120 RoomChatRealTimeActivity.class);
121                 intent.putExtra("chat", chat);
122                 intent.putExtra("room_name", room_name);
123                 intent.putExtra("user_name", user_name);
124                 startActivity(intent);
125             }
126         });
127     }
128
129     private void request_user_name(){
130         AlertDialog.Builder builder = new AlertDialog.Builder(this);
131         builder.setTitle("Nome: ");
132
133         input_field = new EditText(this);
134
135         builder.setView(input_field);
136         builder.setPositiveButton("Enviar", new DialogInterface.
137 OnClickListener() {
138             @Override
139             public void onClick(DialogInterface dialogInterface, int i) {
140                 user_name = input_field.getText().toString();
141             }
142         });
143
144         builder.setNegativeButton("Sair", new DialogInterface.
145 OnClickListener() {
146             @Override
147             public void onClick(DialogInterface dialogInterface, int i) {
148                 dialogInterface.cancel();
149
150                 Intent intent = new Intent(getApplicationContext(),
151 MainActivity.class);
152                 startActivity(intent);
153                 finish();
154             }
155         });
156         builder.show();
157     }
158 }

```

Listing 10: ./mobile/src/main/java/app/transparenciaeducativa/ListEstadosActivity.java

```
1 package app.transparenciaeducativa;
2
3 import android.content.Intent;
4 import android.os.Bundle;
5 import android.support.design.widget.FloatingActionButton;
6 import android.support.design.widget.Snackbar;
7 import android.support.v7.app.AppCompatActivity;
8 import android.support.v7.widget.Toolbar;
9 import android.view.View;
10 import android.widget.AdapterView;
11 import android.widget.ArrayAdapter;
12 import android.widget.ListView;
13 import android.widget.TextView;
14
15 import com.google.firebase.database.DataSnapshot;
16 import com.google.firebase.database.DatabaseError;
17 import com.google.firebase.database.DatabaseReference;
18 import com.google.firebase.database.FirebaseDatabase;
19 import com.google.firebase.database.ValueEventListener;
20
21 import java.util.ArrayList;
22 import java.util.Iterator;
23 import java.util.LinkedList;
24
25 public class ListEstadosActivity extends AppCompatActivity {
26
27     private DatabaseReference root = FirebaseDatabase.getInstance().
    getReference().getRoot();
28     private DatabaseReference base;
29
30     private ListView listView;
31     private ArrayAdapter<String> arrayAdapter;
32     private ArrayList<String> list_base = new ArrayList<>();
33
34     // Constates do Intent
35     private String raiz;
36     private String regiao;
37     private String estado;
38     private String ano;
39     private String transacao;
40     private String municipio;
41
42     @Override
43     protected void onCreate(Bundle savedInstanceState) {
44         super.onCreate(savedInstanceState);
45         setContentView(R.layout.activity_list_estados);
46         Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
47         setSupportActionBar(toolbar);
48
49         getSupportActionBar().setDisplayHomeAsUpEnabled(true);
50
51         listView = (ListView) findViewById(R.id.list_view);
52         arrayAdapter = new ArrayAdapter<String>(
53             this,
54             android.R.layout.simple_list_item_1,
55             list_base);
```

