

[2CEIT5PE18: MOBILE APPLICATION DEVELOPMENT]

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**AIM-Create Android Application to demonstrate
Frame by frame animation and splash screen to
demonstrate twin animation.**

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MainActivity.kt

```
package com.bytemap.mad_23012011026_practical4

import android.os.Bundle
import android.graphics.drawable.AnimationDrawable
import android.widget.ImageView
import android.widget.Button
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat

class MainActivity : AppCompatActivity() {
    { private lateinit var alarmImage: ImageView
    private lateinit var frameAnimation: AnimationDrawable
    private lateinit var heartIcon: ImageView
    private lateinit var heartAnimation: AnimationDrawable
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_main)

        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main)) {
            v, insets ->
            val systemBars =
                insets.getInsets(WindowInsetsCompat.Type.systemBars())
            v.setPadding(systemBars.left, systemBars.top,
                systemBars.right, systemBars.bottom)
            insets
        }

        alarmImage = findViewById(R.id.alarmImage)
        heartIcon = findViewById(R.id.heartIcon)

        alarmImage.setBackgroundResource(R.drawable.alarm_animation_list)
        frameAnimation = alarmImage.background as AnimationDrawable
    }
}
```

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```
heartIcon.setBackgroundResource(R.drawable.heart_animation_list)
    heartAnimation = heartIcon.background as AnimationDrawable

        if (!frameAnimation.isRunning)
            { frameAnimation.start()
            heartAnimation.start()
        }
    }

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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <com.google.android.material.card.MaterialCardView
        android:id="@+id/card"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        app:cardCornerRadius="12dp"
        app:cardElevation="10dp"
        android:layout_marginHorizontal="16dp"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent">

        <androidx.constraintlayout.widget.ConstraintLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:padding="12dp">

            <ImageView
                android:id="@+id/alarmImage"
                android:layout_width="0dp"
                android:layout_height="220dp"
```

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```
        android:contentDescription="Alarm animation"
        android:scaleType="centerCrop"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent" />

<TextView
    android:id="@+id/cardTitle"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="12dp"
    android:text="Create Alarm Time"

    android:textAppearance="@style/TextAppearance.AppCompat.Title"
    app:layout_constraintTop_toBottomOf="@+id/alarmImage"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />

<TextView
    android:id="@+id/cardSubtitle"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="6dp"
    android:text="By pressing buttons, Alarm can be
created and cancelled."
    app:layout_constraintTop_toBottomOf="@+id/cardTitle"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />

<TextView
    android:id="@+id/cardCaption"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="8dp"
    android:text="Check current time below real digital
clock.">

    app:layout_constraintTop_toBottomOf="@+id/cardSubtitle"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />
```

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```
<ImageView  
    android:id="@+id/heartIcon"  
    android:layout_width="24dp"  
    android:layout_height="24dp"  
    android:layout_marginTop="8dp"  
    android:src="@drawable/ic_heart_0"  
    android:contentDescription="Heart animation"  
    app:layout_constraintEnd_toEndOf="parent"  
  
    app:layout_constraintTop_toBottomOf="@+id/cardCaption" />  
  
<Button  
    android:id="@+id/createAlarmButton"  
    android:layout_width="0dp"  
    android:layout_height="wrap_content"  
    android:layout_marginTop="16dp"  
    android:layout_marginEnd="8dp"  
    android:text="Create Alarm"  
  
    app:layout_constraintTop_toBottomOf="@+id/cardCaption"  
  
    app:layout_constraintEnd_toStartOf="@+id/cancelAlarmButton"  
    />  
  
<Button  
    android:id="@+id/cancelAlarmButton"  
    android:layout_width="0dp"  
    android:layout_height="wrap_content"  
    android:layout_marginTop="16dp"  
    android:layout_marginStart="8dp"  
    android:text="Cancel Alarm"  
  
    app:layout_constraintTop_toBottomOf="@+id/cardCaption"  
  
    app:layout_constraintStart_toEndOf="@+id/createAlarmButton"  
    />  
  
</androidx.constraintlayout.widget.ConstraintLayout>  
</com.google.android.material.card.MaterialCardView>  
  
</androidx.constraintlayout.widget.ConstraintLayout>
```

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SplashActivity.xml

```
package com.bytemap.mad_23012011026_practical4

import android.content.Intent
import android.graphics.drawable.AnimationDrawable
import android.os.Bundle
import android.view.animation.Animation
import android.view.animation.AnimationUtils
import android.widget.ImageView
import androidx.activity.enableEdgeToEdge
import androidx.appcompat.app.AppCompatActivity
import androidx.core.view.ViewCompat
import androidx.core.view.WindowInsetsCompat
import
com.bytemap.mad_23012011026_practical4.databinding.ActivitySplashBin
ding

class SplashActivity : AppCompatActivity(),
Animation.AnimationListener
{
    lateinit var GUNI_LOGO :  

    ImageView
    lateinit var anim_grow_spin : Animation
    lateinit var GUNI_FRAME_ANIMATION : AnimationDrawable
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        enableEdgeToEdge()
        setContentView(R.layout.activity_splash)

        GUNI_LOGO = findViewById(R.id.image)

        GUNI_LOGO.setBackgroundResource(R.drawable.uvpce_animation_list)
        GUNI_FRAME_ANIMATION = GUNI_LOGO.background as
        AnimationDrawable

        anim_grow_spin = AnimationUtils.loadAnimation(this,
        R.anim.twin_animation)
        anim_grow_spin.setAnimationListener(this)
    }
    override fun onWindowFocusChanged(hasFocus: Boolean)
    { super.onWindowFocusChanged(hasFocus)
        if (hasFocus) {
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```
        GUNI_FRAME_ANIMATION.start()
        GUNI_LOGO.startAnimation(anim_grow_spin)
    } else {
        GUNI_FRAME_ANIMATION.stop()
    }
}

override fun onAnimationEnd(p0: Animation?) {
    Intent(this,MainActivity::class.java).also
{startActivity(it) }
}

override fun onAnimationRepeat(p0: Animation?) {
}

override fun onAnimationStart(p0: Animation?) {
}

}

twin_animation.xml
<?xml version="1.0" encoding="utf-8"?>
<set      xmlns:android="http://schemas.android.com/apk/res/android"
    android:startOffset="1000" android:shareInterpolator="false">
    <translate    android:fromXDelta="1.0"      android:fromYDelta="1.0"
    android:toXDelta="10.0"                      android:toYDelta="100.0"
    android:duration="750"/>
</set>
alarm_animation_list.xml
<?xml           version="1.0"           encoding="utf-8"?>
<animation-list
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:oneshot="false">
    <item android:drawable="@drawable/alarm1" android:duration="100"
/>
    <item android:drawable="@drawable/alarm2" android:duration="100"
/>
    <item android:drawable="@drawable/alarm3" android:duration="100"
/>
    <item android:drawable="@drawable/alarm4" android:duration="100"
/>
```

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```
    android:duration="100"/>
    <item android:drawable="@drawable/uvpce_logo_2"
    android:duration="200"/>
    <item android:drawable="@drawable/uvpce_logo_3"
    android:duration="200"/>
    <item android:drawable="@drawable/uvpce_logo_4"
    android:duration="300"/>
    <item android:drawable="@drawable/uvpce_logo_5"
    android:duration="300"/>
    <item android:drawable="@drawable/uvpce_logo_6"
    android:duration="400"/>
    <item android:drawable="@drawable/uvpce_logo_7"
    android:duration="400"/>
    <item android:drawable="@drawable/uvpce_logo"
    android:duration="500"/>
</animation-list>
```

Output:

