Working with Property Animations

Sriyank Siddhartha

AUTHOR

linkedin.com/in/sriyank
sriyank.siddhartha@gmail.com

android.animation

Animate Views or Non-views Object

API Overview

ObjectAnimator —IS-A→ ValueAnimator —IS-A→ Animator

ValueAnimator

👉 Compute values for an animation over time
  - The values could be float, int or color

👉 Use the computed values to update the property of an object over time

👉 Use AnimatorUpdateListener interface to apply animation to the View

ObjectAnimator

☞ Computes values over time and modifies the property of the object over time

☞ The animated property updates automatically

☞ No need to implement AnimatorUpdateListener
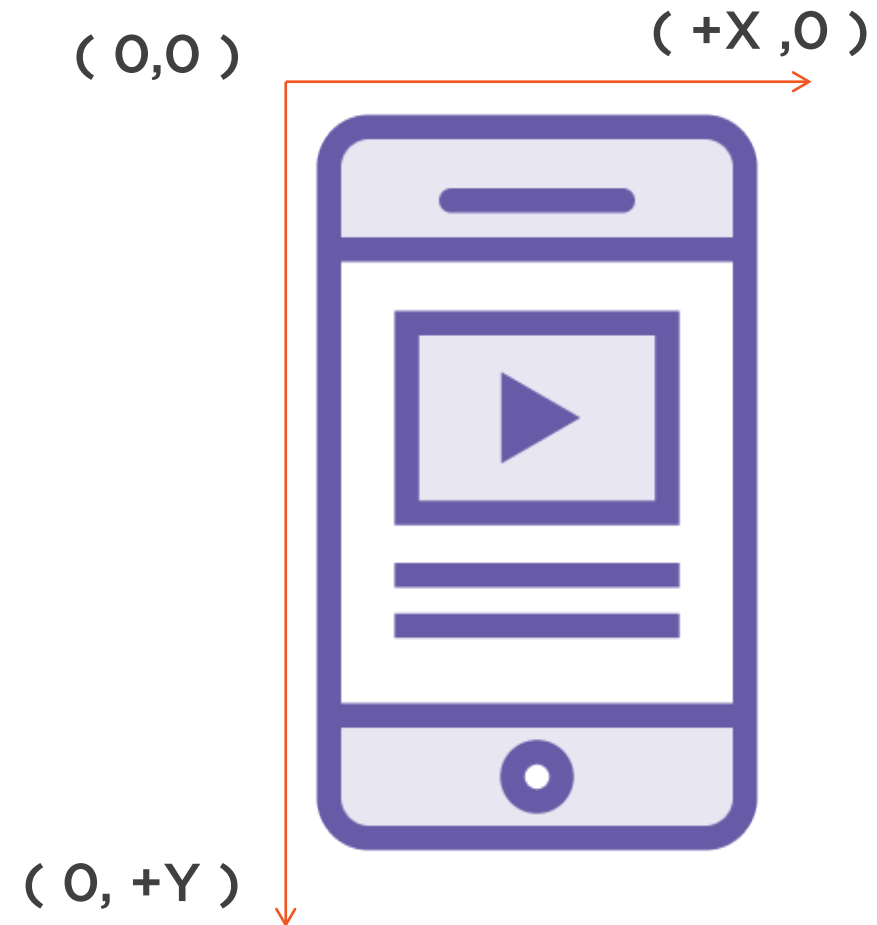
Property Animation

XML Resources

Store animation files within res/animator directory

From Code

Without using any XML resource animators

XY-coordinates

(0,0)   (+X ,0)

(0, +Y)

```
<objectAnimator

    android:propertyName = "alpha"
    android:valueFrom     = "1.0"
    android:valueTo       = "0.0"
    android:valueType     = "floatType"
    android:duration      = "500"


/>
```

Alpha Animation (A fade-in or fade-out Animation)

The View will fade out in 0.5 seconds

- Opacity offset of 1.0 means opaque

- Opacity offset of 0.0 means transparent

- Duration in milliseconds

```
<objectAnimator

    android:propertyName  =  "scaleX"
    android:valueFrom     =  "1.0"
    android:valueTo       =  "1.5"
    android:valueType     =  "floatType"
    android:duration      =  "1500"

/>
```

Scale Animation (A resizing animation)

The View will scale up to 1.5 times pivoted at center.

- To perform scale animation along the y-axis use "scaleY"

```
<objectAnimator

    android:propertyName  =  "translationX"
    android:valueFrom     =  "0.0"
    android:valueTo       =  "500.0"
    android:valueType     =  "floatType"
    android:duration      =  "1500"


/>
```

Translate Animation

The View will move 500px horizontally in positive x-axis in 1.5 seconds

- To perform scale animation along the y-axis use "translationY"

```
<objectAnimator

    android:propertyName  =  "rotation"
    android:valueFrom     =  "0.0"
    android:valueTo       =  "180.0"
    android:valueType     =  "floatType"
    android:duration      =  "1000"


/>
```

Rotate Animation

The View will rotate 180 degree clockwise in 1 second

- Use "rotationX" if you want rotation along the x-axis

- Use "rotationY" if you want rotation along the y-axis

Property Names

alpha

rotation, rotationY, and rotationX

scaleX, and scaleY

translationX, and translationY

pivotX, and pivotY

- They control location of the pivot point

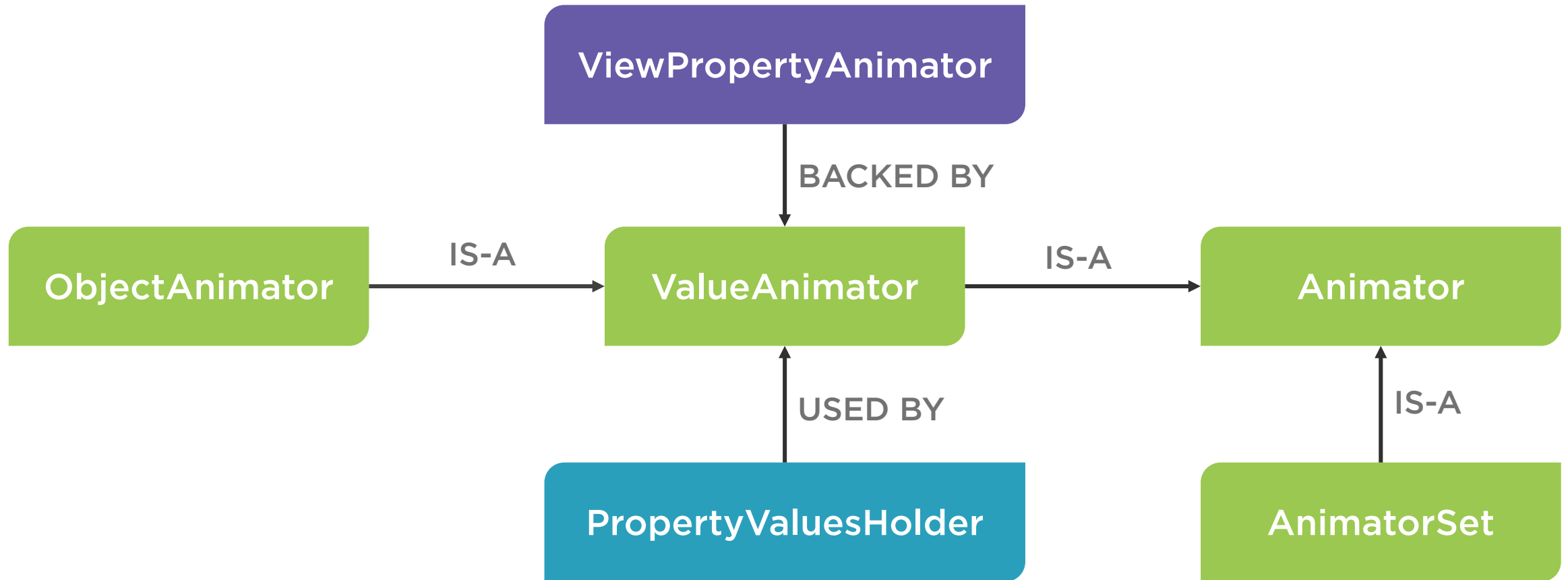**x, and y**

- Final location of View in its parent container

ValueAnimator.AnimatorUpdateListener

onAnimationUpdate(animation: ValueAnimator)

API Overview

Demo

Property animation defined in XML

- Alpha
- Scale
- Translate
- Rotate

Animator.AnimatorListener Interface

onAnimationStart
    - Notifies the start of animation

onAnimationEnd
    - Notifies the end of animation
    - Not called for animations whose repeat count is INFINITE

onAnimationRepeat
    - Notifies the repetition of animation

onAnimationCancel
    - Called when the animation is cancelled
    - A cancelled animation also calls onAnimationEnd

Building Property Animation from Code