```

56     listView.setAdapter(arrayAdapter);
57
58     raiz = getIntent().getExtras().getString("raiz", "");
59     regiao = getIntent().getExtras().getString("regiao", "");
60     estado = getIntent().getExtras().getString("estado", "");
61     ano = getIntent().getExtras().getString("ano", "");
62     transacao = getIntent().getExtras().getString("transacao", "");
63     municipio = getIntent().getExtras().getString("municipio", "");
64
65     setTitle(regiao + " - " + getTitle().toString());
66
67     base = root.child(raiz).child(regiao);
68     base.addValueEventListener(new ValueEventListener() {
69         @Override
70         public void onDataChange(DataSnapshot dataSnapshot) {
71
72             LinkedList<String> linkedList = new LinkedList<String>();
73             Iterator i = dataSnapshot.getChildren().iterator();
74
75             while (i.hasNext()) {
76
77                 linkedList.add(((DataSnapshot) i.next()).getKey());
78
79             }
80
81             list_base.clear();
82             list_base.addAll(linkedList);
83
84             arrayAdapter.notifyDataSetChanged();
85
86         }
87
88         @Override
89         public void onCancelled(DatabaseError databaseError) {
90
91         }
92     });
93
94     listView.setOnItemClickListener(new AdapterView.OnItemClickListener
95     () {
96         @Override
97         public void onItemClick(AdapterView<?> adapterView, View view,
98         int i, long l) {
99
100             Intent intent = new Intent(getApplicationContext(),
101             ListMunicipiosActivity.class);
102             intent.putExtra("raiz", raiz);
103             intent.putExtra("regiao", regiao);
104             intent.putExtra("estado", estado);
105             intent.putExtra("ano", ano);
106             intent.putExtra("transacao", transacao);
107             intent.putExtra("municipio", municipio);
108             startActivity(intent);
109         }
110     });

```

111 }
112
113 }

Listing 11: ./mobile/src/main/java/app/transparenciaeducativa/MainActivity.java

```

1 package app.transparenciaeducativa;
2
3 import android.content.Intent;
4 import android.os.Bundle;
5 import android.support.design.widget.FloatingActionButton;
6 import android.support.design.widget.NavigationView;
7 import android.support.design.widget.Snackbar;
8 import android.support.v4.view.GravityCompat;
9 import android.support.v4.widget.DrawerLayout;
10 import android.support.v7.app.ActionBarDrawerToggle;
11 import android.support.v7.app.AppCompatActivity;
12 import android.support.v7.widget.Toolbar;
13 import android.view.MenuItem;
14 import android.view.View;
15
16 public class MainActivity extends AppCompatActivity
17     implements NavigationView.OnNavigationItemSelectedListener {
18
19     @Override
20     protected void onCreate(Bundle savedInstanceState) {
21         super.onCreate(savedInstanceState);
22         setContentView(R.layout.activity_main);
23         Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
24         setSupportActionBar(toolbar);
25
26         FloatingActionButton fab = (FloatingActionButton) findViewById(R.id
27             .fab);
28         fab.setOnClickListener(new View.OnClickListener() {
29             @Override
30             public void onClick(View view) {
31                 //
32                 //
33                 //
34                 //
35                 //
36                 //
37                 //
38                 //
39                 //
40                 //
41                 //
42                 //
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```

```

drawer_layout);
52     if (drawer.isDrawerOpen(GravityCompat.START)) {
53         drawer.closeDrawer(GravityCompat.START);
54     } else {
55         super.onBackPressed();
56     }
57 }
58
59 @SuppressWarnings("StatementWithEmptyBody")
60 @Override
61 public boolean onNavigationItemSelected(MenuItem item) {
62     // Handle navigation view item clicks here.
63     int id = item.getItemId();
64
65     if (id == R.id.nav_analisar) {
66         Intent intent = new Intent(getApplicationContext(),
MapaBrasilActivity.class);
67         intent.putExtra("raiz", "BRASIL");
68         intent.putExtra("transacao", "DESPESAS");
69         startActivity(intent);
70     } else if (id == R.id.nav_sobre_nos) {
71         Intent intent = new Intent(getApplicationContext(),
ScrollingActivity.class);
72         startActivity(intent);
73     } else if (id == R.id.nav_salas_de_debates) {
74         Intent intent = new Intent(getApplicationContext(),
ChatRealTimeActivity.class);
75         intent.putExtra("chat", "BATE-PAPO");
76         startActivity(intent);
77     }
78
79     DrawerLayout drawer = (DrawerLayout) findViewById(R.id.
drawer_layout);
80     drawer.closeDrawer(GravityCompat.START);
81     return true;
82 }
83 }

