



Unidad Profesional Interdisciplinaria en Ingeniería y  
Tecnologías Avanzadas

DISPOSITIVOS MÓVILES

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## Práctica 12

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Grupo: 2TM19

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# 1 XML

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http:
  //schemas.android.com/apk/res/android"
3 xmlns:app="http://schemas.android.com/apk/res-auto"
4 xmlns:tools="http://schemas.android.com/tools"
5 android:layout_width="match_parent"
6 android:layout_height="match_parent"
7 tools:context=".MainActivity"
8 android:background="@drawable/gradient_drawable">
9
10 <TextView
11 android:layout_width="wrap_content"
12 android:layout_height="wrap_content"
13 android:text="Hello World!"
14 app:layout_constraintBottom_toBottomOf="parent"
15 app:layout_constraintEnd_toEndOf="parent"
16 app:layout_constraintStart_toStartOf="parent"
17 app:layout_constraintTop_toTopOf="parent" />
18
19 </androidx.constraintlayout.widget.ConstraintLayout>
```

# 2 JAVA

```
1 package com.example.practica12;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.content.Context;
6 import android.graphics.Canvas;
7 import android.graphics.Color;
8 import android.graphics.LinearGradient;
9 import android.graphics.Paint;
10 import android.graphics.Shader;
11 import android.os.Bundle;
12 import android.view.MotionEvent;
13 import android.view.View;
14
15 public class MainActivity extends AppCompatActivity {
16     float x[] = {300, 300,800,400};
17     float y[] = {600, 800,1700,1000};
18
19     @Override
20     protected void onCreate(Bundle savedInstanceState) {
21         super.onCreate(savedInstanceState);
22         // setContentView(R.layout.activity_main);
23         Vistagrafico mivista = new Vistagrafico(this);
```

```
24     setContentView(mivista);
25 }
26
27 class Vistagrafico extends
28 View {
29
30
31     float radio[] = {60, 100, 200,120};
32     int seleccion = -1;
33     String txtEvento = "Evento";
34
35     Vistagrafico(Context context) {
36         super(context);
37     }
38
39     @Override
40     protected void onDraw(Canvas canvas) {
41         int color [] = { Color.parseColor("#FBE285"),Color.parseColor("#
42 F86624"),Color.parseColor("#EA3546"),Color.parseColor("#662E9B"),Color.
43 parseColor("#43BCCD")};
44         canvas.drawColor(color[0]);
45
46         Paint paint[] = new Paint[4];
47         for(int i=0 ; i<4;i++){
48             paint[i] = new Paint();
49             LinearGradient gradient = new LinearGradient(0, 0, 0, getHeight
50 (),color[i+1], Color.TRANSPARENT, Shader.TileMode.CLAMP);
51             paint[i].setDither(true);
52             paint[i].setShader(gradient);
53             paint[i].setColor(color[i+1]);
54             canvas.drawCircle(x[i],
55 y[i], radio[i], paint[i]);
56         }
57
58         Paint paint2 = new Paint();
59         paint2.setColor(Color.BLACK);
60         paint2.setTextSize(60);
61         paint2.setStyle(Paint.Style.FILL_AND_STROKE);
62
63         canvas.drawText("Selecciona un circulo", 100, 80, paint2);
64         for (int i =0 ; i<4 ;i++){
65             canvas.drawText("x" + i + "= " + x[i] + "          y"+ i + "= " +
66 y[i], 100 , 150 + 80*i, paint2);
67         }
68     }
69
70     @Override
71     public boolean onTouchEvent(MotionEvent Evento) {
```

