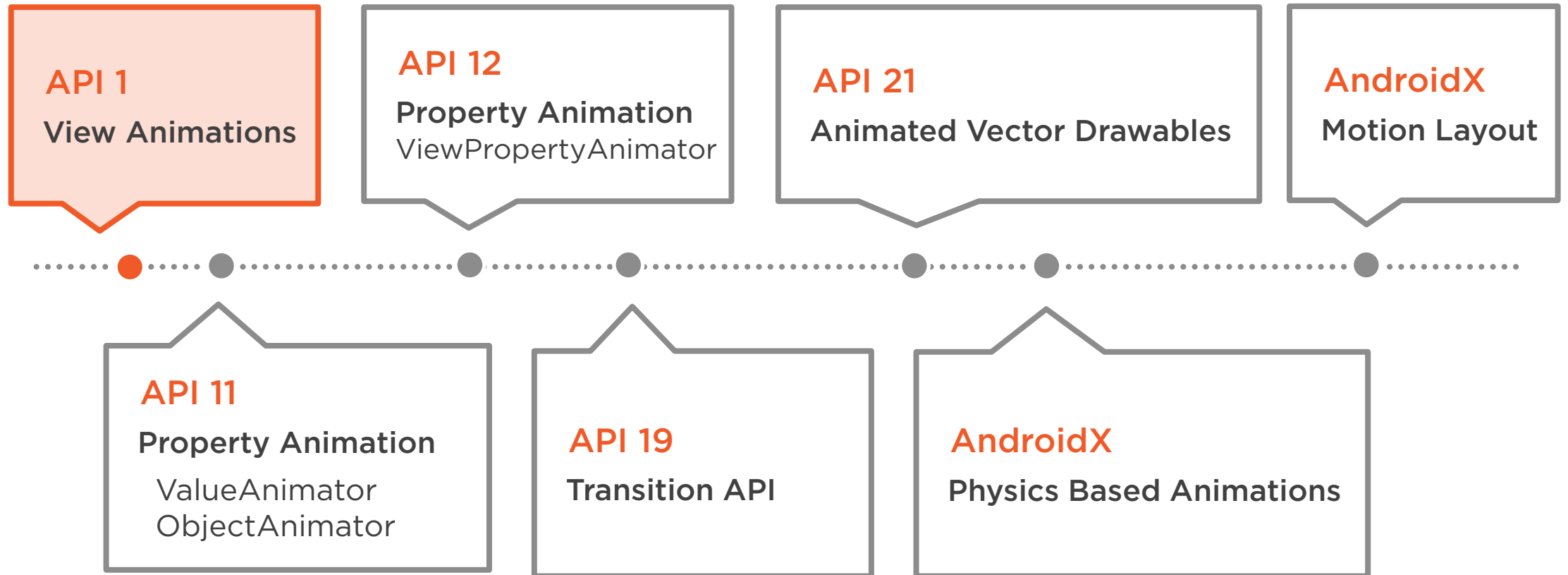


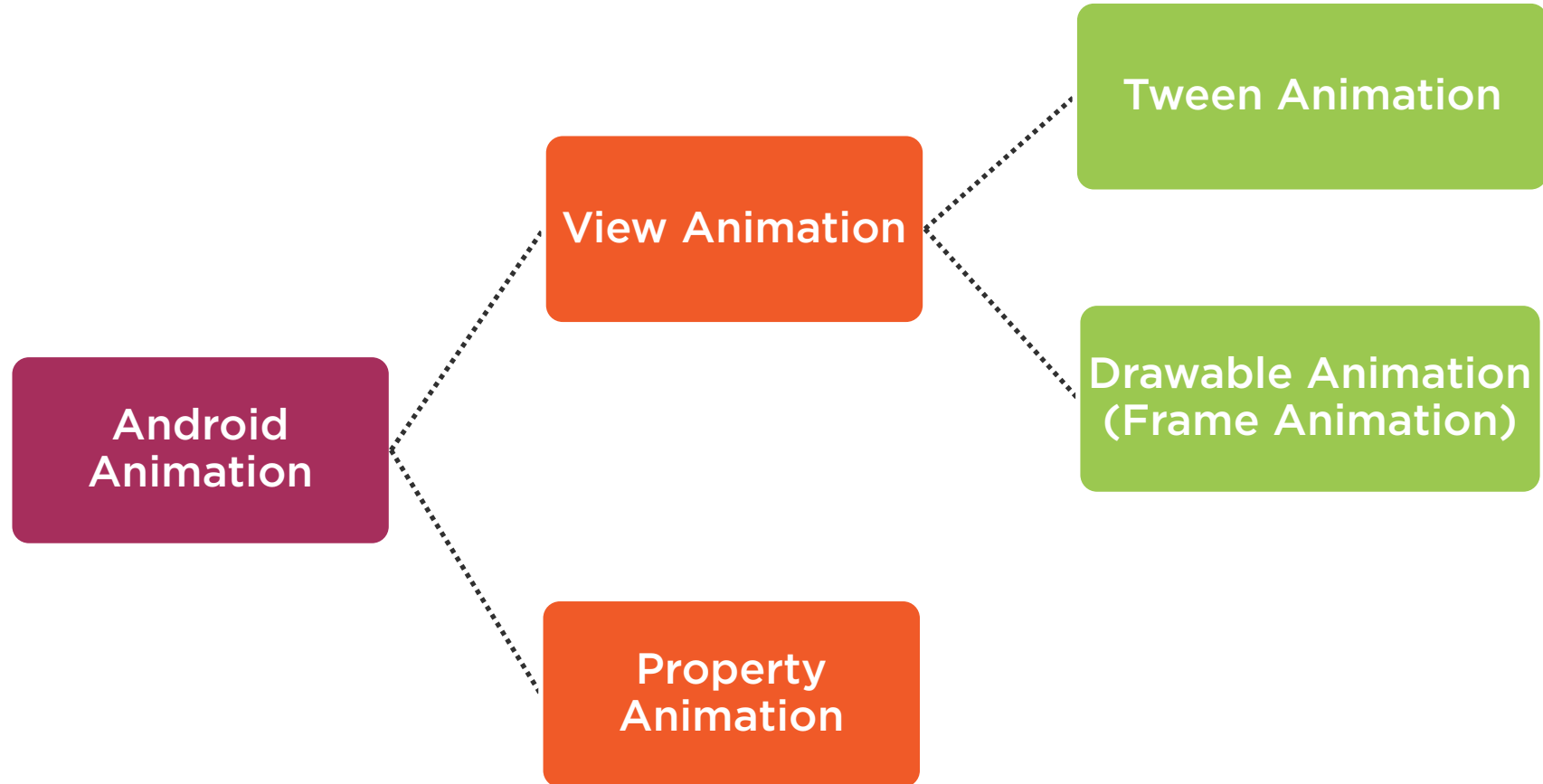
Imagine App without Animations



Evolution of Animation APIs



Animation Resources



android.animation

