

### Esempio Pilota: **GiocoGriglia**

Realizzare una **App Android** che visualizzi una **Griglia di 2x2 Caselle**, inizialmente vuote: al click su una casella, in essa deve apparire l'**immagine di un Emoji** scelto casualmente fra quattro possibilità (**allegro, triste, strabico e sorpreso**)

#### activity\_main.xml - interfaccia grafica



#### activity\_main.xml - codice XML

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.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=".MainActivity">
```

##### <TableLayout

```
    android:id="@+id/tblGriglia"
    android:layout_width="300dp"
    android:layout_height="300dp"
    android:layout_marginTop="20dp"
    android:background="@drawable/sfondo_smile"
    android:padding="10dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent">
```

##### <TableRow

```
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

##### <ImageView

```
    android:id="@+id/inv00"
    style="@style/casella_stile" />
```

##### <ImageView

```
    android:id="@+id/inv01"
    style="@style/casella_stile" />
```

```
</TableRow>
```

##### <TableRow

```
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

##### <ImageView

```
    android:id="@+id/inv10"
    style="@style/casella_stile" />
```

##### <ImageView

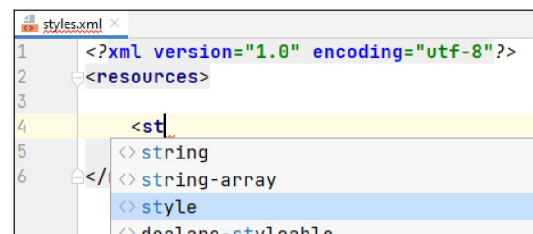
```
    android:id="@+id/inv11"
    style="@style/casella_stile" />
```

```
</TableRow>
```

```
</TableLayout>
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

#### styles.xml - Codice XML



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

##### <style name="casella\_stile">

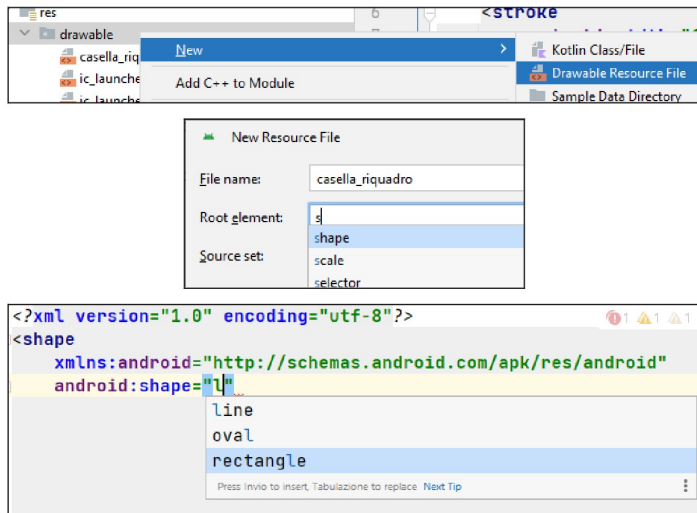
```
    <item name="android:layout_width"> 120dp </item>
    <item name="android:layout_height"> 120dp </item>
    <item name="android:layout_margin"> 10dp </item>
    <item name="android:padding"> 10dp </item>
    <item name="android:background">
```

```
        @drawable/casella_riquadro </item>
```

```
    <item name="android:onClick"> Caselle_Click </item>
```

```
</style>
```

```
</resources>
```

**casella\_riquadro.xml - Codice XML (drawable)**

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

  <stroke
    android:width="1dp"
    android:color="#80808080" />           // ... trasparente
  <solid
    android:color="#80FFFFFF" />         // ... trasparente

</shape>
```

**MainActivity.java - Codice JAVA**

```
package itis.classe4Ainf.giocogriglia;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;

import android.view.View;
import android.widget.ImageView;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;

import java.util.Random;

public class MainActivity extends AppCompatActivity {

    ImageView [ ] [ ] Griglia = new ImageView [2] [2];
    Bitmap [ ] Elencolimmagini = new Bitmap [4];
    Random RND = new Random ( );

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

```
// Imposta la matrice di ImageView ...
```

```
Griglia[0][0] = findViewById(R.id.imv00);
Griglia[0][1] = findViewById(R.id.imv01);
Griglia[1][0] = findViewById(R.id.imv10);
Griglia[1][1] = findViewById(R.id.imv11);
```

```
// Imposta il vettore di immagini (emoticon!) ...
```

```
Elencolimmagini[0] = BitmapFactory.decodeResource
    (getResources(), R.drawable.allegro);
Elencolimmagini[1] = BitmapFactory.decodeResource
    (getResources(), R.drawable.sorpreso);
Elencolimmagini[2] = BitmapFactory.decodeResource
    (getResources(), R.drawable.triste);
Elencolimmagini[3] = BitmapFactory.decodeResource
    (getResources(), R.drawable.strabico);
```

```
}
```

```
public void Caselle_Click ( View V )
```

```
{
```

```
    int Rig = 0; int Col = 0;
```

```
    if ( V.getId() == R.id.imv00 ) { Rig=0; Col=0; }
    else if ( V.getId() == R.id.imv01 ) { Rig=0; Col=1; }
    else if ( V.getId() == R.id.imv10 ) { Rig=1; Col=0; }
    else if ( V.getId() == R.id.imv11 ) { Rig=1; Col=1; }
```

```
    int NumeroCasuale = RND.nextInt(4);
```

```
    Bitmap ImmagineCasuale =
```

```
        Elencolimmagini [NumeroCasuale];
```

```
    Griglia[Rig][Col].setImageBitmap ( ImmagineCasuale );
```

```
}
```

**Struttura del Progetto**