

Instructions: VIT-AP UNIVERSITY, ANDHRA PRADESH

Lab Sheet 5 : Animation and FABs

Academic year: 2022-2023

Semester: Fall

Faculty Name: Dr.K.Rajesh

Branch/ Class: B.Tech

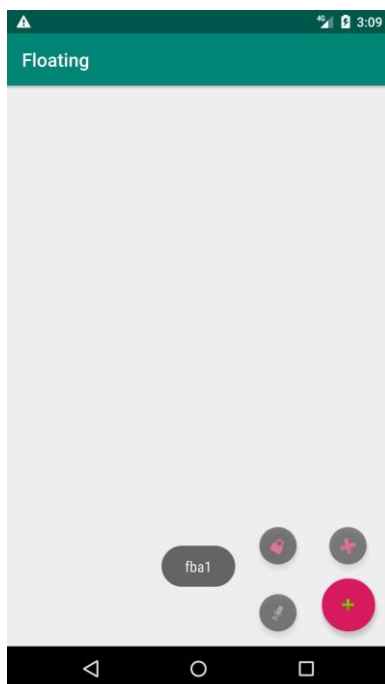
Date: 12-10-2022

School: SCOPE

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1.Design a Floating action button demo. Initially only the pink button should display when the the pink button is click the rest of the three buttons should be displayed. When each button is clicked then taost message should be displayed. When the pink button is pressed again the three buttons should hide.



Code:

MainActivity.java:

```
package com.example.floating;
import static com.example.floating.R.id.fab1;
import static com.example.floating.R.id.fab2;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.view.animation.Animation;
import android.view.animation.AnimationUtils;
import android.widget.Toast;
import com.google.android.material.floatingactionbutton.FloatingActionButton;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final boolean[] flag = {false};
```

```

        FloatingActionButton fab1 = (FloatingActionButton)
            findViewById(R.id.fab1);
        final FloatingActionButton fab2 = (FloatingActionButton)
            findViewById(R.id.fab2);
        final FloatingActionButton fab3 = (FloatingActionButton)
            findViewById(R.id.fab3);
        final FloatingActionButton fab4 = (FloatingActionButton)
            findViewById(R.id.fab4);
        final Animation in =

AnimationUtils.loadAnimation(getApplicationContext(), R.anim.show);
        final Animation out =

AnimationUtils.loadAnimation(getApplicationContext(), R.anim.hide);
        fab1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (flag[0]) {
                    Toast.makeText(getApplicationContext(), "fba1",
                        Toast.LENGTH_SHORT).show();
                    fab2.startAnimation(in);
                    fab3.startAnimation(in);
                    fab4.startAnimation(in);
                }
                else
                {
                    fab2.startAnimation(out);
                    fab3.startAnimation(out);
                    fab4.startAnimation(out);
                }
                flag[0] = !flag[0];
            }
        });
        fab2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(getApplicationContext(), "fba2",
                    Toast.LENGTH_SHORT).show();
            }
        });
        fab3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(getApplicationContext(), "fba3",
                    Toast.LENGTH_SHORT).show();
            }
        });
        fab4.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(getApplicationContext(), "fba4",
                    Toast.LENGTH_SHORT).show();
            }
        });
    }
}

```

activitymain.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">

<com.google.android.material.floatingactionbutton.FloatingActionButton
    android:id="@+id/fab1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="60dp"
    android:layout_marginBottom="68dp"
    android:backgroundTint="#E91E9F"
    android:clickable="true"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:srcCompat="@android:drawable/ic_input_add" />

<com.google.android.material.floatingactionbutton.FloatingActionButton
    android:id="@+id/fab2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginBottom="68dp"
    android:clickable="true"
    android:visibility="invisible"
    app:fabSize="mini"
    app:layout_constraintBottom_toTopOf="@+id/fab1"
    app:layout_constraintStart_toEndOf="@+id/fab4"
    app:srcCompat="@android:drawable/ic_delete" />