```
71     float distancia;  
72  
73     if (Evento.getAction() == MotionEvent.ACTION_DOWN) {  
74         seleccion = -1;  
75         for (int i = 0; i < 4; i++) {  
76             distancia = (float) Math.sqrt( (nx - x[i]) * (nx - x[i]) + (ny  
- y[i]) * (ny - y[i]));  
77             if (distancia < radio[i]) {  
78                 seleccion = i;  
79                 invalidate();  
80             }  
81         }  
82     }  
83     if (Evento.getAction() == MotionEvent.ACTION_UP) {}  
84  
85     if (Evento.getAction() == MotionEvent.ACTION_MOVE) {  
86         if (seleccion != -1) {  
87             x[seleccion] = nx;  
88             y[seleccion] = ny;  
89             invalidate();  
90         }  
91     }  
92     return true;  
93 }  
94 }  
95 }
```

### 3 Resultados

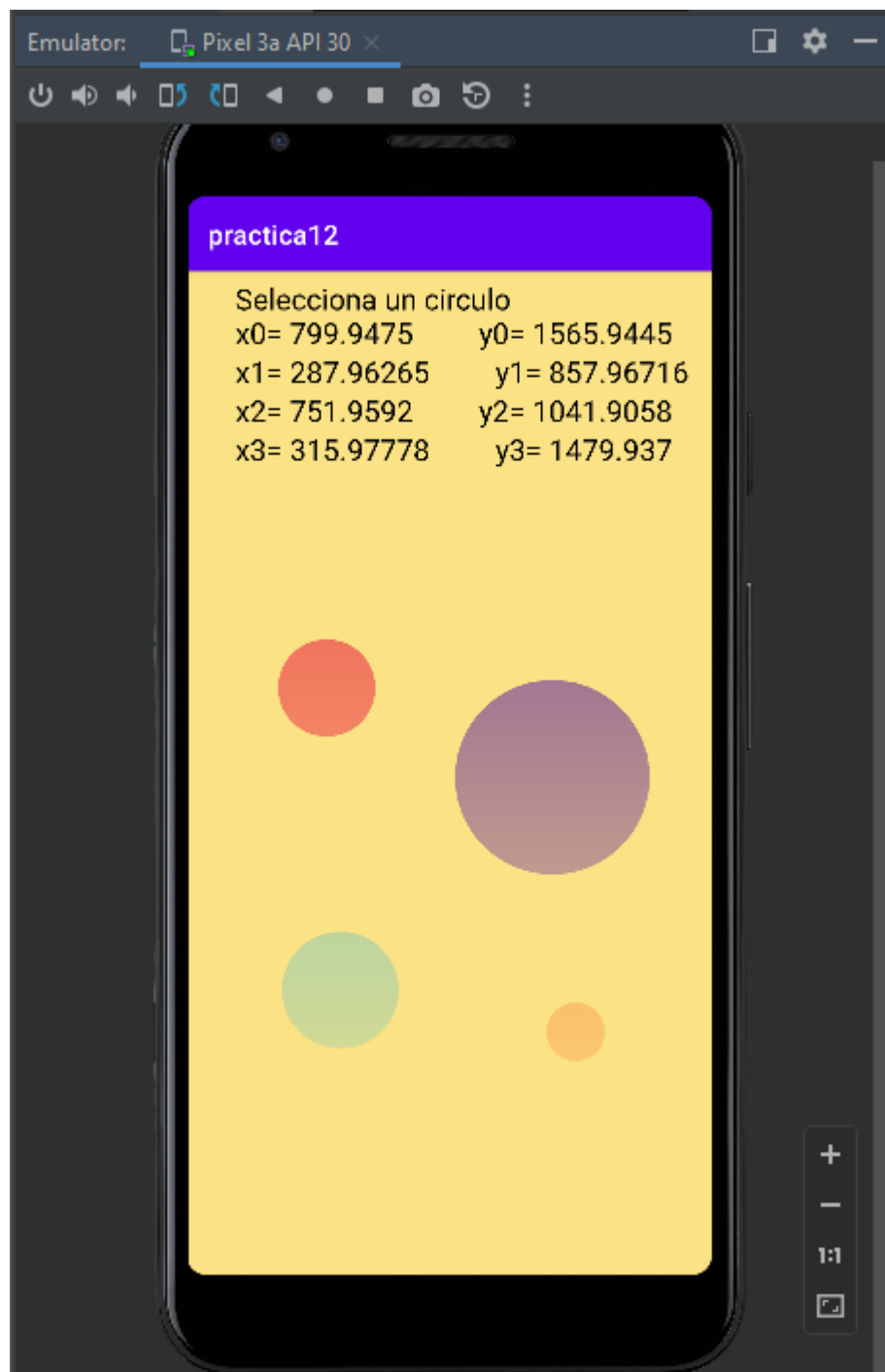


Figure 1

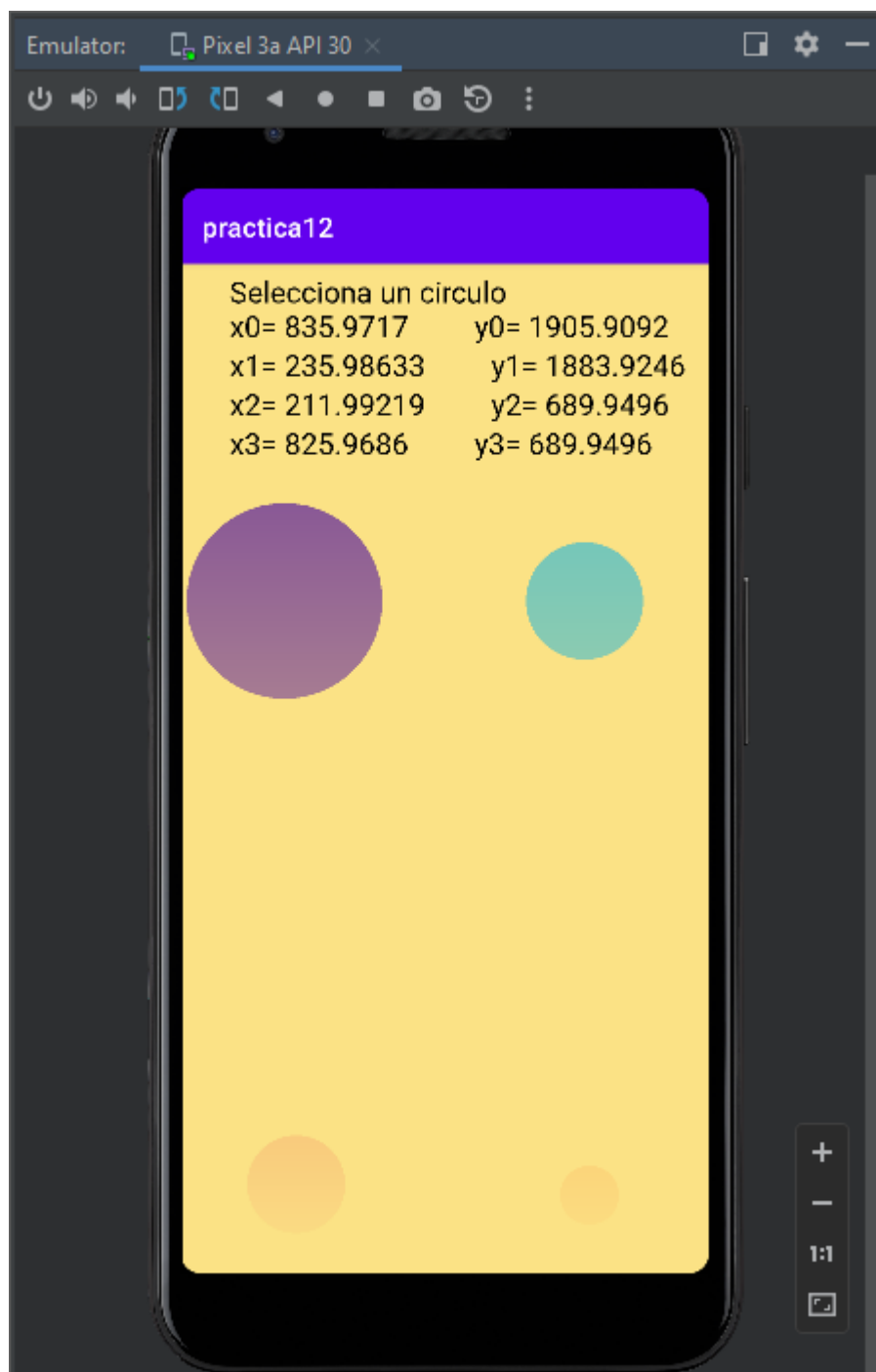


Figure 2