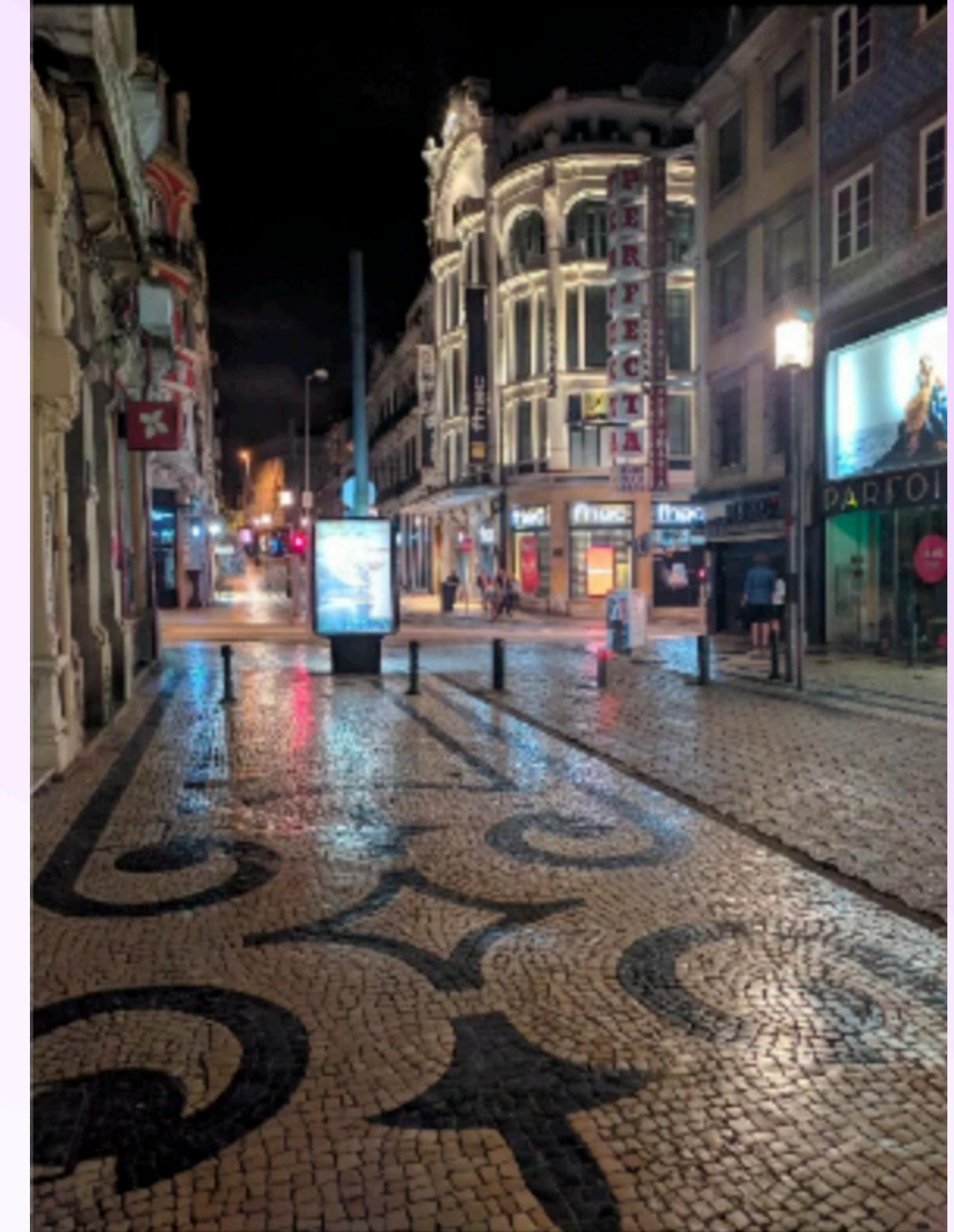
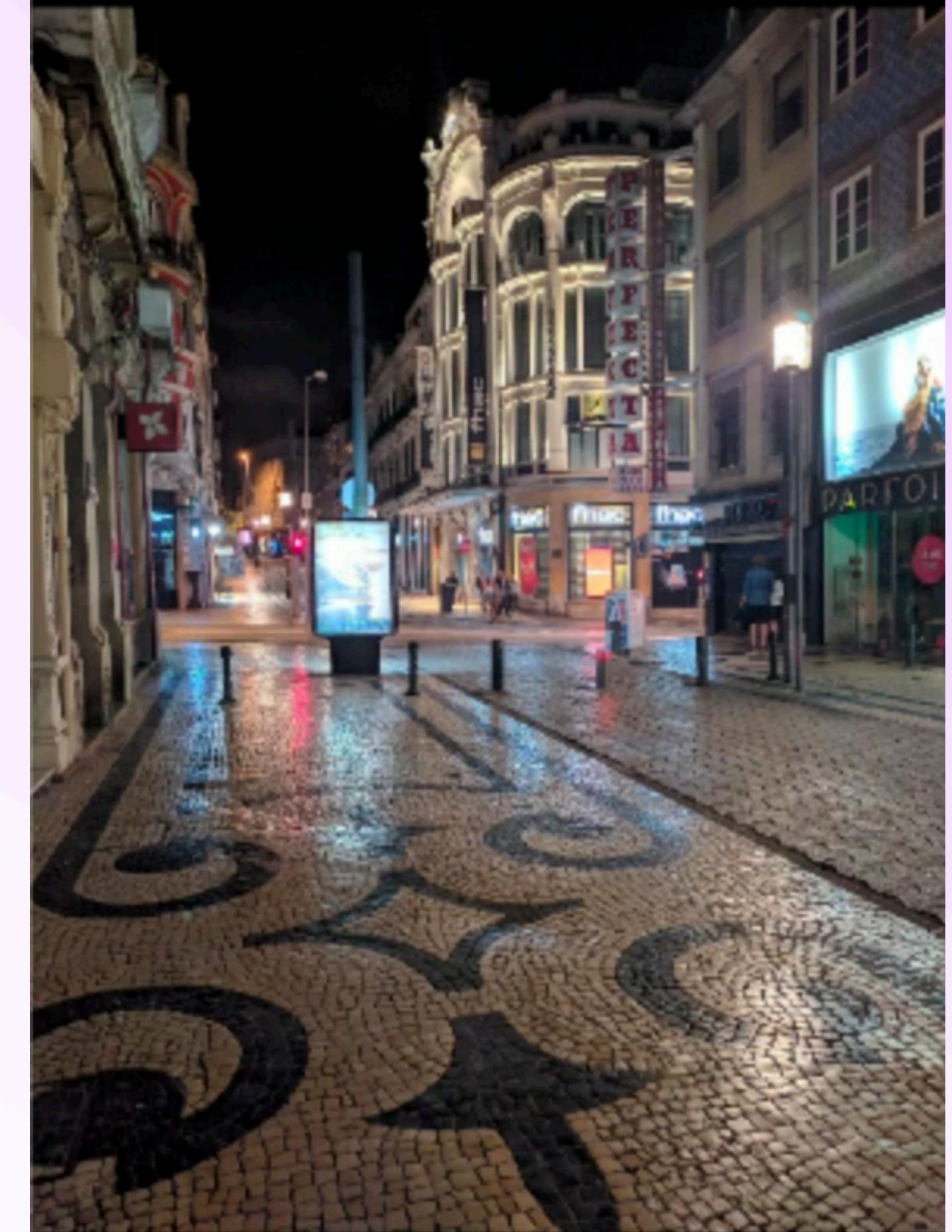


Creating with **PhotoView**



Creating with **PhotoView**





Renan Araújo

Porto, Portugal

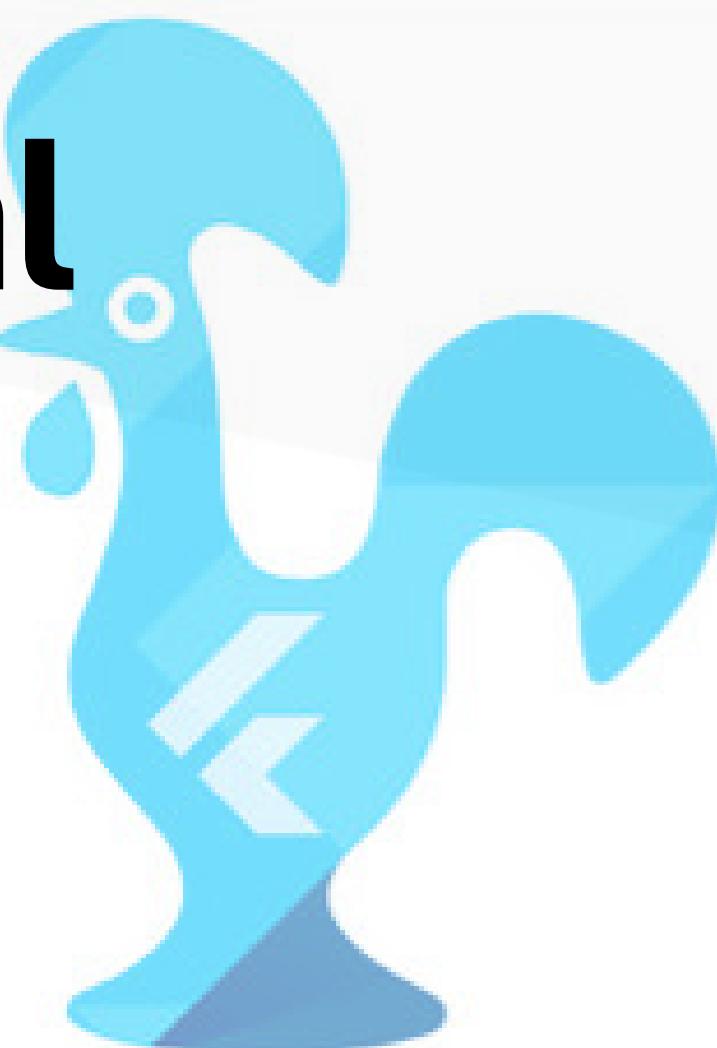
Software Engineer
at **dashdash**

caraujo.me

Open Source
Niks Bitmap Flame

Flutter Portugal

meetup.com/FlutterPortugal



What is PhotoView?