```

Listing 12: ./mobile/src/main/java/app/transparenciaeducativa/GraficosActivity.java

```

1 package app.transparenciaeducativa;
2
3 import android.graphics.Color;
4 import android.os.Bundle;
5 import android.support.design.widget.FloatingActionButton;
6 import android.support.design.widget.Snackbar;
7 import android.support.v7.app.AppCompatActivity;
8 import android.support.v7.widget.Toolbar;
9 import android.view.View;
10
11 import com.github.mikephil.charting.charts.BarChart;
12 import com.github.mikephil.charting.data.BarData;
13 import com.github.mikephil.charting.data.BarDataSet;
14 import com.github.mikephil.charting.data.BarEntry;
15 import com.github.mikephil.charting.utils.ColorTemplate;
16
17 import java.util.ArrayList;
18
19 public class GraficosActivity extends AppCompatActivity {
20
21     // Constates do Intent
22     private String raiz;
23     private String regioao;
24     private String estado;
25     private String ano;
26     private String transacao;
27     private String municipio;
28
29     @Override
30     protected void onCreate(Bundle savedInstanceState) {
31         super.onCreate(savedInstanceState);
32         setContentView(R.layout.activity_graficos);
33         Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
34         setSupportActionBar(toolbar);
35
36         getSupportActionBar().setDisplayHomeAsUpEnabled(true);
37
38         raiz = getIntent().getExtras().getString("raiz", "");
39         regioao = getIntent().getExtras().getString("regiao", "");
40         estado = getIntent().getExtras().getString("estado", "");
41         ano = getIntent().getExtras().getString("ano", "");
42         transacao = getIntent().getExtras().getString("transacao", "");
43         municipio = getIntent().getExtras().getString("municipio", "");
44
45         setTitle(municipio + " - " + ano);
46
47         BarChart chart = (BarChart) findViewById(R.id.chart);
48         BarData data = new BarData(getXAxisValues(), getDataSet());
49         chart.setData(data);
50         chart.setDescription("Gráfico de Barras");
51         chart.animateXY(2000, 2000);
52         chart.invalidate();
53     }
54
55     private ArrayList<BarDataSet> getDataSet() {
56         ArrayList<BarDataSet> dataSets = null;
57

```

```

58     ArrayList<BarEntry> valueSet1 = new ArrayList<>();
59     BarEntry v1e1 = new BarEntry(110, 0); // Jan
60     valueSet1.add(v1e1);
61     BarEntry v1e2 = new BarEntry(40, 1); // Feb
62     valueSet1.add(v1e2);
63     BarEntry v1e3 = new BarEntry(60, 2); // Mar
64     valueSet1.add(v1e3);
65     BarEntry v1e4 = new BarEntry(30, 3); // Apr
66     valueSet1.add(v1e4);
67     BarEntry v1e5 = new BarEntry(90, 4); // May
68     valueSet1.add(v1e5);
69     BarEntry v1e6 = new BarEntry(100, 5); // Jun
70     valueSet1.add(v1e6);
71
72     ArrayList<BarEntry> valueSet2 = new ArrayList<>();
73     BarEntry v2e1 = new BarEntry(150, 0); // Jan
74     valueSet2.add(v2e1);
75     BarEntry v2e2 = new BarEntry(90, 1); // Feb
76     valueSet2.add(v2e2);
77     BarEntry v2e3 = new BarEntry(120, 2); // Mar
78     valueSet2.add(v2e3);
79     BarEntry v2e4 = new BarEntry(60, 3); // Apr
80     valueSet2.add(v2e4);
81     BarEntry v2e5 = new BarEntry(20, 4); // May
82     valueSet2.add(v2e5);
83     BarEntry v2e6 = new BarEntry(80, 5); // Jun
84     valueSet2.add(v2e6);
85
86     BarDataSet barDataSet1 = new BarDataSet(valueSet1, "Brand 1");
87     barDataSet1.setColor(Color.rgb(0, 155, 0));
88     BarDataSet barDataSet2 = new BarDataSet(valueSet2, "Brand 2");
89     barDataSet2.setColors(ColorTemplate.COLORFUL_COLORS);
90
91     dataSets = new ArrayList<>();
92     dataSets.add(barDataSet1);
93     dataSets.add(barDataSet2);
94     return dataSets;
95 }
96
97 private ArrayList<String> getXAxisValues() {
98     ArrayList<String> xAxis = new ArrayList<>();
99     xAxis.add("JAN");
100    xAxis.add("FEB");
101    xAxis.add("MAR");
102    xAxis.add("APR");
103    xAxis.add("MAY");
104    xAxis.add("JUN");
105    return xAxis;
106 }
107
108 }

