

Lost Signal Android Project

COT 4930

Springs 2010

Prof: Dr. Shankar

By Daniel Alvarez

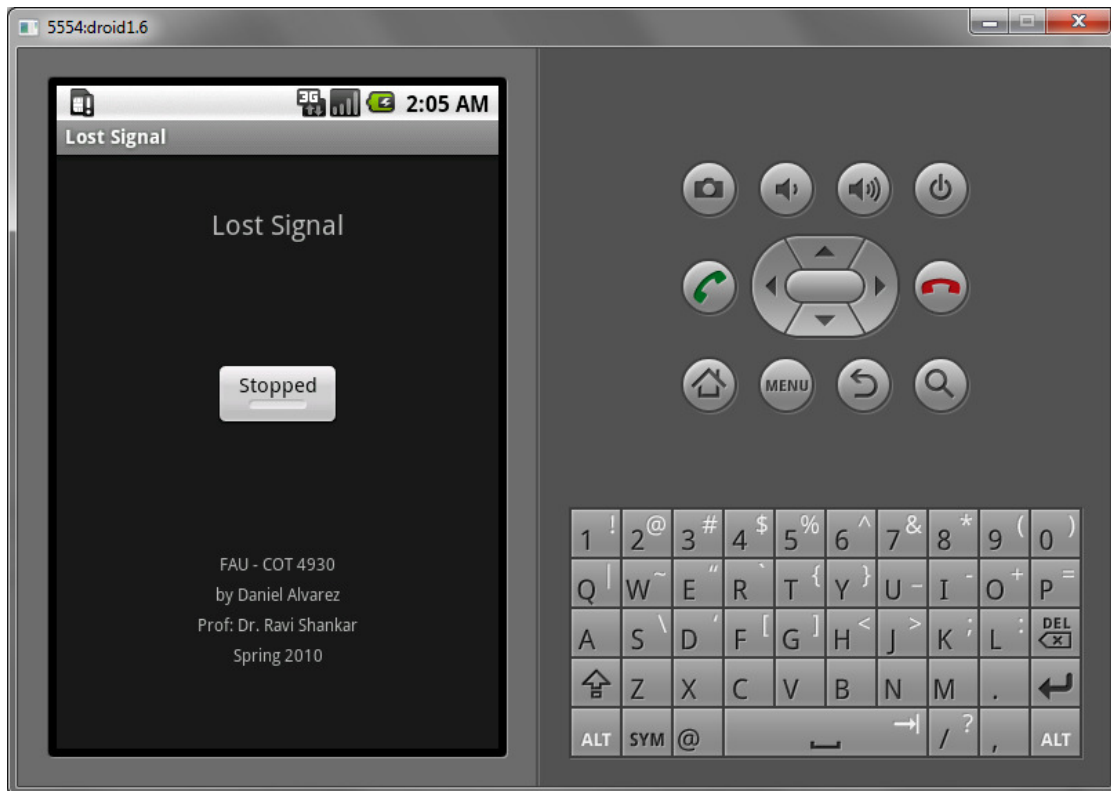


Lost Signal is a basic Android Application that checks constantly through an Android Service for a no signal error. The Service runs in the back at all times, and alerts the user through a sound and vibration when the signal is completely lost. The Application picks up automatically the phone settings for the sounds/vibrate alert. It basically consists of a ToggleButton that switches the state of the application from ON and OFF. If the application is ON and the signal is lost, it will generate a status bar notification that the signal was lost so the user is aware immediately. Here are a few pictures of the application:

This one shows the icon of the application before it is launched.



This one is the default layout when the application is launched in portrait mode.



This occurs when the ToggleButton is first clicked ON.



This occurs when the ToggleButton is clicked again to turn the service OFF.



Java and XML Coding Files (Source Code)

Main.java

```
public class Main extends Activity {  
  
    ToggleButton toggleButton;  
  
    @Override  
    public void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.main);  
  
        toggleButton = (ToggleButton)findViewById(R.id.toggleButton);  
  
        if(service.serviceStarted)  
            toggleButton.setChecked(true);  
        else  
            toggleButton.setChecked(false);  
  
        toggleButton.setOnCheckedChangeListener(new OnCheckedChangeListener(){
```

```

        public void onCheckedChanged(CompoundButton arg0, boolean arg1) {

            if(arg1)
            {
                startService(new Intent(Main.this,service.class)); Toast.makeText(Main.this, "Monitor
running", Toast.LENGTH_LONG).show();
            }
            else
            {
                stopService(new Intent(Main.this,service.class)); Toast.makeText(Main.this, "Monitor
stopped", Toast.LENGTH_LONG).show();
            }
        }
    });
}
}