Zoomable image widget

https://github.com/renancaraujo/photo_view



Zoomable image widget

https://github.com/renancaraujo/photo_view

Simplicity

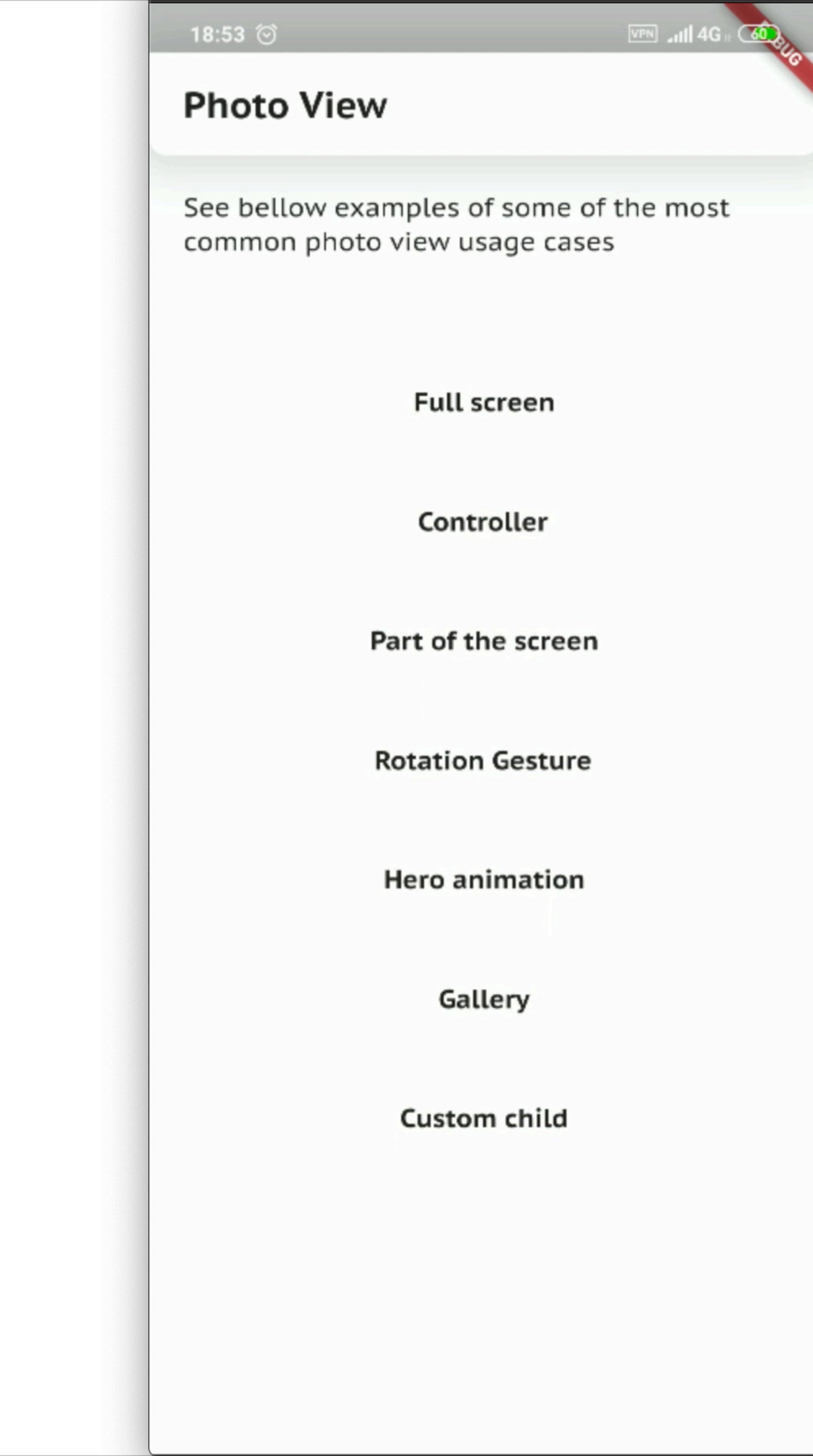
Usability UX

Extensibility

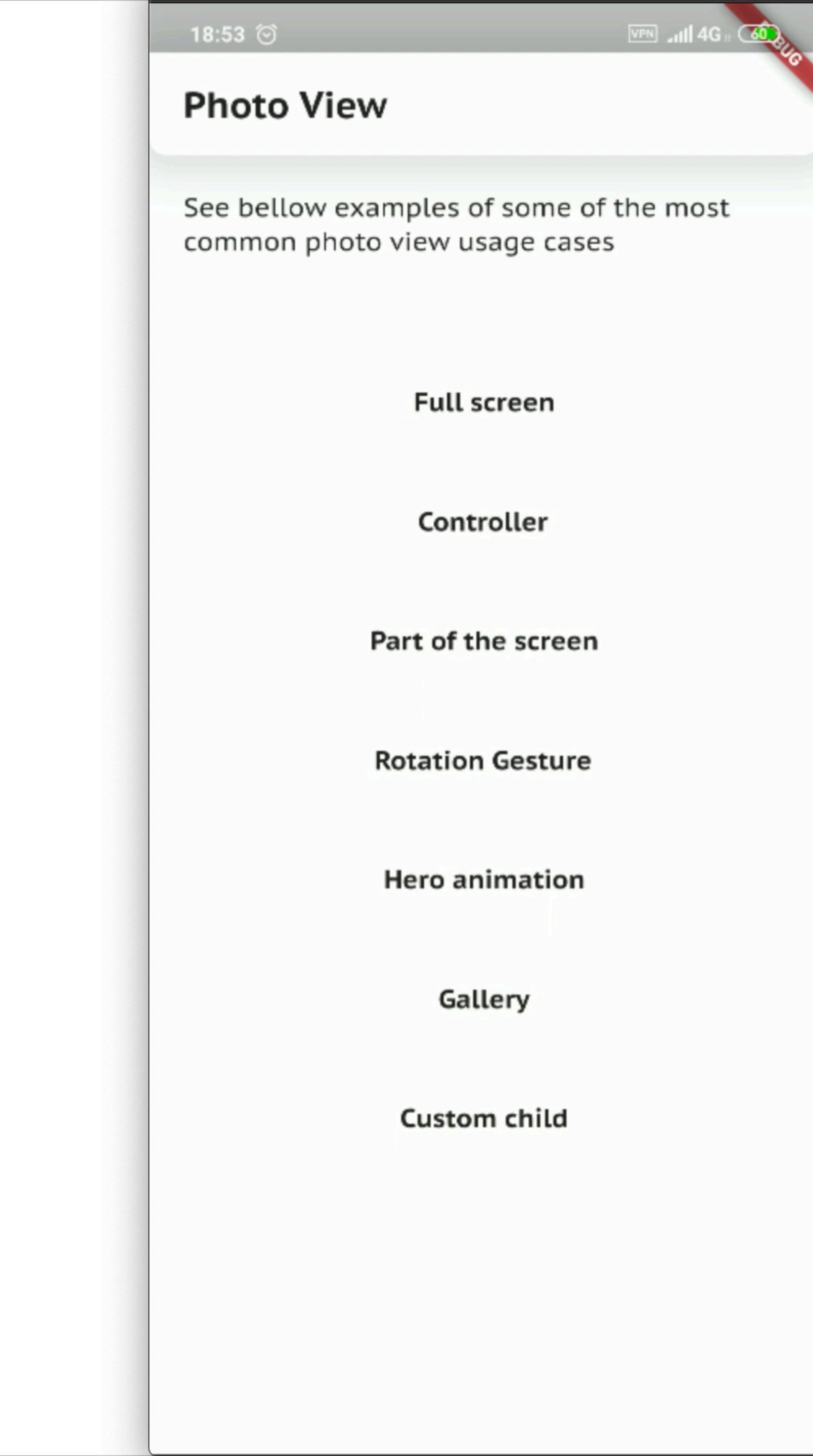
Simple usage

Show some Code!

```
return PhotoView(  
    imageProvider: const NetworkImage("http://pudim.com.br/pudim.jpg"),  
    loadingChild: Text("Fetchin pudim..."),  
    backgroundDecoration: BoxDecoration(color: Colors.blue),  
    gaplessPlayback: false,  
    heroAttributes: PhotoViewHeroAttributes(tag: "some tag"),  
    scaleStateChangedCallback: onChange,  
    enableRotation: true,  
    controller: myController,  
    scaleStateController: alsoMyController,  
    maxScale: 4.0,  
    minScale: PhotoViewComputedScale.contained * 0.2,  
    initialScale: PhotoViewComputedScale.contained * 0.9,  
    basePosition: Alignment.topCenter,  
    scaleStateCycle: myCycle,  
    onTapUp: onTapUp,  
    onTapDown: onTapDown,  
); // PhotoView
```



Double tap gestures
Pinch gesture
Rotation gesture
Expose a controller
Gallery
...



Double tap gestures
Pinch gesture
Rotation gesture
Expose a controller
Gallery
...

Creating
with

PhotoView

And learning stuff in the
process

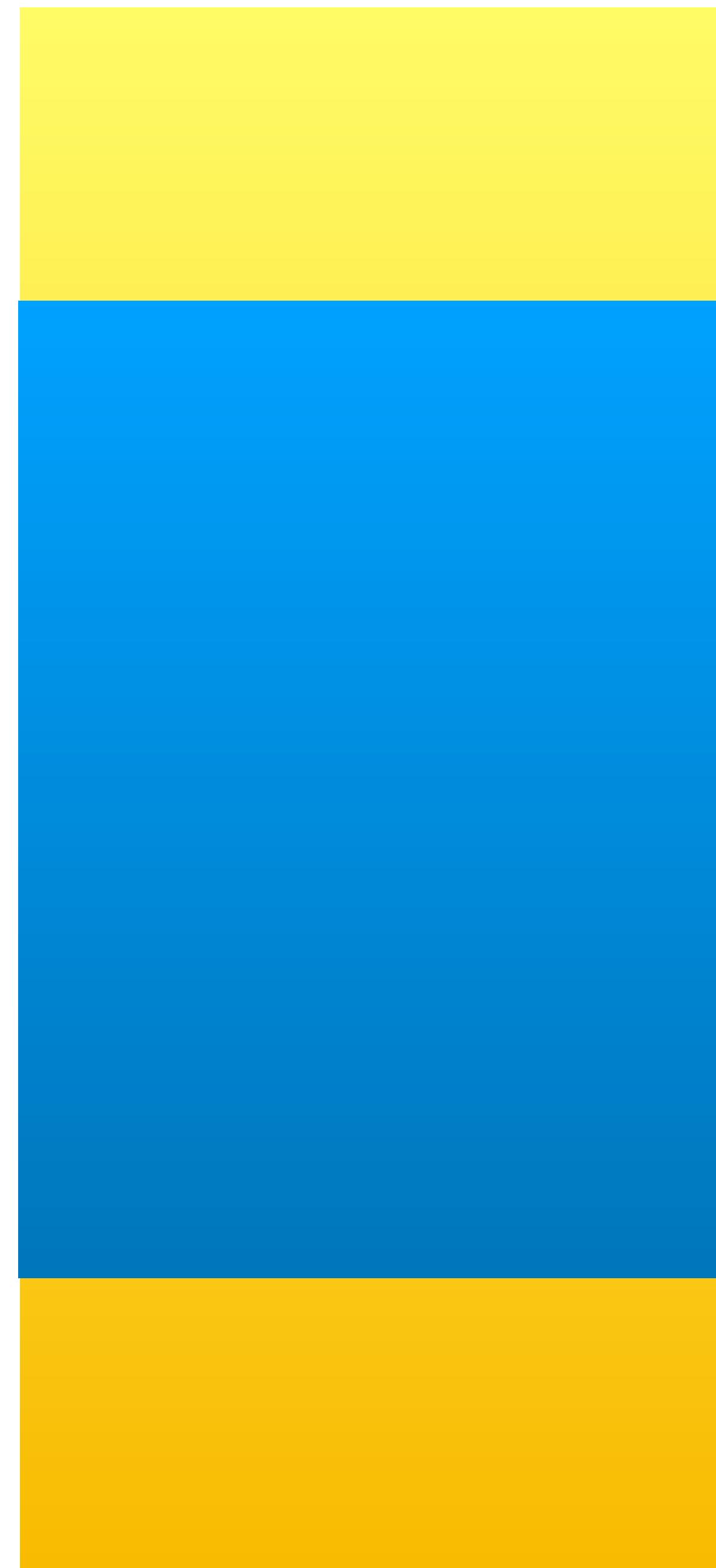
How to keep a **simple API when doing complex things
and at the same time being **able** to be customizable?**

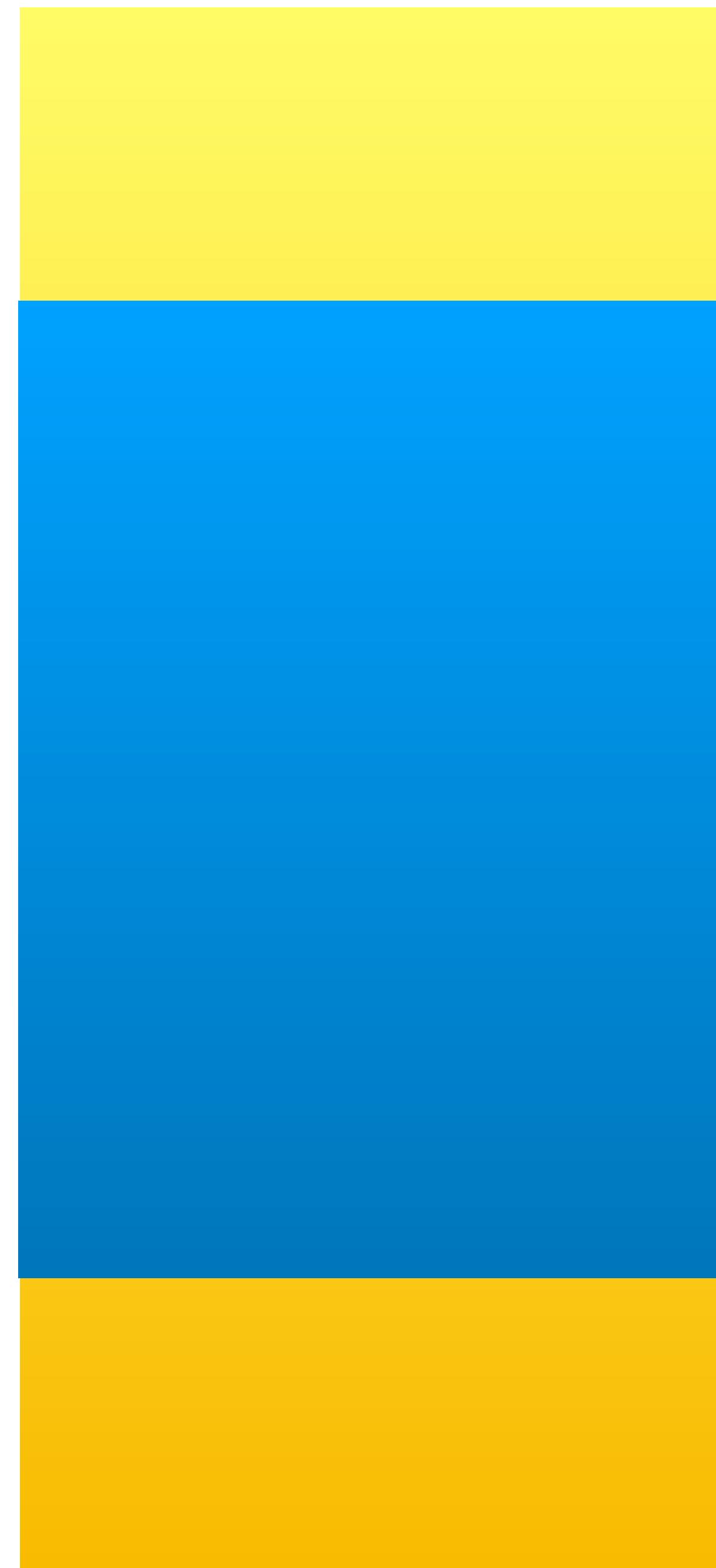
1st round

Lets put an image in the center

Apply some scale when double tapping



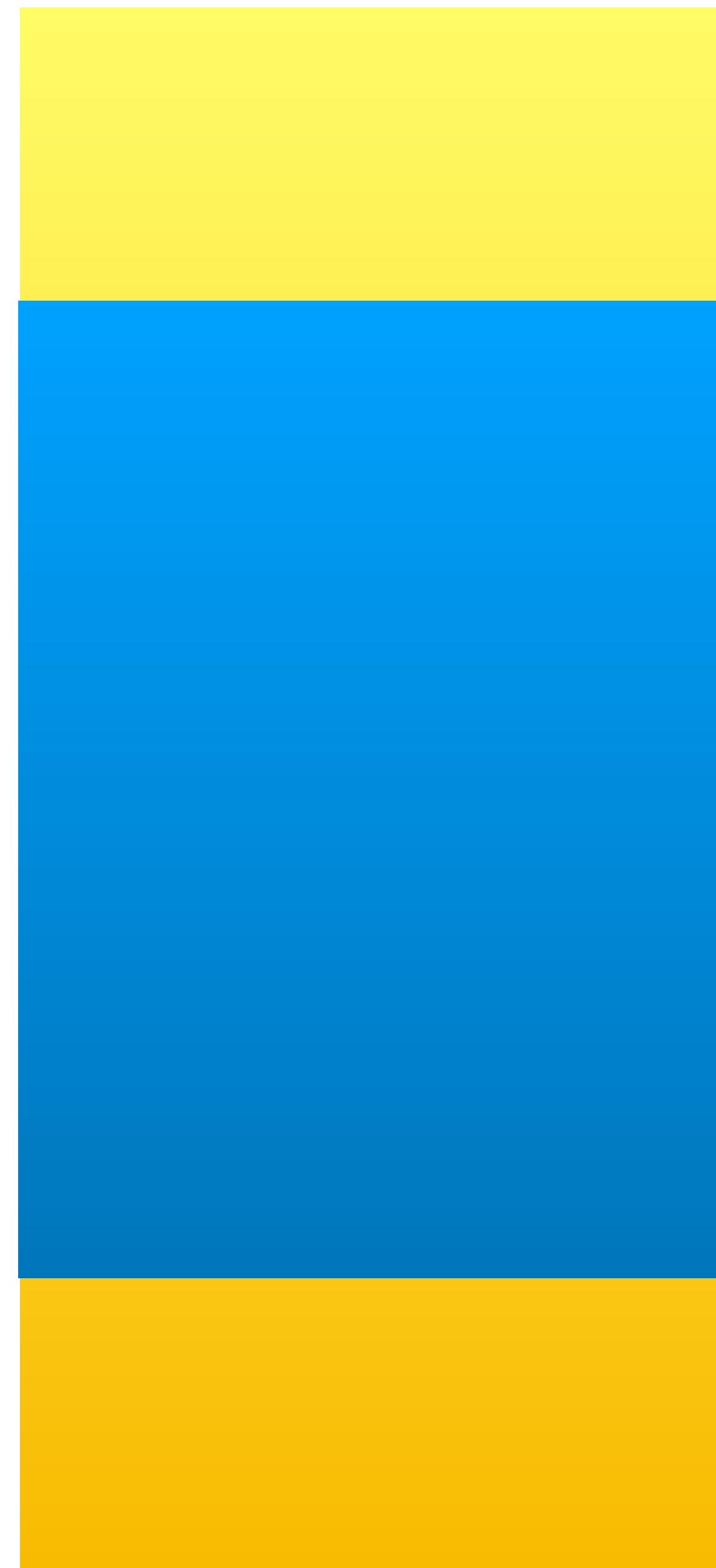