```

Listing 13: ./mobile/src/main/java/app/transparenciaeducativa/MapaBrasilActivity.java

```
1 package app.transparenciaeducativa;
2
3 import android.content.Intent;
4 import android.os.Bundle;
5 import android.support.design.widget.FloatingActionButton;
6 import android.support.design.widget.Snackbar;
7 import android.support.v7.app.AppCompatActivity;
8 import android.support.v7.widget.Toolbar;
9 import android.view.View;
10 import android.widget.AdapterView;
11 import android.widget.ArrayAdapter;
12 import android.widget.ListView;
13 import android.widget.TextView;
14
15 import com.google.firebase.database.DataSnapshot;
16 import com.google.firebase.database.DatabaseError;
17 import com.google.firebase.database.DatabaseReference;
18 import com.google.firebase.database.FirebaseDatabase;
19 import com.google.firebase.database.ValueEventListener;
20
21 import java.util.ArrayList;
22 import java.util.Iterator;
23 import java.util.LinkedList;
24
25 public class MapaBrasilActivity extends AppCompatActivity {
26
27     private DatabaseReference root = FirebaseDatabase.getInstance().
    getReference().getRoot();
28     private DatabaseReference base;
29
30     private ListView listView;
31     private ArrayAdapter<String> arrayAdapter;
32     private ArrayList<String> list_base = new ArrayList<>();
33
34     // Constates do Intent
35     private String raiz;
36     private String regiao;
37     private String estado;
38     private String ano;
39     private String transacao;
40     private String municipio;
41
42     @Override
43     protected void onCreate(Bundle savedInstanceState) {
44         super.onCreate(savedInstanceState);
45         setContentView(R.layout.activity_mapa_brasil);
46         Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
47         setSupportActionBar(toolbar);
48
49         getSupportActionBar().setDisplayHomeAsUpEnabled(true);
50
51         listView = (ListView) findViewById(R.id.list_view);
52         arrayAdapter = new ArrayAdapter<String>(
53             this,
54             android.R.layout.simple_list_item_1,
55             list_base);
```

```

56     listView.setAdapter(arrayAdapter);
57
58     raiz = getIntent().getExtras().getString("raiz", "");
59     regiao = getIntent().getExtras().getString("regiao", "");
60     estado = getIntent().getExtras().getString("estado", "");
61     ano = getIntent().getExtras().getString("ano", "");
62     transacao = getIntent().getExtras().getString("transacao", "");
63     municipio = getIntent().getExtras().getString("municipio", "");
64
65     setTitle(raiz + " - " + getTitle().toString());
66
67     base = root.child(raiz);
68
69     base.addValueEventListener(new ValueEventListener() {
70         @Override
71         public void onDataChange(DataSnapshot dataSnapshot) {
72
73             LinkedList<String> linkedList = new LinkedList<String>();
74             Iterator i = dataSnapshot.getChildren().iterator();
75
76             while (i.hasNext()) {
77
78                 linkedList.add(((DataSnapshot) i.next()).getKey());
79
80             }
81
82             list_base.clear();
83             list_base.addAll(linkedList);
84
85             arrayAdapter.notifyDataSetChanged();
86
87         }
88
89         @Override
90         public void onCancelled(DatabaseError databaseError) {
91
92         }
93     });
94
95     listView.setOnItemClickListener(new AdapterView.OnItemClickListener
96     () {
97         @Override
98         public void onItemClick(AdapterView<?> adapterView, View view,
99         int i, long l) {
100
101             Intent intent = new Intent(getApplicationContext(),
102             ListEstadosActivity.class);
103             intent.putExtra("raiz", raiz);
104             intent.putExtra("regiao", regiao);
105             intent.putExtra("estado", estado);
106             intent.putExtra("ano", ano);
107             intent.putExtra("transacao", transacao);
108             intent.putExtra("municipio", municipio);
109             startActivity(intent);
110         }
111     });