<com.google.android.material.floatingactionbutton.FloatingActionButton
    android:id="@+id/fab3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="160dp"
    android:layout_marginTop="20dp"
    android:clickable="true"
    android:visibility="invisible"
    app:fabSize="mini"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/fab4"
    app:srcCompat="@android:drawable/ic_btn_speak_now" />

<com.google.android.material.floatingactionbutton.FloatingActionButton
    android:id="@+id/fab4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:clickable="true"
    android:visibility="invisible"
    app:fabSize="mini"
    app:layout_constraintStart_toEndOf="@+id/fab3"
    app:layout_constraintTop_toBottomOf="@+id/fab2"
    app:srcCompat="@android:drawable/ic_lock_lock" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

Hide.xml:

```

<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android"
    android:fillAfter="true">
    <translate

```

```

        android:duration="1000"
        android:fromXDelta="0%"
        android:fromYDelta="0%"
        android:interpolator="@android:anim/linear_interpolator"
        android:toXDelta="100%"
        android:toYDelta="100%"></translate>
    <alpha
        android:duration="2000"
        android:fromAlpha="1.0"
        android:interpolator="@android:anim/accelerate_interpolator"
        android:toAlpha="0.0"></alpha>
</set>

```

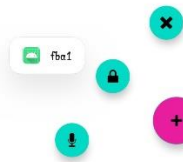
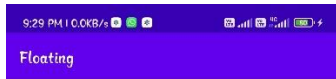
Show.xml:

```

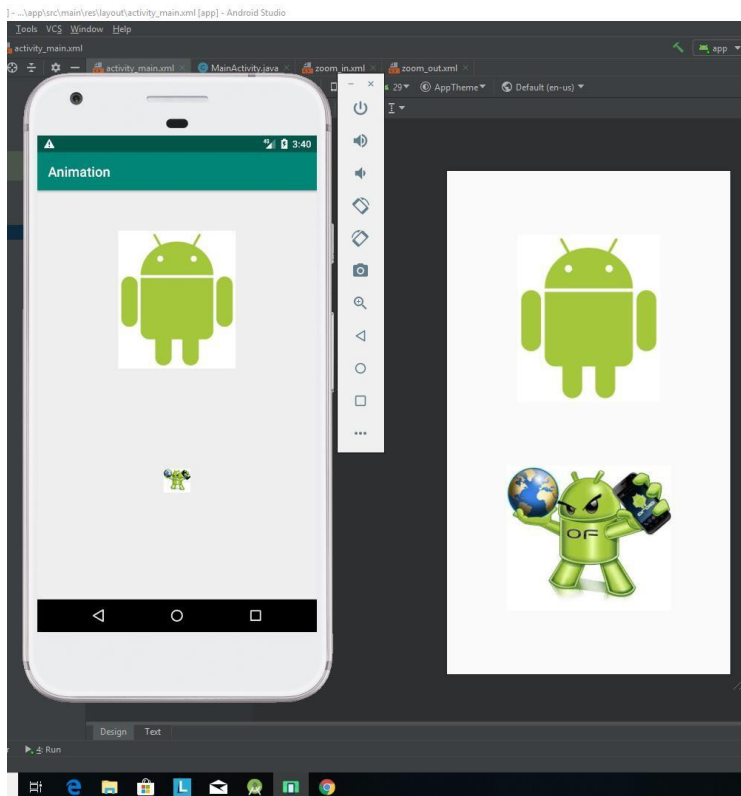
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android"
    android:fillAfter="true">
    <rotate
        android:duration="500"
        android:fromDegrees="30"
        android:interpolator="@android:anim/linear_interpolator"
        android:pivotX="50%"
        android:pivotY="50%"
        android:repeatCount="4"
        android:repeatMode="reverse"
        android:toDegrees="0"></rotate>
    <translate
        android:duration="1000"
        android:fromXDelta="170%"
        android:fromYDelta="25%"
        android:interpolator="@android:anim/linear_interpolator"
        android:toXDelta="0%"
        android:toYDelta="0%"></translate>
    <alpha
        android:duration="2000"
        android:fromAlpha="0.0"
        android:interpolator="@android:anim/decelerate_interpolator"
        android:toAlpha="1.0"></alpha>
</set>