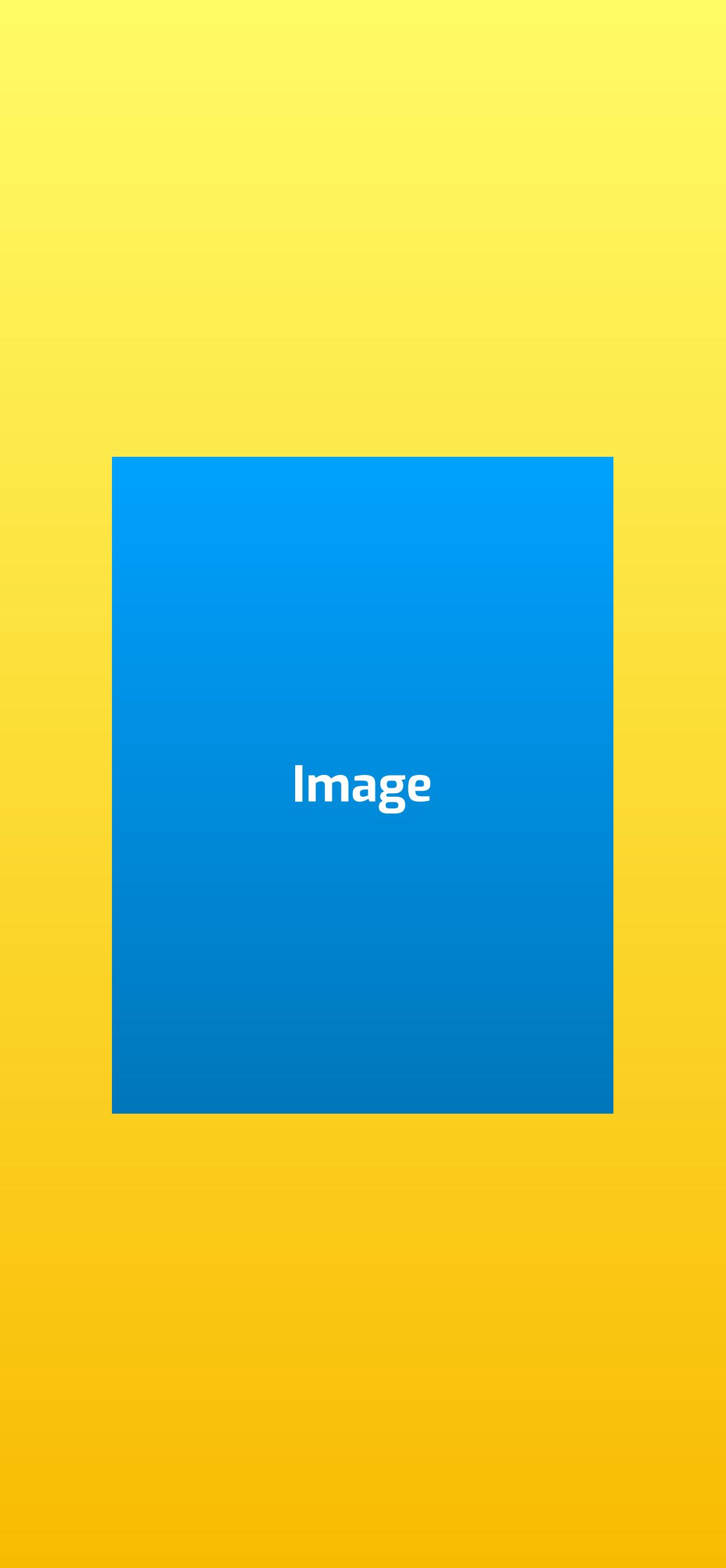


**Container
Size**



**Image
Size**

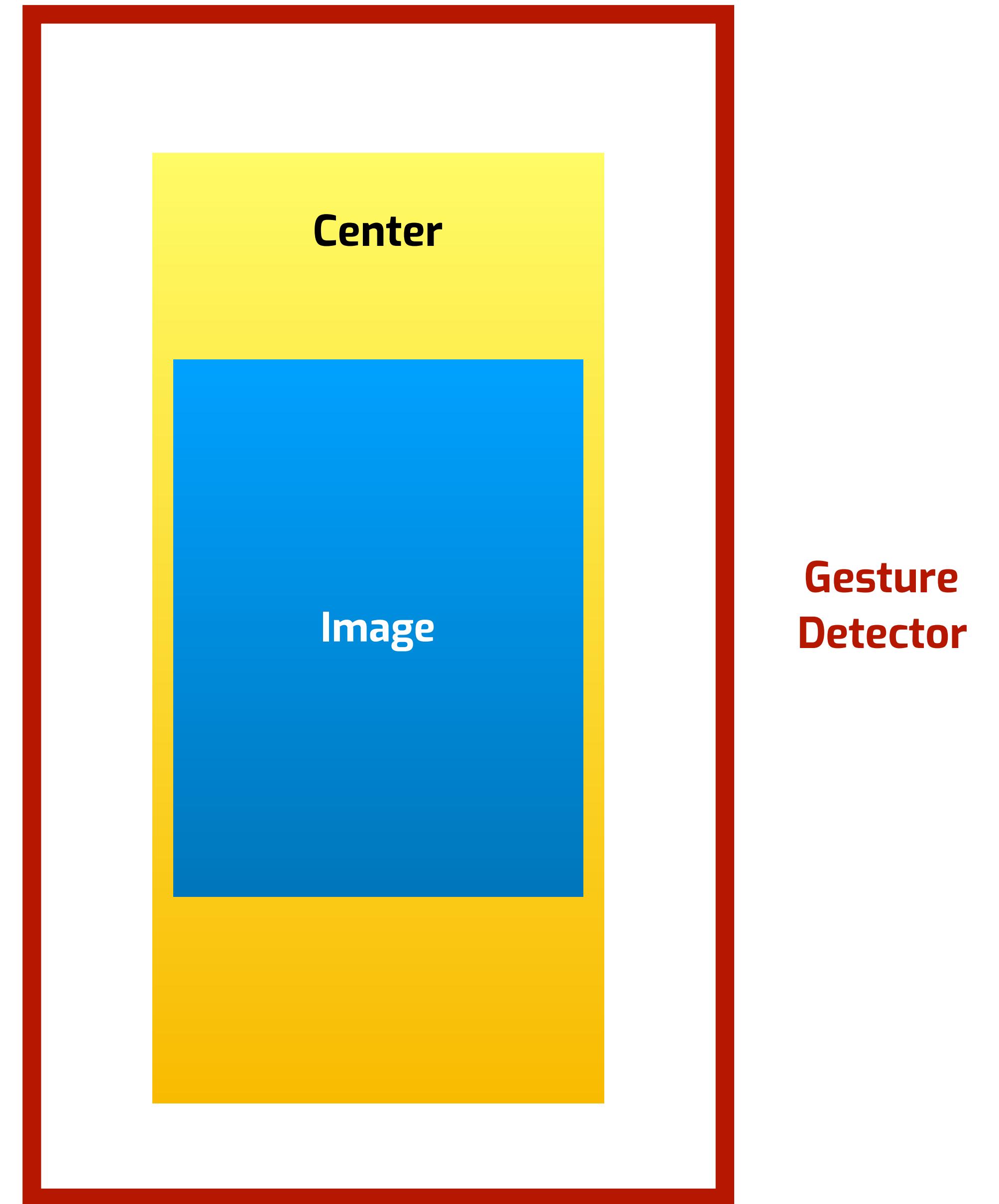




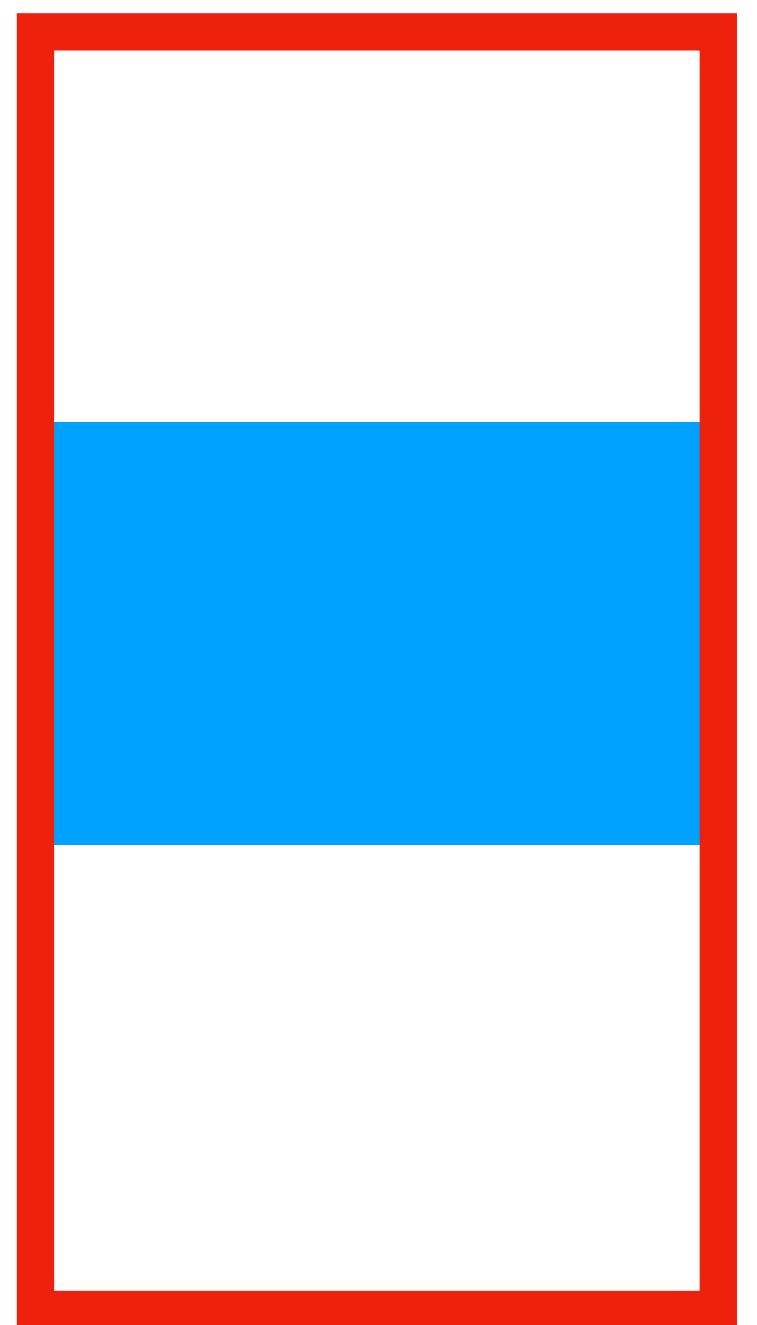
Image

Center