```

111 }
112
113 }

Listing 14: `./mobile/src/main/java/app/transparenciaeducativa/ListMunicipiosActivity.java`

```
1 package app.transparenciaeducativa;
2
3 import android.content.Context;
4 import android.content.Intent;
5 import android.os.Bundle;
6 import android.support.design.widget.FloatingActionButton;
7 import android.support.design.widget.Snackbar;
8 import android.support.v7.app.AppCompatActivity;
9 import android.support.v7.widget.Toolbar;
10 import android.view.View;
11 import android.widget.AdapterView;
12 import android.widget.AdapterView.OnItemClickListener;
13 import android.widget.ArrayAdapter;
14 import android.widget.ListView;
15 import android.widget.Spinner;
16 import android.widget.TextView;
17 import android.widget.Toast;
18
19 import com.google.firebase.database.DataSnapshot;
20 import com.google.firebase.database.DatabaseError;
21 import com.google.firebase.database.DatabaseReference;
22 import com.google.firebase.database.FirebaseDatabase;
23 import com.google.firebase.database.ValueEventListener;
24
25 import java.util.ArrayList;
26 import java.util.Iterator;
27 import java.util.LinkedList;
28 import java.util.List;
29
30 public class ListMunicipiosActivity extends AppCompatActivity implements
31     AdapterView.OnItemClickListener {
32
33     private DatabaseReference root = FirebaseDatabase.getInstance().
34         getReference().getRoot();
35     private DatabaseReference base;
36
37     // Spinner
38     private ArrayAdapter<String> dataAdapter;
39     private List<String> list_periodos = new ArrayList<>();
40
41     // ListView
42     private ListView listView;
43     private ArrayAdapter<String> arrayAdapter;
44     private ArrayList<String> list_base = new ArrayList<>();
45
46     // Constates do Intent
47     private String raiz;
48     private String regiao;
49     private String estado;
50     private String ano;
51     private String transacao;
52     private String municipio;
53
54     @Override
55     protected void onCreate(Bundle savedInstanceState) {
56         super.onCreate(savedInstanceState);
57         setContentView(R.layout.activity_list_municipios);
58     }
59 }
```



```

55     Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
56     setSupportActionBar(toolbar);
57
58     getSupportActionBar().setDisplayHomeAsUpEnabled(true);
59
60     raiz = getIntent().getExtras().getString("raiz", "");
61     regioao = getIntent().getExtras().getString("regiao", "");
62     estado = getIntent().getExtras().getString("estado", "");
63     ano = getIntent().getExtras().getString("ano", "");
64     transacao = getIntent().getExtras().getString("transacao", "");
65     municipio = getIntent().getExtras().getString("municipio", "");
66
67     Spinner spinner = (Spinner) findViewById(R.id.spinner);
68     spinner.setOnItemSelectedListener(this);
69
70     dataAdapter = new ArrayAdapter<>(
71         this,
72         android.R.layout.simple_spinner_item,
73         list_periodos);
74     dataAdapter.setDropDownViewResource(android.R.layout.
simple_spinner_dropdown_item);
75     spinner.setAdapter(dataAdapter);
76
77     base = root.child(raiz).child(regiao).child(estado);
78     base.addValueEventListener(new ValueEventListener() {
79         @Override
80         public void onDataChange(DataSnapshot dataSnapshot) {
81
82             LinkedList<String> linkedList = new LinkedList<>();
83             Iterator i = dataSnapshot.getChildren().iterator();
84
85             while (i.hasNext()) {
86
87                 linkedList.add(((DataSnapshot) i.next()).getKey());
88
89             }
90
91             list_periodos.clear();
92             list_periodos.addAll(linkedList);
93             dataAdapter.notifyDataSetChanged();
94
95         }
96
97         @Override
98         public void onCancelled(DatabaseError databaseError) {
99
100     }
101     });
102
103     listView = (ListView) findViewById(R.id.list_view);
104     arrayAdapter = new ArrayAdapter<String>(
105         this,
106         android.R.layout.simple_list_item_1,
107         list_base);
108     listView.setAdapter(arrayAdapter);
109
110     listView.setOnItemClickListener(new AdapterView.OnItemClickListener
() {

