

Universitatea Tehnică a Moldovei FCIM

Lucrarea de laborator Nr. 4 la MIDPS

Tema: Dezvoltarea unei aplicații mobile

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Objective:

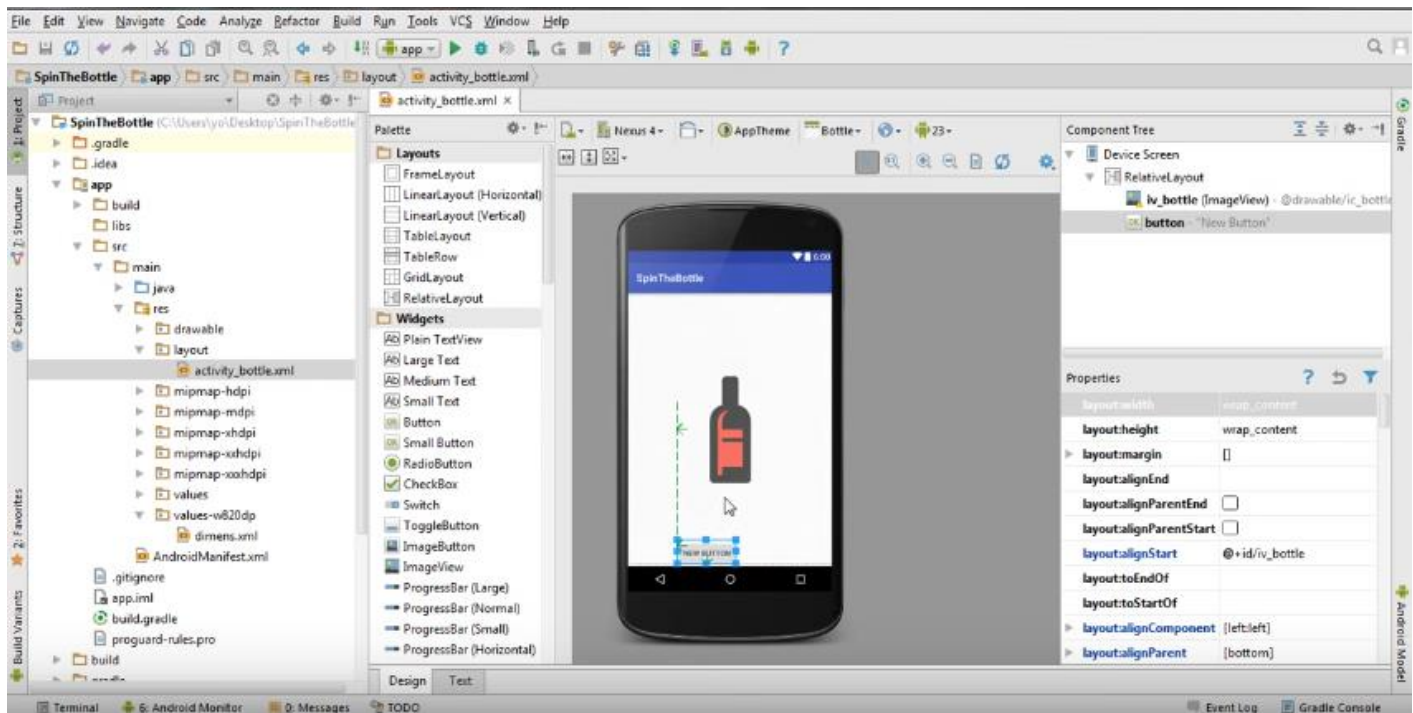
- Cunoștințe de bază privind arhitectura unei aplicații mobile
- Cunoștințe de bază ale platformei SDK

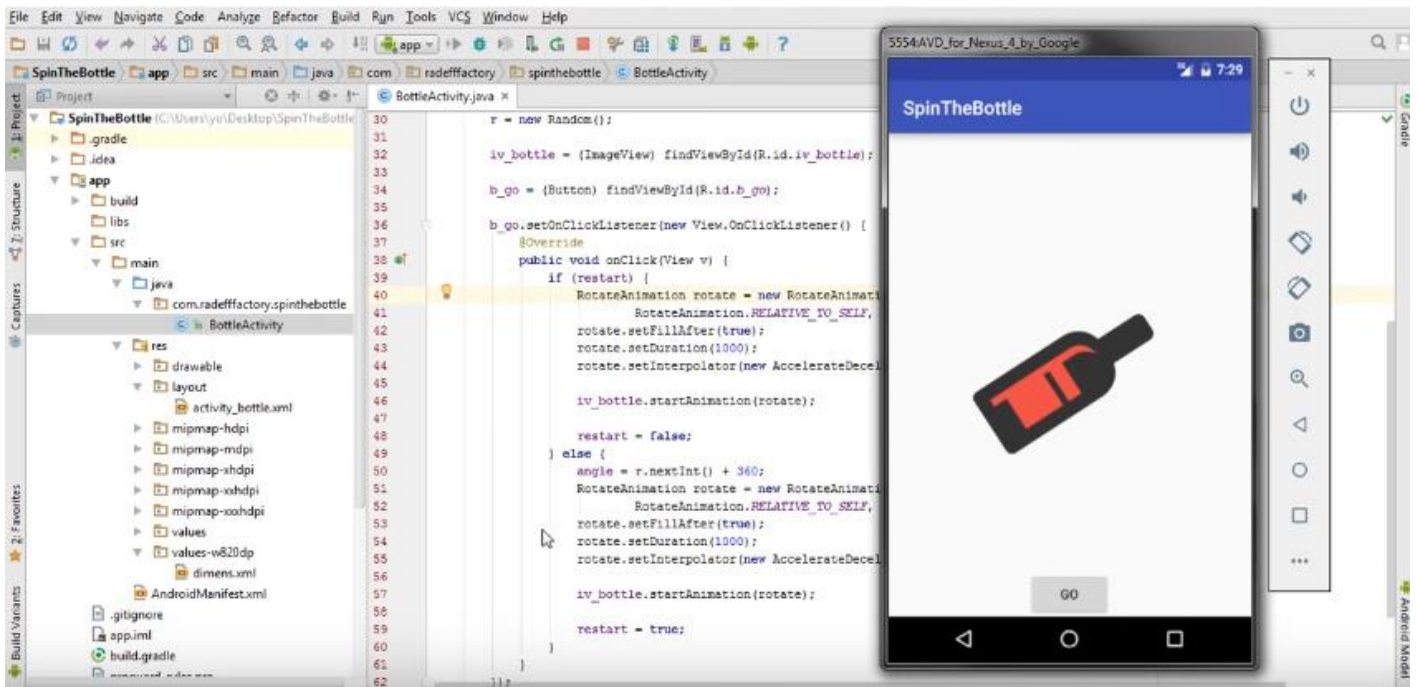
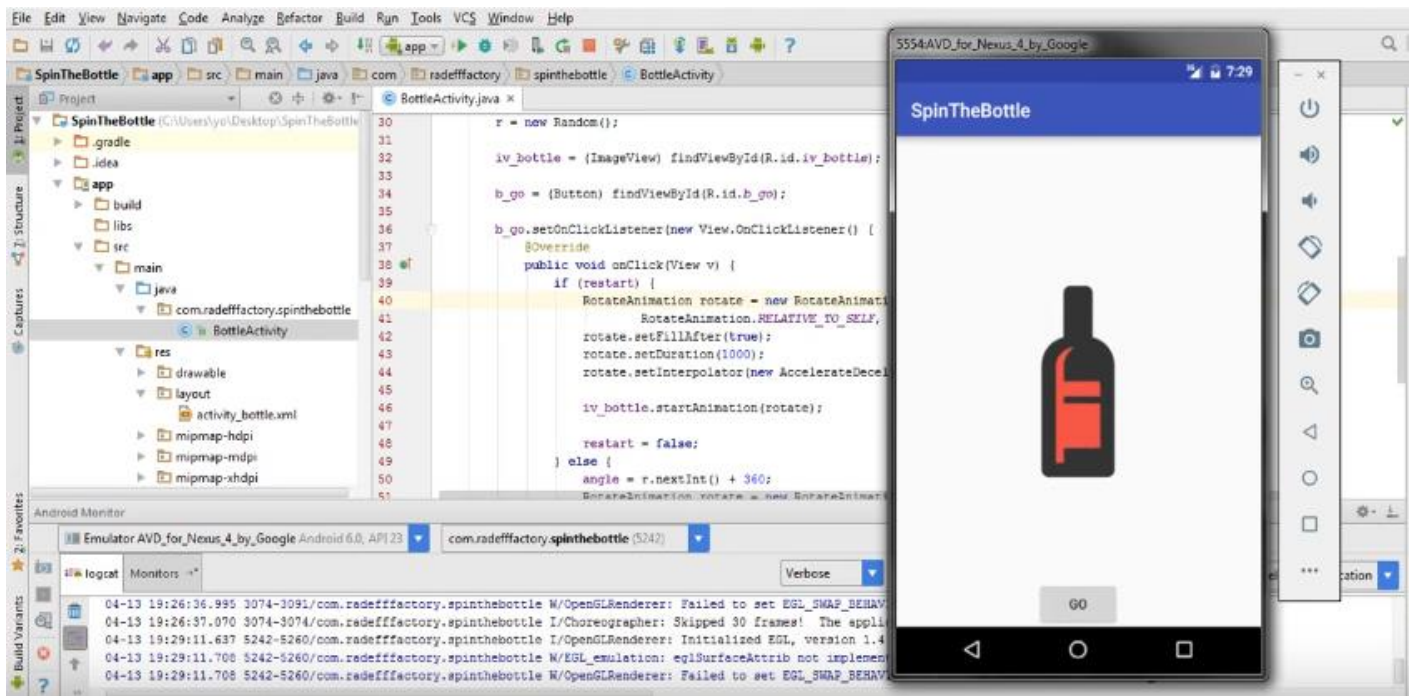
Sarcina:

Elaborează o aplicație sofisticată la alegere.

IDE-ul folosit: **Android Studio**.

Screenshot-urile cu proiectul în Android Studio:





Listingul Programului:

activity_bottle.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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="com.example.user.spillthebottle.BottleActivity">

    <ImageView
        android:scaleType="centerInside"
        android:id="@+id/iv_bottle"
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:layout_centerHorizontal="true"
        android:layout_centerVertical="true"
        app:srcCompat="@drawable/ic_bottle"
        tools:layout_editor_absoluteX="92dp"
        tools:layout_editor_absoluteY="155dp" />

    <Button
        android:id="@+id/b_go"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="GO"
        android:layout_centerHorizontal="true"
        android:layout_alignParentBottom="true"
        tools:layout_editor_absoluteY="418dp"
        tools:layout_editor_absoluteX="131dp" />

</android.support.constraint.ConstraintLayout>
```

BottleActivity.java

```
package com.example.user.spillthebottle;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.view.animation.AccelerateDecelerateInterpolator;
import android.view.animation.RotateAnimation;
import android.widget.Button;
import android.widget.ImageView;

import java.util.Random;

public class BottleActivity extends AppCompatActivity {
    ImageView iv_bottle;

    Button b_go;
```

```

Random r;

int angle;

boolean restart = false;

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_bottle);
    r = new Random();

    iv_bottle = (ImageView) findViewById(R.id.iv_bottle);

    b_go = (Button) findViewById(R.id.b_go);

    b_go.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            if(restart) {
                angle = angle % 360;
                RotateAnimation rotate = new RotateAnimation(
                    angle, 360, RotateAnimation.RELATIVE_TO_SELF, 0.5f, RotateAnimation.RELATIVE_TO_SELF, 0.5f);
                rotate.setFillAfter(true);
                rotate.setDuration(1000);
                rotate.setInterpolator(new AccelerateDecelerateInterpolator());

                iv_bottle.startAnimation(rotate);
                b_go.setText("GO");
                restart = false;
            }
            else
            {
                angle = r.nextInt(3600) + 360;
                RotateAnimation rotate = new RotateAnimation(
                    0, angle, RotateAnimation.RELATIVE_TO_SELF, 0.5f, RotateAnimation.RELATIVE_TO_SELF, 0.5f);
                rotate.setFillAfter(true);
                rotate.setDuration(3600);
                rotate.setInterpolator(new AccelerateDecelerateInterpolator());

                iv_bottle.startAnimation(rotate);
                restart = true;
                b_go.setText("RESET");
            }
        }
    });
}

```

Concluzie:

În urma efectuării lucrării de laborator, am făcut cunoștință cu un nou IDE: Android Studio. Am creat o aplicație android-un mic joc, testând-o pe versiunea API 10. Am studiat structura unei aplicații android. Am explorat elementele de interfață grafică a softului. Am folosit layout de tipul Constraint și mai multe tipuri de emulator. Am utilizat în aplicație Button, ImageView.