```

Output:



2. Design an App to scale one image big and one image small and vice versa.



Code:
MainActivity.java

```

package com.example.floatingactionbuttonanimation;

import
com.google.android.material.floatingactionbutton.FloatingActionButton;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.view.animation.Animation;
import android.view.animation.AnimationUtils;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {
    ImageView i1,i2;
    FloatingActionButton fab;
    public int f = 0;
    Animation zoomIn, zoomOut;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        i1 = findViewById(R.id.imageView);
        i2 = findViewById(R.id.imageView2);
        fab = findViewById(R.id.floatingActionButton2);
        zoomIn =
        AnimationUtils.loadAnimation(getApplicationContext(),R.anim.zoom_in);
        zoomOut =
        AnimationUtils.loadAnimation(getApplicationContext(),R.anim.zoom_out);

        fab.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                i2.startAnimation(zoomIn);
                i1.startAnimation(zoomOut);
            }
        });
    }
}

```

activity_main.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">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="223dp"
        android:layout_height="0dp"
        android:layout_marginTop="54dp"
        android:layout_marginBottom="60dp"
        android:visibility="visible"
        app:layout_constraintBottom_toTopOf="@+id/imageView2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:srcCompat="@drawable/images2" />

```

```

<ImageView
    android:id="@+id/imageView2"
    android:layout_width="435dp"
    android:layout_height="0dp"
    android:layout_marginBottom="65dp"
    android:visibility="visible"
    app:layout_constraintBottom_toTopOf="@+id/floatingActionButton2"
    app:layout_constraintTop_toBottomOf="@+id/imageView"
    app:srcCompat="@drawable/download3"
    tools:layout_editor_absoluteX="-12dp" />

<com.google.android.material.floatingactionbutton.FloatingActionButton
    android:id="@+id/floatingActionButton2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="40dp"
    android:layout_marginBottom="43dp"
    android:clickable="true"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/imageView2"
    app:srcCompat="@drawable/ic_launcher_foreground" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

Gradle

```

plugins {
    id 'com.android.application'
}

android {
    compileSdk 32

    defaultConfig {
        applicationId "com.example.floatingactionbuttonanimation"
        minSdk 21
        targetSdk 32
        versionCode 1
        versionName "1.0"

        testInstrumentationRunner 'androidx.test.runner.AndroidJUnitRunner'
    }

    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile('proguard-android-optimize.txt'), 'proguard-rules.pro'
        }
    }
    compileOptions {
        sourceCompatibility JavaVersion.VERSION_1_8
        targetCompatibility JavaVersion.VERSION_1_8
    }
}

dependencies {
    implementation 'androidx.appcompat:appcompat:1.0.0'
    implementation 'androidx.constraintlayout:constraintlayout:1.1.3'
}

```

```
implementation 'com.google.android.material:material:1.0.0'
implementation 'com.google.android.material:material:1.3.0-alpha02'
testImplementation 'junit:junit:4.13.2'
androidTestImplementation 'androidx.test.ext:junit:1.1.1'
androidTestImplementation 'androidx.test.espresso:espresso-core:3.1.0'
}
```

zoom_in.xml

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
  <scale
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:duration = "5000"
    android:fromXScale="0"
    android:fromYScale="0"
    android:pivotX="50%"
    android:pivotY="50%"
    android:toXScale="1"
    android:toYScale="1"
  />
</set>
```

zoom_out.xml

```
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
  <scale
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:duration = "5000"
    android:fromXScale="1"
    android:fromYScale="1"
    android:pivotX="50%"
    android:pivotY="50%"
    android:toXScale="0"
    android:toYScale="0"
  />
</set>
```

Output:

