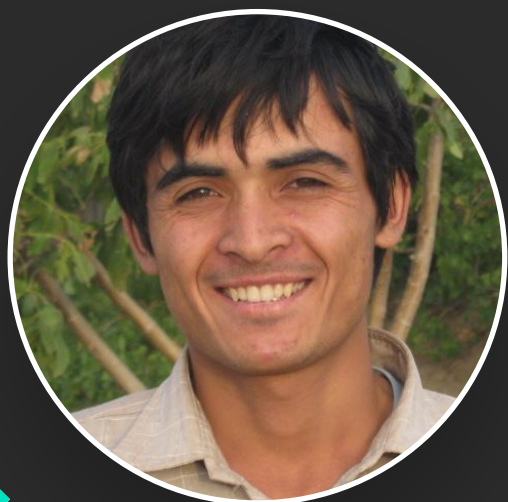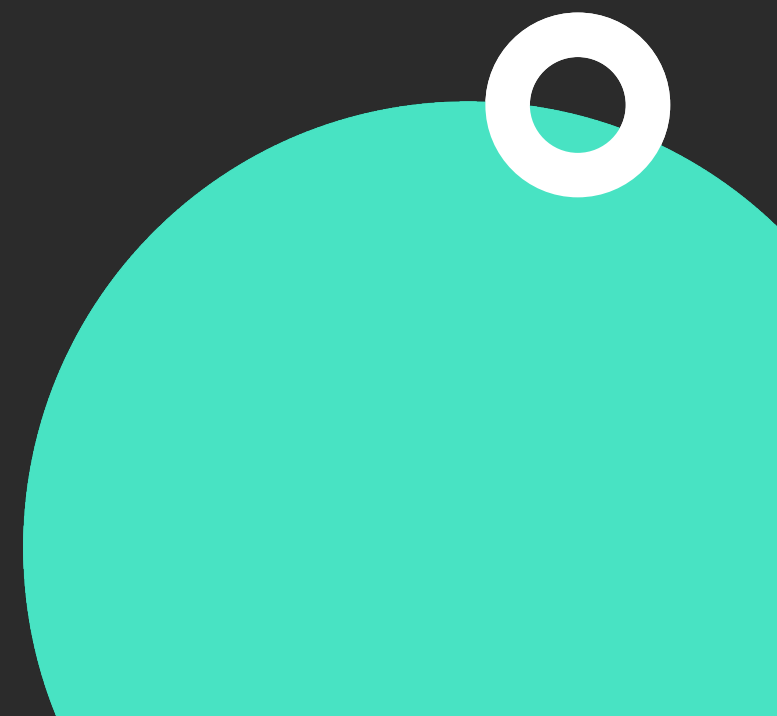# Animating Layout Change : High-Level Animations

Mehdi Haghgoo
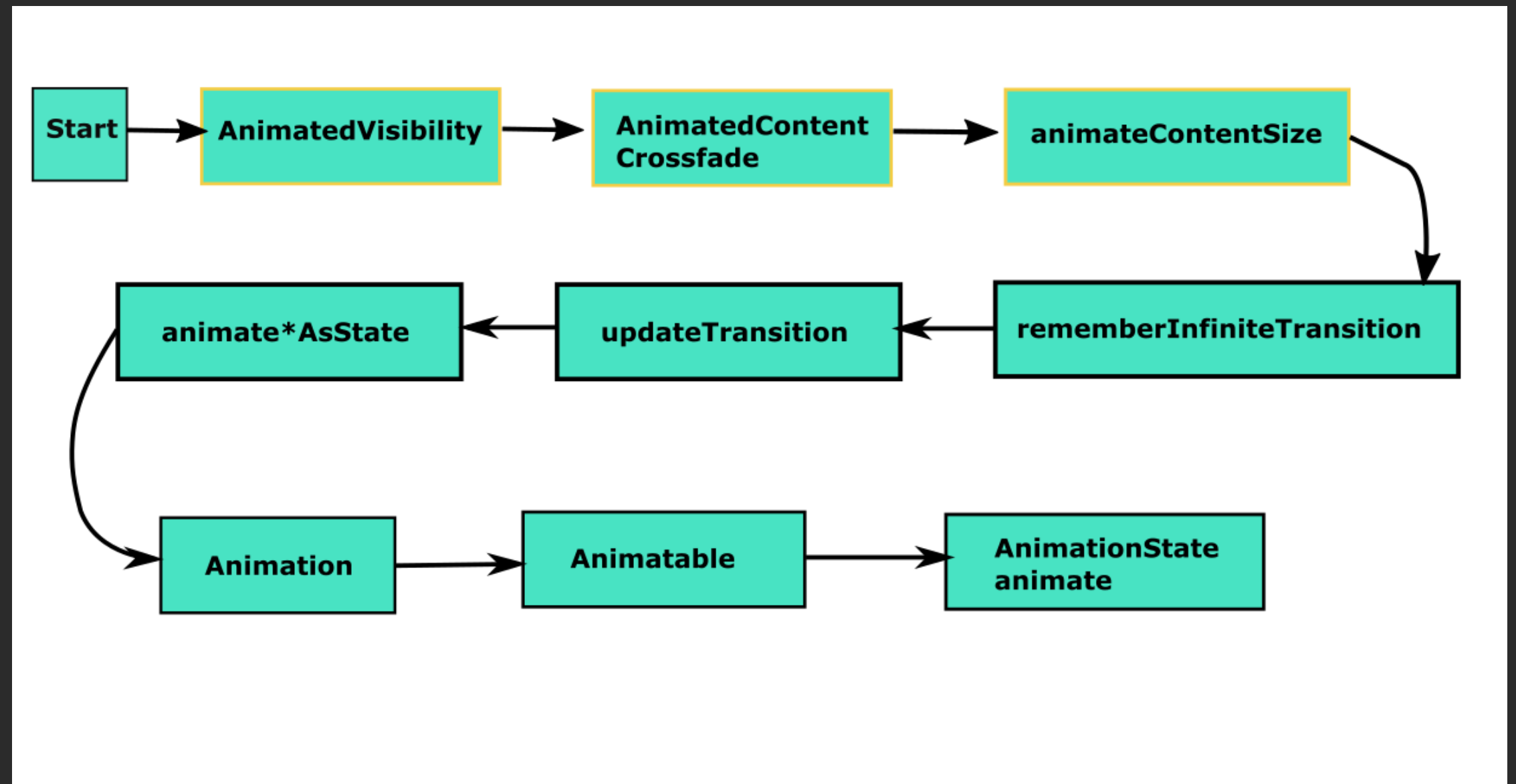
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Section Overview

- Learn animation APIs :

  - AnimatedVisibility

  - AnimatedContent

  - Crossfade

  - animateContentSize

- Code

- Recap

AnimatedVisibility

- Animate appearance or disappearance of content
    - Can wrap any content that is only visible when certain condition is true
    - By default a fade-through animation is performed
    - Custom appearance / disappearance animation can be used

```
AnimatedVisibility(
    visible = booleanState,
    enter = …,
    exit = …,
    label = "My Label"
) {
    GreetingBox()
}
```

AnimatedContent

- Animates its content based on a target state
    - Supports custom ContentTransform via transitionSpec parameter
    - You should use the lambda parameter passed to the AnimatedContent body

```kotlin
AnimatedContent(targetState = someState,
label = "MyLabel", transitionSpec = {

    fadeIn() with fadeOut() using
SizeTransform()

}){ targetState ->

    SomeContent(targetState)

}
```

Crossfade

- Toggles between two layouts with a crossfade animation
- State parameter passed to body lambda can be used to decide which content to show

```
Crossfade (targetState = someState,

    animationSpec = …,

label = "My Crossfade"

){ state->

    when(state){

        A -> BoxA()

        B -> BoxB()

    }

}
```

animateContentSize

- Modifier that animates a component's size change

```
Box(Modifier

    .animateContentSize() //Be sure to
put this before size modifiers

    .size(

        if (someCondition) 200.dp else
150.dp

    )

)
```

Tips

- Many high-level animation APIs take a label parameter to allow easier preview and debugging in Android Studio

- AnimatedVisibility and AnimatedContent let their children use animateEnterExit for custom animation

Code Time

- Folder : s2-animating-layout-changes/starter-project
- Files:
  - AnimatedContentCrossfadeSheet.kt
    - AnimatedContent
    - Crossfade
  - AnimatedVisibilitySheet.kt
    - AnimatedVisibility
  - AnimateContentSizeSheet.kt
    - animateContentSize

Section Summary

- Animate layout change using :
  - AnimatedVisibility
  - AnimatedContent
  - Crossfade
  - animateContentSize

High-level animations continued...

Up Next