**1.- ExampleInstrumendTest.java**

package com.tarea3.widgetem;

import android.content.Context;

import android.support.test.InstrumentationRegistry;

import android.support.test.runner.AndroidJUnit4;

import org.junit.Test;

import org.junit.runner.RunWith;

import static org.junit.Assert.\*;

/\*\*

\* Instrumented test, which will execute on an Android device.

\*

\* @see <a href="http://d.android.com/tools/testing">Testing documentation</a>

\*/

@RunWith(AndroidJUnit4.class)

public class ExampleInstrumentedTest {

@Test

public void useAppContext() {

// Context of the app under test.

Context appContext = InstrumentationRegistry.getTargetContext();

assertEquals("com.marcemma.widgetem", appContext.getPackageName());

}

}

**2.- AndroidManifest.xml**

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

<manifest xmlns:android="http://schemas.android.com/apk/res/android"

package="com.tarea3.widgetem"

android:versionCode="1"

android:versionName="1.0" >

<uses-sdk

android:minSdkVersion="8"

android:targetSdkVersion="16" />

<application

android:allowBackup="true"

android:icon="@drawable/ic\_launcher"

android:label="@string/app\_name"

android:theme="@style/AppTheme" >

<receiver android:name="WidgetEventos">

<intent-filter>

<action android:name="android.appwidget.action.APPWIDGET\_UPDATE" />

</intent-filter>

<meta-data android:name="android.appwidget.provider" android:resource="@xml/propiedades\_del\_widget" />

</receiver>

<activity android:name="MainActivity"></activity>

<activity android:name="TabHostPrincipal"></activity>

<intent-filter>

<category android:name="MainActivity" />

</intent-filter>

</application>

**3.- ExampleunitTest.java**

package com.tarea3.widgetem;

import org.junit.Test;

import static org.junit.Assert.\*;

/\*\*

\* Example local unit test, which will execute on the development machine (host).

\*

\* @see <a href="http://d.android.com/tools/testing">Testing documentation</a>

\*/

public class ExampleUnitTest {

@Test

public void addition\_isCorrect() {

assertEquals(4, 2 + 2);

}

}

**4.- WidgetEventos.java**

package com.tarea3.widgetem; /\*paquetería\*/

/\*importaciones\*/

import java.text.SimpleDateFormat;

import java.util.Calendar;

import java.util.Date;

import android.app.PendingIntent;

import android.appwidget.AppWidgetManager;

import android.appwidget.AppWidgetProvider;

import android.content.ComponentName;

import android.content.Context;

import android.content.Intent;

import android.os.Handler;

import android.widget.RemoteViews;

public class WidgetEventos extends AppWidgetProvider { /\*Clase pública que hereda las acciones\*/

private Handler mHandler = new Handler();

RemoteViews views;

AppWidgetManager appWidgetManager;

ComponentName currentWidget;

Context context;

Calendar cal = Calendar.getInstance();

public void onUpdate(Context context, AppWidgetManager appWidgetManager, int[] appWidgetIds) /\*Método público qué mantiene actualizado el widget\*/

{

this.context = context;

this.appWidgetManager = appWidgetManager;

/\*pregunta que elementos existen en el layout\*/

views = new RemoteViews(context.getPackageName(), R.layout.widget);

currentWidget = new ComponentName(context, WidgetEventos.class);

mHandler.removeCallbacks(actualizarReloj);

mHandler.postDelayed(actualizarReloj, 100);

}

final Runnable actualizarReloj = new Runnable() /\*acción final para terminar la actualización del widget\*/

{

public void run() /\*método para hacer correr el widget ya actulizado\*/

{

Intent informationIntent = new Intent(context, com.marcemma.widgetem.TabHostPrincipal.class);

PendingIntent infoPendingIntent = PendingIntent.getActivity(context, 0, informationIntent, 0);

views.setOnClickPendingIntent(R.id.Widget, infoPendingIntent);

views.setTextViewText(R.id.widget\_textview,getDatos(cal.getTime()));

appWidgetManager.updateAppWidget(currentWidget, views);

mHandler.postDelayed(actualizarReloj, 1000);

}

};

//captura y da formato a la fecha del sistema

public String getDatos(Date date){

SimpleDateFormat sdf = new

SimpleDateFormat("h:mmaa");

sdf.setLenient(false);

String re = sdf.format(date.getTime());

return re;

}

@Override

public void onDisabled(Context context)

{

super.onDisabled(context);

mHandler.removeCallbacks(actualizarReloj);

}

}

}

**5.- TabHostPrincipal.java**

package com.tarea3.widget;

import android.app.TabActivity;

import android.content.Intent;

import android.os.Bundle;

import android.widget.TabHost;

public class TabHostPrincipal extends TabActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

final TabHost tab = getTabHost();

tab.addTab

(tab.newTabSpec("Tab1").setIndicator

("Info",getResources().getDrawable

(android.R.drawable.ic\_dialog\_info)).setContent

(new Intent(this,Info.class)));

tab.addTab

(tab.newTabSpec("Tab2").setIndicator

("",getResources().getDrawable

(android.R.drawable.ic\_menu\_today)).setContent

(new Intent(this,Info.class)));

tab.addTab

(tab.newTabSpec("Tab3").setIndicator

("Alarma",getResources().getDrawable

(android.R.drawable.ic\_lock\_idle\_alarm)).setContent

(new Intent(this,Info.class).addFlags

(Intent.FLAG\_ACTIVITY\_CLEAR\_TOP)));

}

}

**6.- info.java**

package com.tarea3.widget;

import android.app.Activity;

import android.os.Bundle;

public class Info extends Activity{

@Override

protected void onCreate(Bundle savedInstanceState) {

// TODO Auto-generated method stub

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

}

}

</manifest>