Animate Views or Non-views Object



API Overview



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

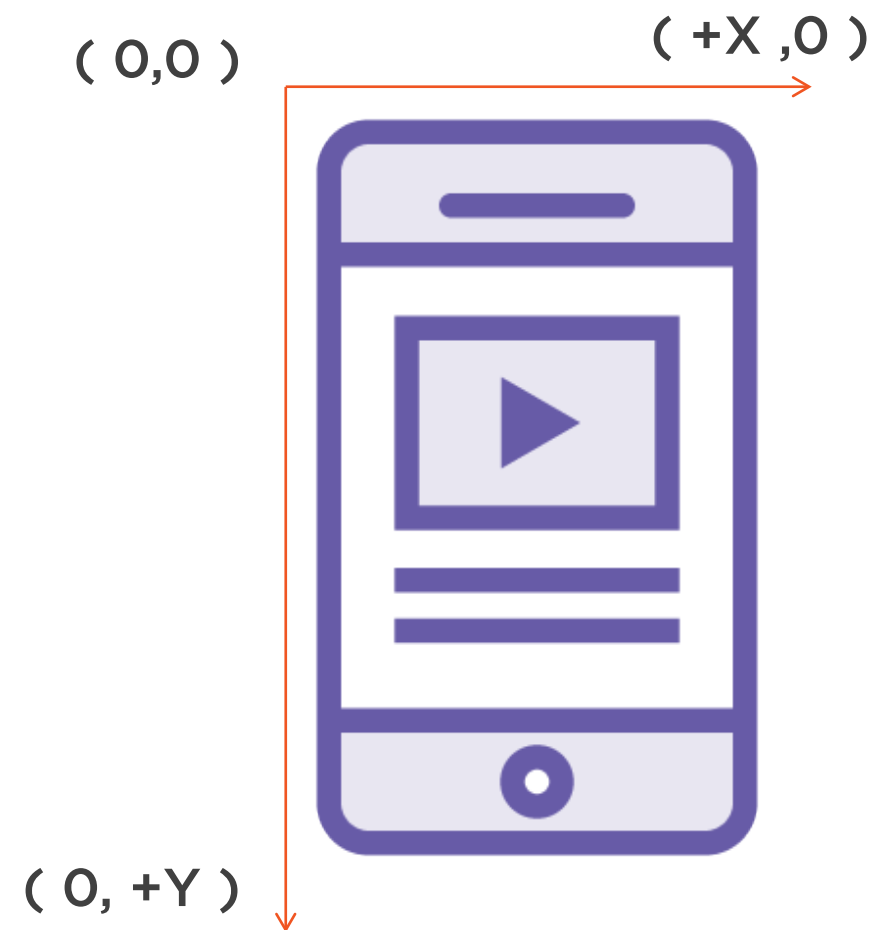
Store animation files within
res/animator directory

From Code

Without using any XML
resource animators



XY-coordinates



```
<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

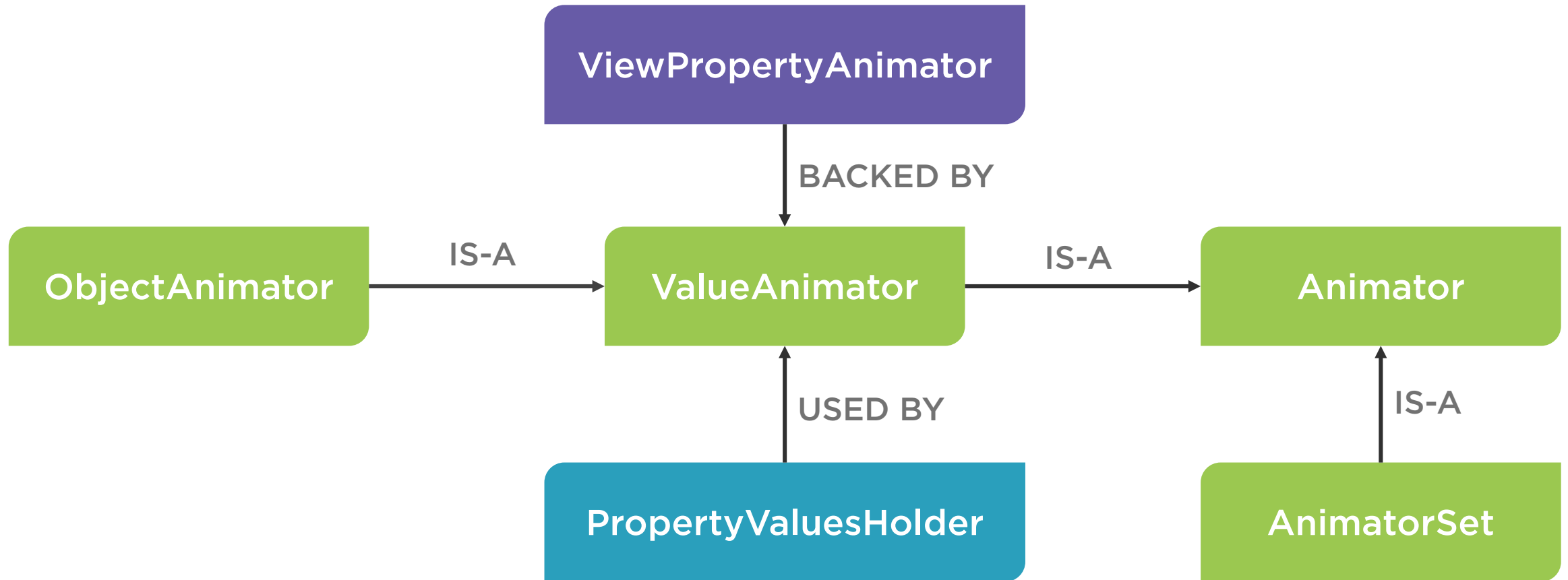


ValueAnimator.AnimatorUpdateListener

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**