```

```

111         @Override
112         public void onItemClick(AdapterView<?> adapterView, View view,
int i, long l) {
113
114             municipio = ((TextView) view).getText().toString();
115
116             Intent intent = new Intent(getApplicationContext(),
GraficosActivity.class);
117             intent.putExtra("raiz", raiz);
118             intent.putExtra("regiao", regiao);
119             intent.putExtra("estado", estado);
120             intent.putExtra("ano", ano);
121             intent.putExtra("transacao", transacao);
122             intent.putExtra("municipio", municipio);
123             startActivity(intent);
124         }
125     });
126
127 }
128
129 @Override
130 public void onItemClick(AdapterView<?> adapterView, View view, int
position, long id) {
131     Object itemAtPosition = adapterView.getItemAtPosition(position);
132     Context context = adapterView.getContext();
133
134     ano = itemAtPosition.toString();
135
136     Toast.makeText(context, "Selecionado: " + ano, Toast.LENGTH_LONG).
show();
137
138     try {
139         setTitle(estado + " - " + ano);
140     } catch (RuntimeException e) {
141         setTitle(estado + " - " + getTitle().toString());
142     }
143
144     base = root.child(raiz).child(regiao).child(estado).child(ano).
child(transacao);
145     base.addValueEventListener(new ValueEventListener() {
146         @Override
147         public void onDataChange(DataSnapshot dataSnapshot) {
148
149             LinkedList<String> linkedList = new LinkedList<>();
150             Iterator i = dataSnapshot.getChildren().iterator();
151
152             while (i.hasNext()) {
153
154                 linkedList.add(((DataSnapshot) i.next()).getKey());
155
156             }
157
158             list_base.clear();
159             list_base.addAll(linkedList);
160             arrayAdapter.notifyDataSetChanged();
161
162         }
163

```

```
164         @Override
165         public void onCancelled(DatabaseError databaseError) {
166
167             }
168         });
169     }
170
171     @Override
172     public void onNothingSelected(AdapterView<?> arg0) {
173         // TODO Auto-generated method stub
174     }
175
176 }
```

Listing 15: ./mobile/src/main/java/app/transparenciaeducativa/RoomChatRealTimeActivity.java

```
1 package app.transparenciaeducativa;
2
3 import android.os.Bundle;
4 import android.support.annotation.Nullable;
5 import android.support.design.widget.FloatingActionButton;
6 import android.support.v7.app.AppCompatActivity;
7 import android.support.v7.widget.Toolbar;
8 import android.view.View;
9 import android.widget.EditText;
10 import android.widget.TextView;
11
12 import com.google.firebase.database.ChildEventListener;
13 import com.google.firebase.database.DataSnapshot;
14 import com.google.firebase.database.DatabaseError;
15 import com.google.firebase.database.DatabaseReference;
16 import com.google.firebase.database.FirebaseDatabase;
17
18 import java.util.HashMap;
19 import java.util.Iterator;
20 import java.util.Map;
21
22 public class RoomChatRealTimeActivity extends AppCompatActivity {
23
24     private FloatingActionButton fab;
25     private EditText input_msg;
26     private TextView chat_conversation;
27
28     private String chat;
29     private String room_name;
30     private String user_name;
31
32     private DatabaseReference root = FirebaseDatabase.getInstance().
getReference().getRoot();
33     private DatabaseReference base;
34     private DatabaseReference message;
35
36     private String temp_key;
37
38     private String chat_msg;
39     private String chat_user_name;
40
41     @Override
42     protected void onCreate(@Nullable Bundle savedInstanceState) {
43         super.onCreate(savedInstanceState);
44         setContentView(R.layout.activity_room_chat_real_time);
45         Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
46         setSupportActionBar(toolbar);
47
48         getSupportActionBar().setDisplayHomeAsUpEnabled(true);
49
50         fab = (FloatingActionButton) findViewById(R.id.fab);
51         input_msg = (EditText) findViewById(R.id.msg_input);
52         chat_conversation = (TextView) findViewById(R.id.text_view_chat);
53
54         chat = getIntent().getExtras().getString("chat", "");
55         room_name = getIntent().getExtras().getString("room_name", "");
```

```

56     user_name = getIntent().getExtras().getString("user_name", "");
57
58     setTitle("Sala - "+ room_name);
59
60     base = root.child(chat).child(room_name);
61
62     fab.setOnClickListener(new View.OnClickListener() {
63         @Override
64         public void onClick(View view) {
65
66             Map<String, Object> map = new HashMap<String, Object>();
67             temp_key = base.push().getKey();
68             base.updateChildren(map);
69
70             message = base.child(temp_key);
71
72             Map<String, Object> map2 = new HashMap<String, Object>();
73             map2.put("nome", user_name);
74             map2.put("msg", input_msg.getText().toString());
75             message.updateChildren(map2);
76
77             input_msg.setText("");
78
79         }
80     });
81
82     base.addChildEventListener(new ChildEventListener() {
83         @Override
84         public void onChildAdded(DataSnapshot dataSnapshot, String s) {
85
86             append_chat_conversation(dataSnapshot);
87
88         }
89
90         @Override
91         public void onChildChanged(DataSnapshot dataSnapshot, String s)
92     {
93         append_chat_conversation(dataSnapshot);
94
95     }
96
97         @Override
98         public void onChildRemoved(DataSnapshot dataSnapshot) {
99
100     }
101
102         @Override
103         public void onChildMoved(DataSnapshot dataSnapshot, String s) {
104
105     }
106
107         @Override
108         public void onCancelled(DatabaseError databaseError) {
109
110     }
111     });
112 }

```

```

113
114     private void append_chat_conversation(DataSnapshot dataSnapshot) {
115
116         if (dataSnapshot.hasChildren()) {
117
118             Iterator i = dataSnapshot.getChildren().iterator();
119
120             while (i.hasNext()){
121
122                 chat_msg = (String) ((DataSnapshot)i.next()).getValue();
123                 chat_user_name = (String) ((DataSnapshot)i.next()).getValue
124                 ();
125                 chat_conversation.append(chat_user_name + ":\n" + chat_msg
126                 + "\n\n");
127             }
128         }
129     }
130 }

```

Listing 16: ./mobile/src/main/AndroidManifest.xml

```

1 <?xml version="1.0" encoding="utf-8"?>
2 <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3     package="app.transparenciaeducativa">
4
5     <uses-permission android:name="android.permission.INTERNET" />
6
7     <application
8         android:allowBackup="true"
9         android:icon="@mipmap/ic_transparecia_educativa_launcher"
10        android:label="@string/app_name"
11        android:roundIcon="@mipmap/ic_transparecia_educativa_launcher_round
12        "
13        android:supportRtl="true"
14        android:theme="@style/AppTheme">
15        <activity
16            android:name=".MainActivity"
17            android:label="@string/app_name"
18            android:theme="@style/AppTheme.NoActionBar">
19            <intent-filter>
20                <action android:name="android.intent.action.MAIN" />
21                <category android:name="android.intent.category.LAUNCHER"
22            />
23            </intent-filter>
24        </activity>
25        <activity
26            android:name=".ScrollingActivity"
27            android:label="@string/title_activity_scrolling"
28            android:parentActivityName=".MainActivity"
29            android:theme="@style/AppTheme.NoActionBar">
30            <meta-data
31                android:name="android.support.PARENT_ACTIVITY"
32                android:value="app.transparenciaeducativa.MainActivity" />
33            </activity>
34        <activity
35            android:name=".MapaBrasilActivity"
36            android:label="@string/title_activity_mapa_brasil"
37            android:parentActivityName=".MainActivity"
38            android:theme="@style/AppTheme.NoActionBar">
39            <meta-data
40                android:name="android.support.PARENT_ACTIVITY"
41                android:value="app.transparenciaeducativa.MainActivity" />
42            </activity>
43        <activity
44            android:name=".ListEstadosActivity"
45            android:label="@string/title_activity_list_estados"
46            android:parentActivityName=".MapaBrasilActivity"
47            android:theme="@style/AppTheme.NoActionBar">
48            <meta-data
49                android:name="android.support.PARENT_ACTIVITY"
50                android:value="app.transparenciaeducativa.
51                MapaBrasilActivity" />
52            </activity>
53        <activity
54            android:name=".ListMunicipiosActivity"
55            android:label="@string/title_activity_list_municipios"
56            android:parentActivityName=".ListEstadosActivity"