```

service.java

```

public class service extends Service {

    TelephonyManager teleman;
    PhoneStateListener PSL;
    NotificationManager noteman;
    Notification LostSignal;

    SharedPreferences prefs;
    SharedPreferences settings;
    SharedPreferences.Editor editor;

    public static boolean serviceStarted = false;

    public long signalOut;

    @Override
    public void onCreate() {

        serviceStarted = true;
        teleman = (TelephonyManager)this.getSystemService(Context.TELEPHONY_SERVICE);
        noteman = (NotificationManager)this.getSystemService(Context.NOTIFICATION_SERVICE);

        PSL = new PhoneStateListener(){

            @Override
            public void onServiceStateChanged(ServiceState serviceState)
            {

                if(serviceState.getState()==ServiceState.STATE_OUT_OF_SERVICE)
                {

                    LostSignal = new Notification(R.drawable.icon, "Warning: Phone signal has been
lost",System.currentTimeMillis());

                    LostSignal.flags = Notification.FLAG_AUTO_CANCEL;
                    LostSignal.defaults |= Notification.DEFAULT_LIGHTS;
                    LostSignal.defaults |= Notification.DEFAULT_SOUND;
                    LostSignal.defaults |= Notification.DEFAULT_VIBRATE;
                }
            }
        };
    }
}

```

```

        Context context = getApplicationContext();
        String expandedText = "Your phone's signal has been lost.";
        String expandedTitle = "Warning: No signal";
        Intent intent1 = new Intent(service.this, Main.class);
        intent1.setFlags(Intent.FLAG_ACTIVITY_NEW_TASK);
        PendingIntent launchIntent = PendingIntent.getActivity(context, 0, intent1, 0);
        LostSignal.setLatestEventInfo(context,expandedTitle,expandedText, launchIntent);
        noteman.notify(1, LostSignal);
    }
}
};

    teleman.listen(PSL, PhoneStateListener.LISTEN_SERVICE_STATE);

}

    @Override
    public IBinder onBind(Intent intent){
        return null;
    }

    @Override
    public void onDestroy()
    {
        super.onDestroy();
        this.stopSelf();
        teleman.listen(PSL, PhoneStateListener.LISTEN_NONE);
    }
}
}

```

Main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    >

<TextView
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text=" "
    android:textSize="20dip"
    android:gravity="center"
    android:layout_marginTop="5dip"
    />

<TextView
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Lost Signal"
    android:textSize="20dip"
    android:gravity="center"

```

```
    android:layout_marginTop="5dip"  
  />
```

```
<TextView  
    android:layout_width="fill_parent"  
    android:layout_height="wrap_content"  
    android:text=" "  
    android:textSize="40dip"  
    android:gravity="center"  
    android:layout_marginTop="5dip"  
  />
```

```
<ToggleButton  
    android:layout_width="90dip"  
    android:layout_height="wrap_content"  
    android:textOn="Running"  
    android:id="@+id/toggleButton"  
    android:textOff="Stopped"  
    android:textSize="15dip"  
    android:layout_marginLeft="115dip"  
    android:layout_marginTop="30dip"  
  />
```

```
<TextView  
    android:layout_width="fill_parent"  
    android:layout_height="wrap_content"  
    android:text=" "  
    android:textSize="60dip"  
    android:gravity="center"  
    android:layout_marginTop="5dip"  
  />
```

```
<TextView  
    android:layout_width="fill_parent"  
    android:layout_height="wrap_content"  
    android:text="FAU - COT 4930"  
    android:textSize="12dip"  
    android:gravity="center"  
    android:layout_marginTop="5dip"  
  />
```

```
<TextView  
    android:layout_width="fill_parent"  
    android:layout_height="wrap_content"  
    android:text="by Daniel Alvarez"  
    android:textSize="12dip"  
    android:gravity="center"  
    android:layout_marginTop="5dip"  
  />
```

```
<TextView  
    android:layout_width="fill_parent"  
    android:layout_height="wrap_content"  
    android:text="Prof: Dr. Ravi Shankar"  
    android:textSize="12dip"  
    android:gravity="center"  
    android:layout_marginTop="5dip"
```

```
 />

<TextView
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Spring 2010"
    android:textSize="12dip"
    android:gravity="center"
    android:layout_marginTop="5dip"
 />

</LinearLayout>
```

LostSignal AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.androidproject.lostsignal"
    android:versionCode="1"
    android:versionName="1.0">
    <uses-permission android:name="android.permission.VIBRATE" />
    <application android:icon="@drawable/icon" android:label="@string/app_name">
        <activity android:name=".Main"
            android:label="@string/app_name">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <service android:name=".service"></service>
    </application>
    <uses-sdk android:minSdkVersion="4" />
</manifest>
```



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