```

```

55         android:theme="@style/AppTheme.NoActionBar">
56         <meta-data
57             android:name="android.support.PARENT_ACTIVITY"
58             android:value="app.transparenciaeducativa.
ListEstadosActivity" />
59     </activity>
60     <activity
61         android:name=".ChatRealTimeActivity"
62         android:label="@string/title_activity_chat_real_time"
63         android:parentActivityName=".MainActivity"
64         android:theme="@style/AppTheme.NoActionBar">
65         <meta-data
66             android:name="android.support.PARENT_ACTIVITY"
67             android:value="app.transparenciaeducativa.MainActivity" />
68     </activity>
69     <activity
70         android:name=".GraficosActivity"
71         android:label="@string/title_activity_graficos"
72         android:parentActivityName=".MainActivity"
73         android:theme="@style/AppTheme.NoActionBar">
74         <meta-data
75             android:name="android.support.PARENT_ACTIVITY"
76             android:value="app.transparenciaeducativa.MainActivity" />
77     </activity>
78     <activity
79         android:name=".RoomChatRealTimeActivity"
80         android:label="@string/title_activity_room_chat_real_time"
81         android:parentActivityName=".ChatRealTimeActivity"
82         android:theme="@style/AppTheme.NoActionBar">
83         <meta-data
84             android:name="android.support.PARENT_ACTIVITY"
85             android:value="app.transparenciaeducativa.
ChatRealTimeActivity" />
86     </activity>
87 </application>
88
89 </manifest>

```


Listing 17: ./mobile/src/main/res/menu/menu_scrolling.xml

```
1 <menu xmlns:android="http://schemas.android.com/apk/res/android"
2     xmlns:app="http://schemas.android.com/apk/res-auto"
3     xmlns:tools="http://schemas.android.com/tools"
4     tools:context="app.transparenciaeducativa.ScrollingActivity">
5     <item
6         android:id="@+id/action_settings"
7         android:orderInCategory="100"
8         android:title="@string/action_settings"
9         app:showAsAction="never" />
10 </menu>
```

Listing 18: ./mobile/src/main/res/menu/main.xml

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <menu xmlns:android="http://schemas.android.com/apk/res/android"
3     xmlns:app="http://schemas.android.com/apk/res-auto">
4     <item
5         android:id="@+id/action_settings"
6         android:orderInCategory="100"
7         android:title="@string/action_settings"
8         app:showAsAction="never" />
9 </menu>
```

Listing 19: ./mobile/src/main/res/menu/activity_main_drawer.xml

```

1 <?xml version="1.0" encoding="utf-8"?>
2 <menu xmlns:android="http://schemas.android.com/apk/res/android">
3
4     <group android:checkableBehavior="single">
5         <item
6             android:id="@+id/nav_analisar"
7             android:icon="?android:attr/actionModeFindDrawable"
8             android:title="@string/analisar" />
9     </group>
10
11     <item android:title="@string/comunicacao">
12         <menu>
13             <item
14                 android:id="@+id/nav_sobre_nos"
15                 android:icon="@android:drawable/ic_dialog_info"
16                 android:title="@string/sobre_nos" />
17             <item
18                 android:id="@+id/nav_salas_de_debates"
19                 android:icon="@android:drawable/sym_action_chat"
20                 android:title="@string/salas_de_debates" />
21         </menu>
22     </item>
23
24 </menu>

```