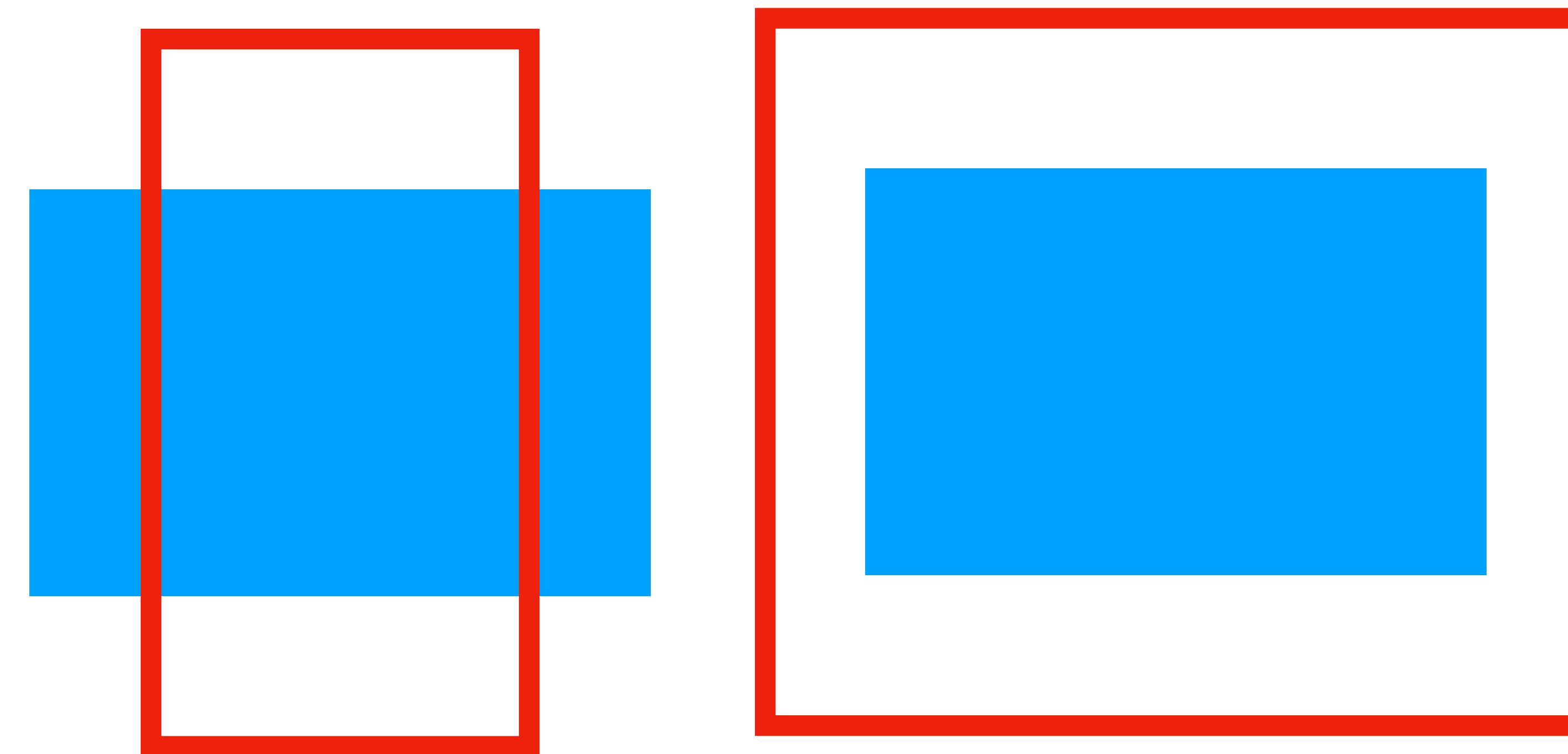
Image



Scale 1.0 =



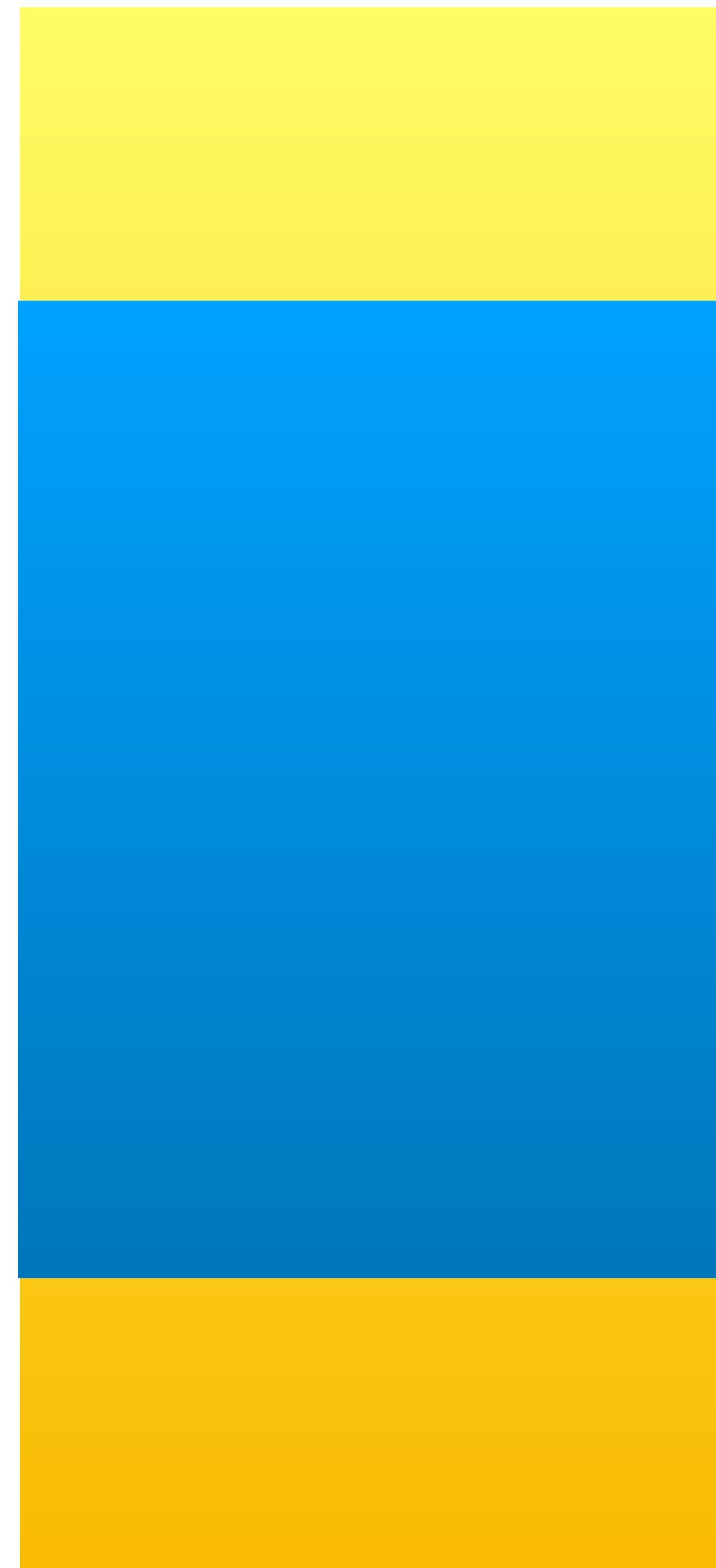
Scale 1.0 =

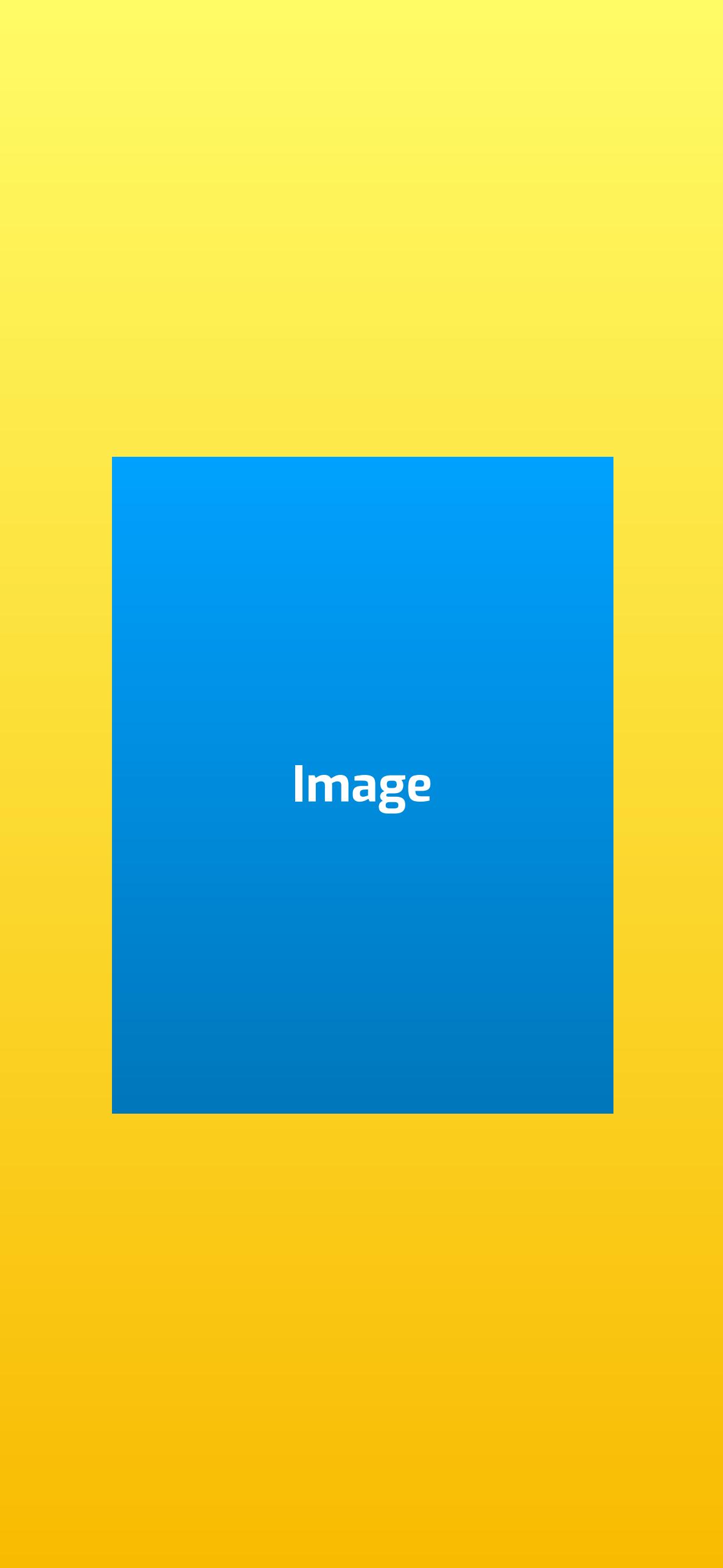


Original size of the image

Solution:

SingleChildLayoutDelegate





Image

Our custom delegate widget

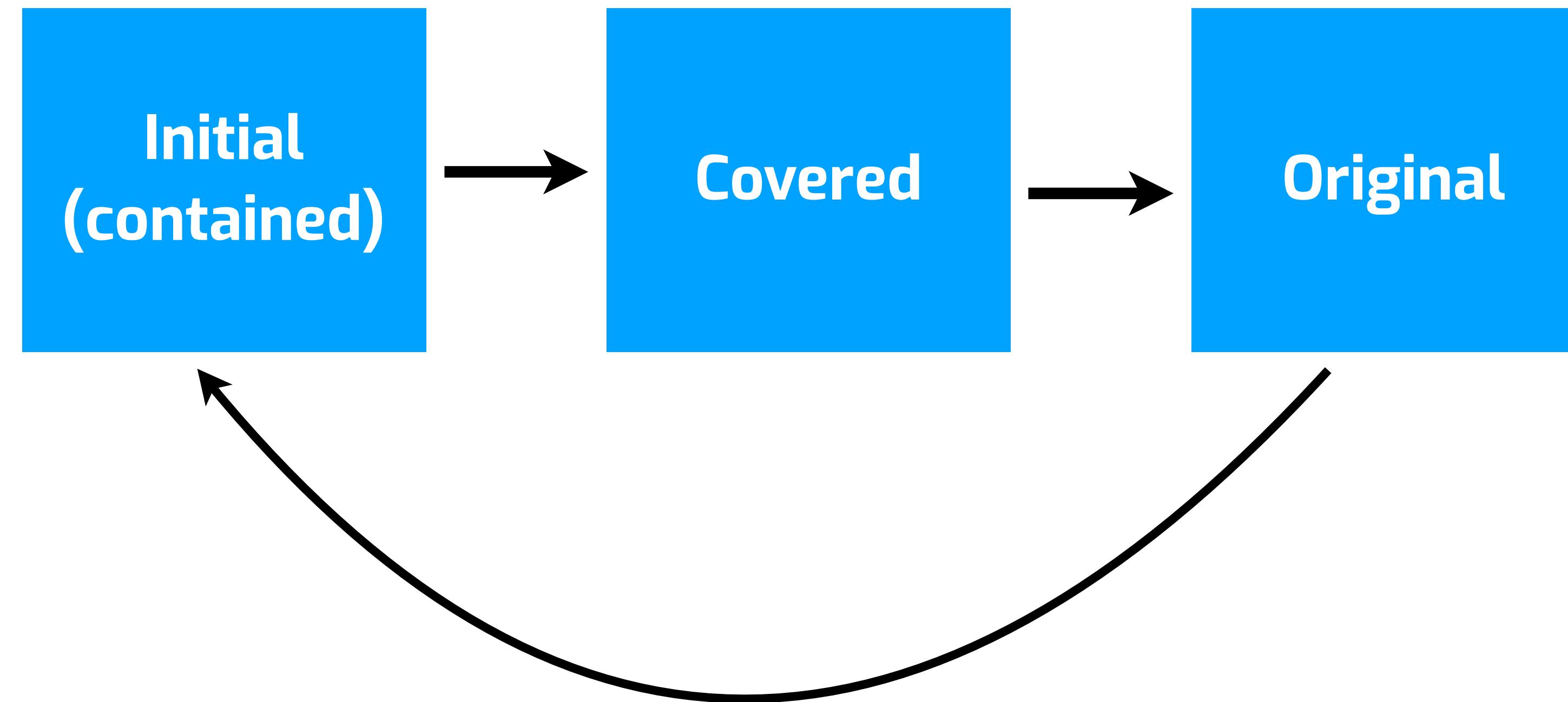
Image

Our custom delegate widget

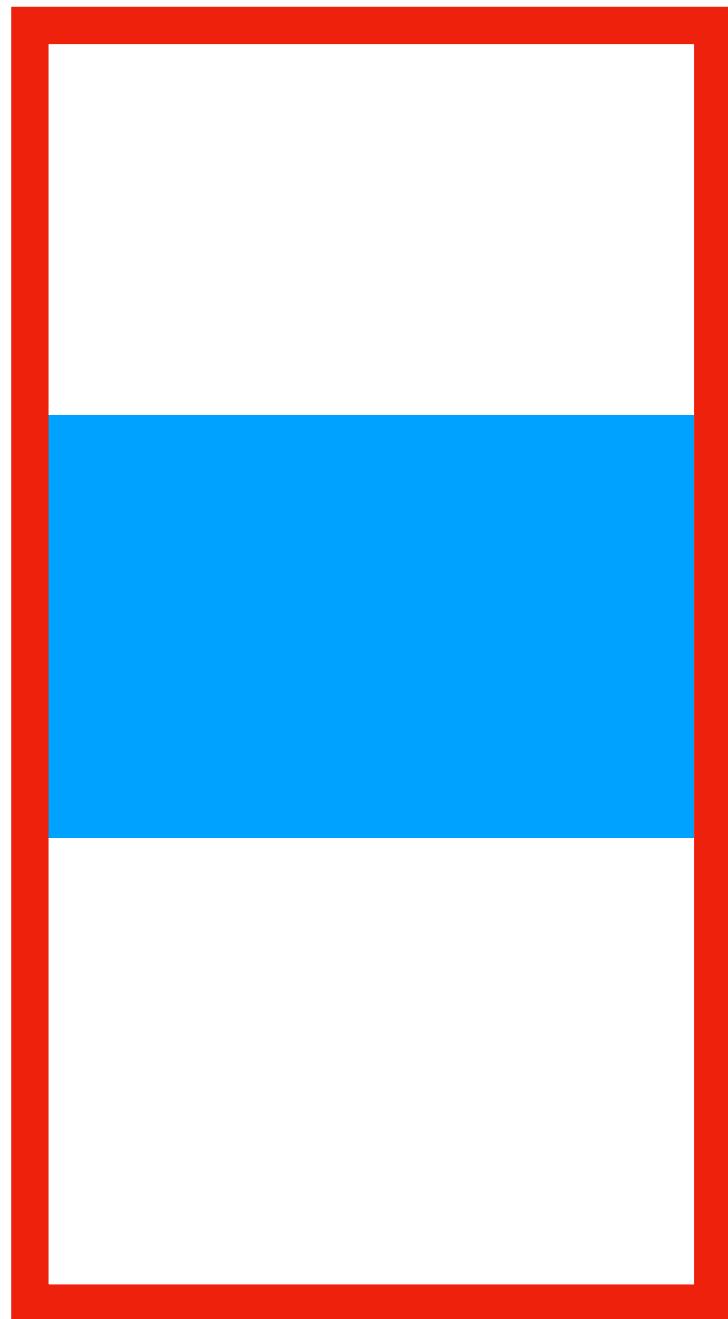
Image

**Gesture
Detector**

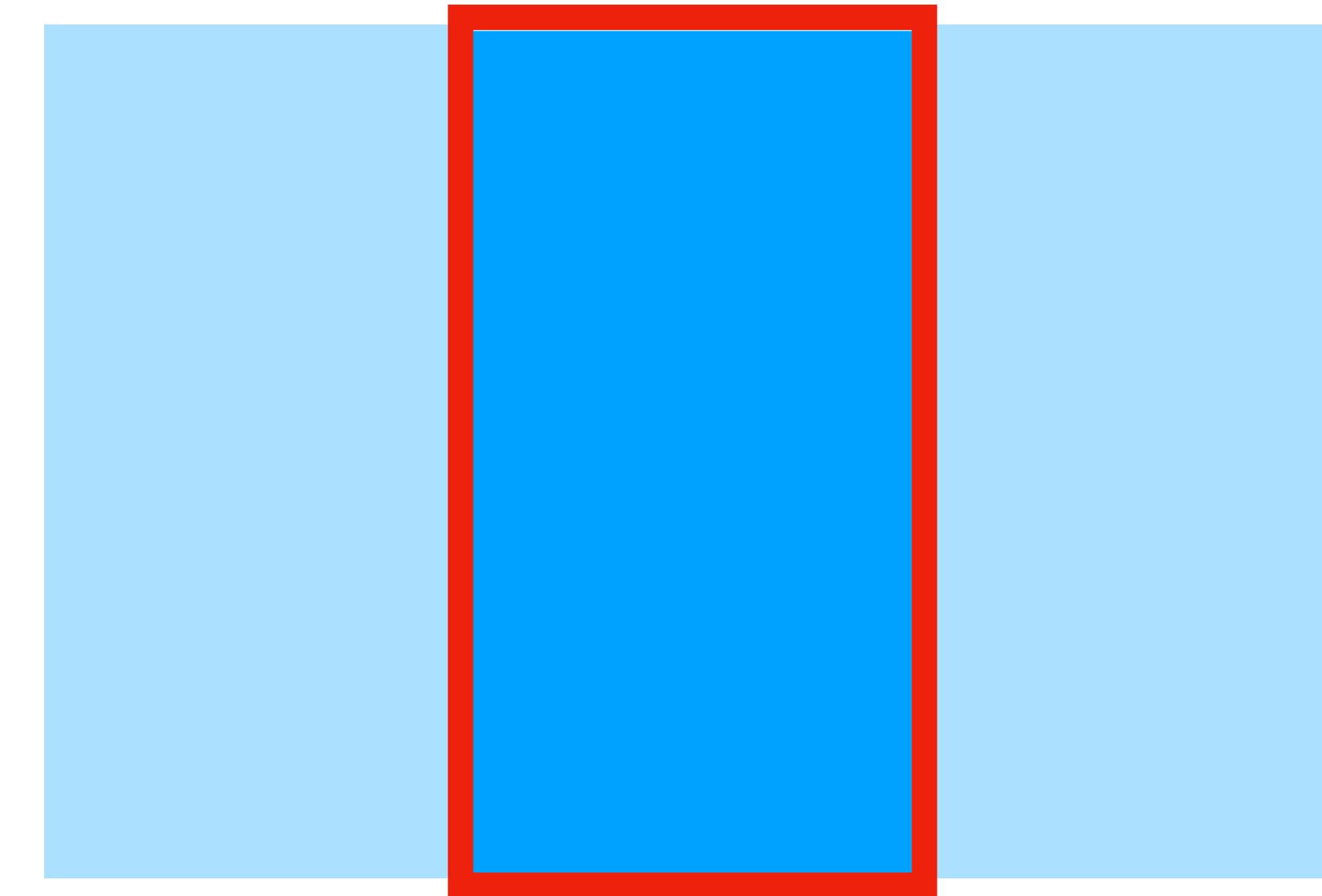
The scale state cycle



We can customise it



Contained



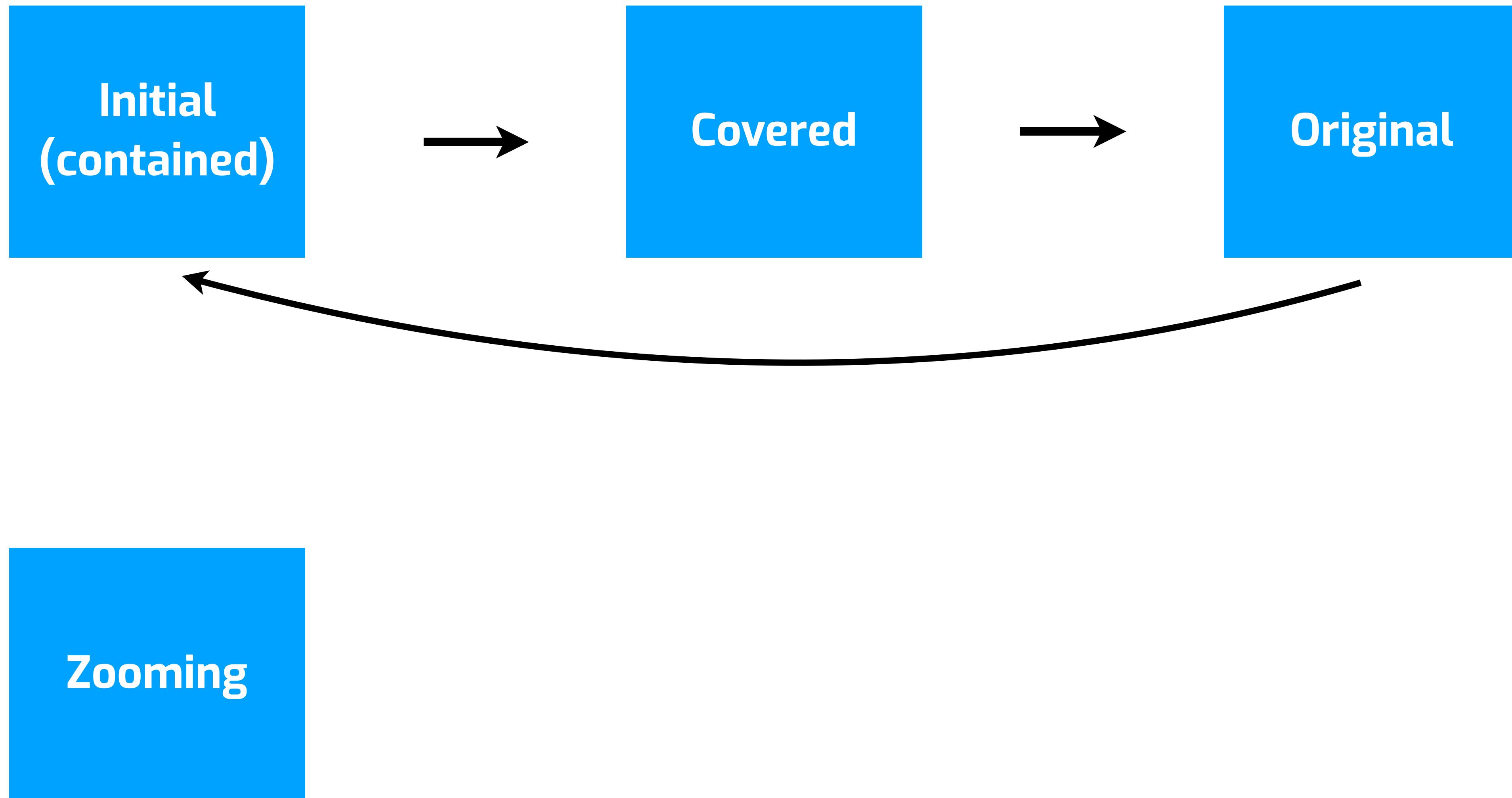
Covered

2nd round

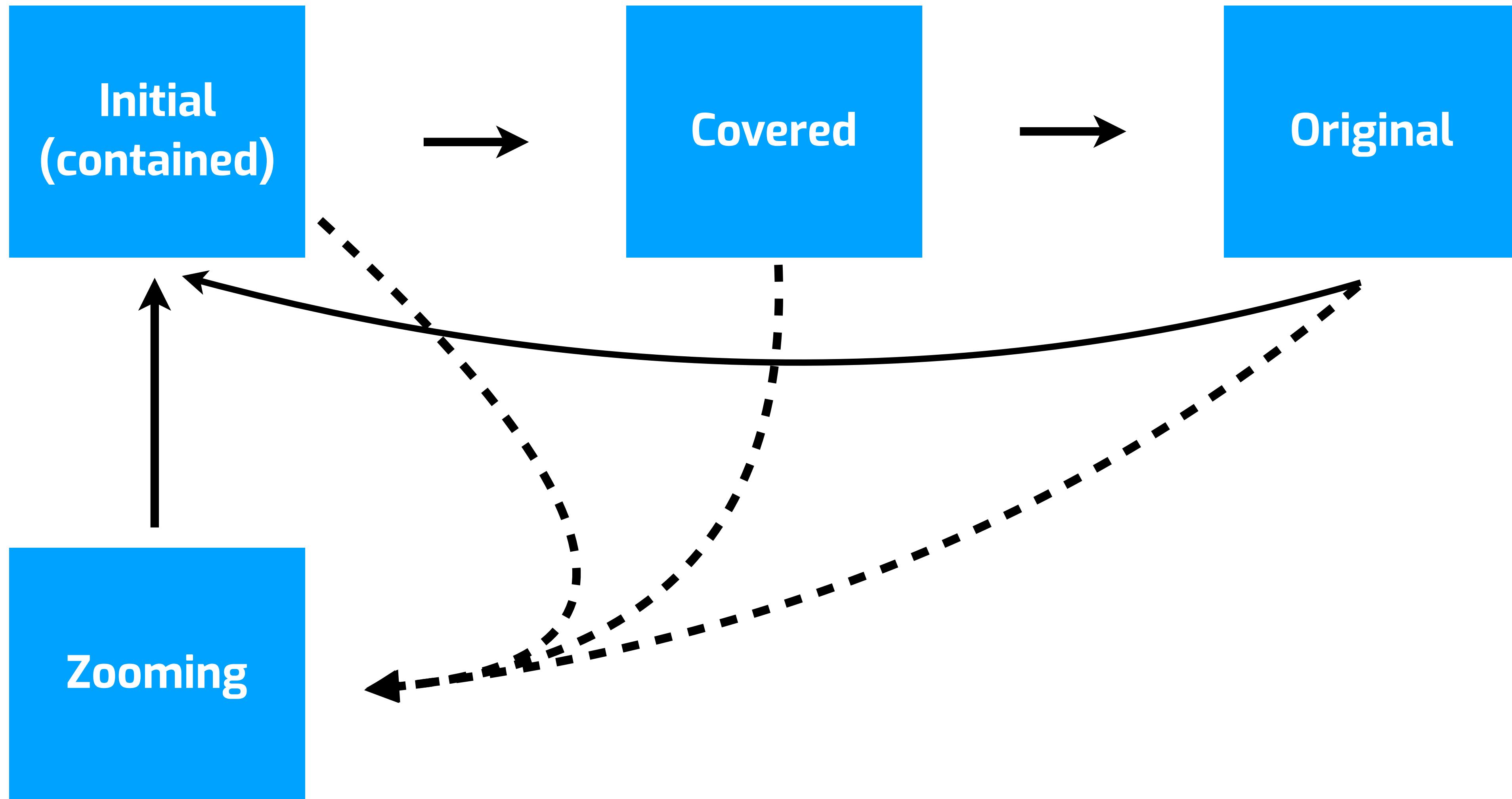
Pinch gesture scales image

Rotation gesture rotates image

New scale state cycle



New scale state cycle



How scale gesture changes image scale



Gesture Start:

- Stops animations
- Saves actual state value (scale and position)
- Changes scale state to “Zooming”

Gesture Update:

- Applies new value (based on both saved state and gesture details)

Gesture End:

- Fling animate (based on gesture velocity)

How scale gesture changes image scale



Gesture Start:

- Stops animations
- Saves actual state value (scale and position)
- Changes scale state to “Zooming”

Gesture Update:

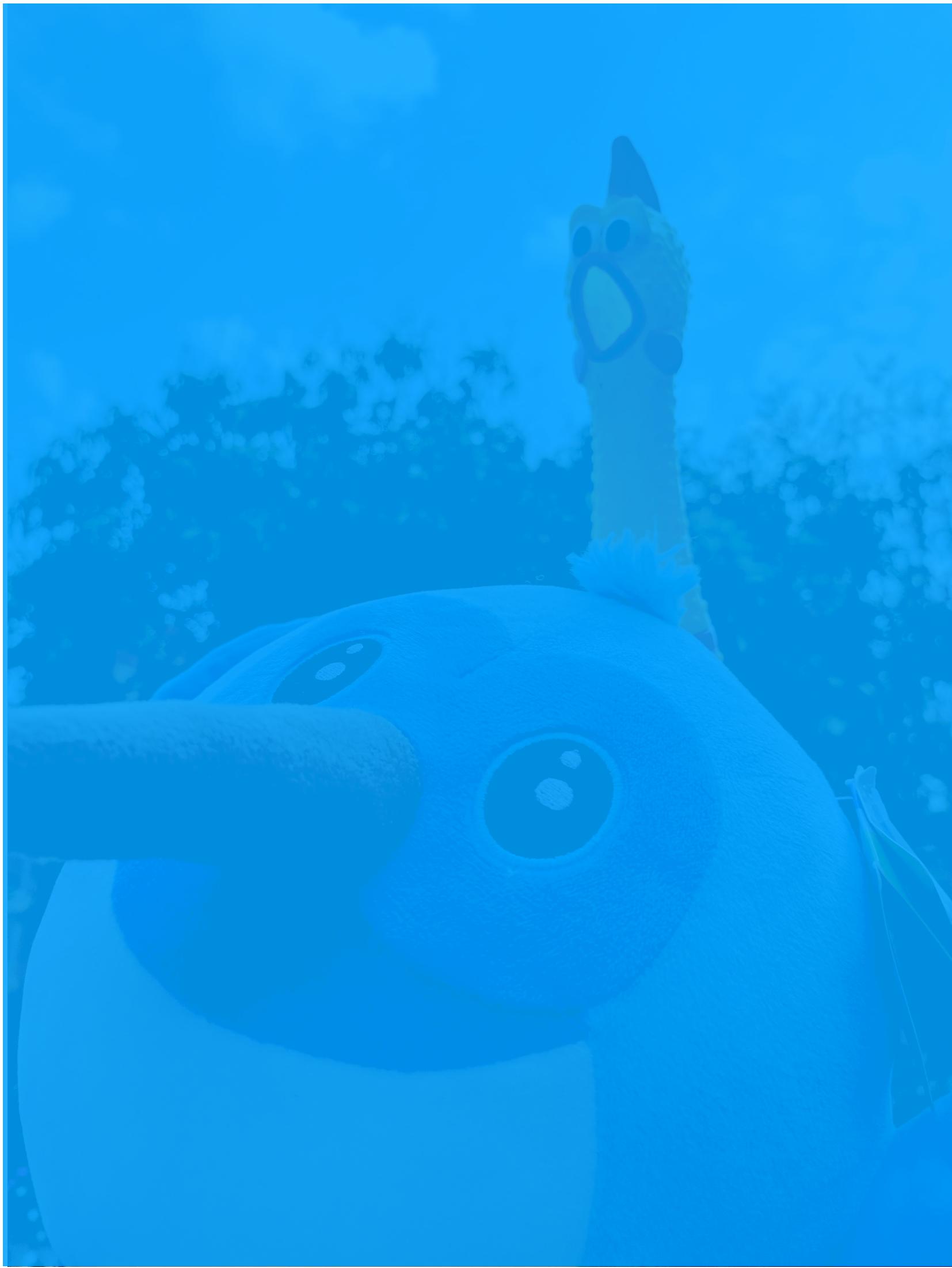
- Applies new value (based on both saved state and gesture details)

Gesture End:

- Fling animate (based on gesture velocity)

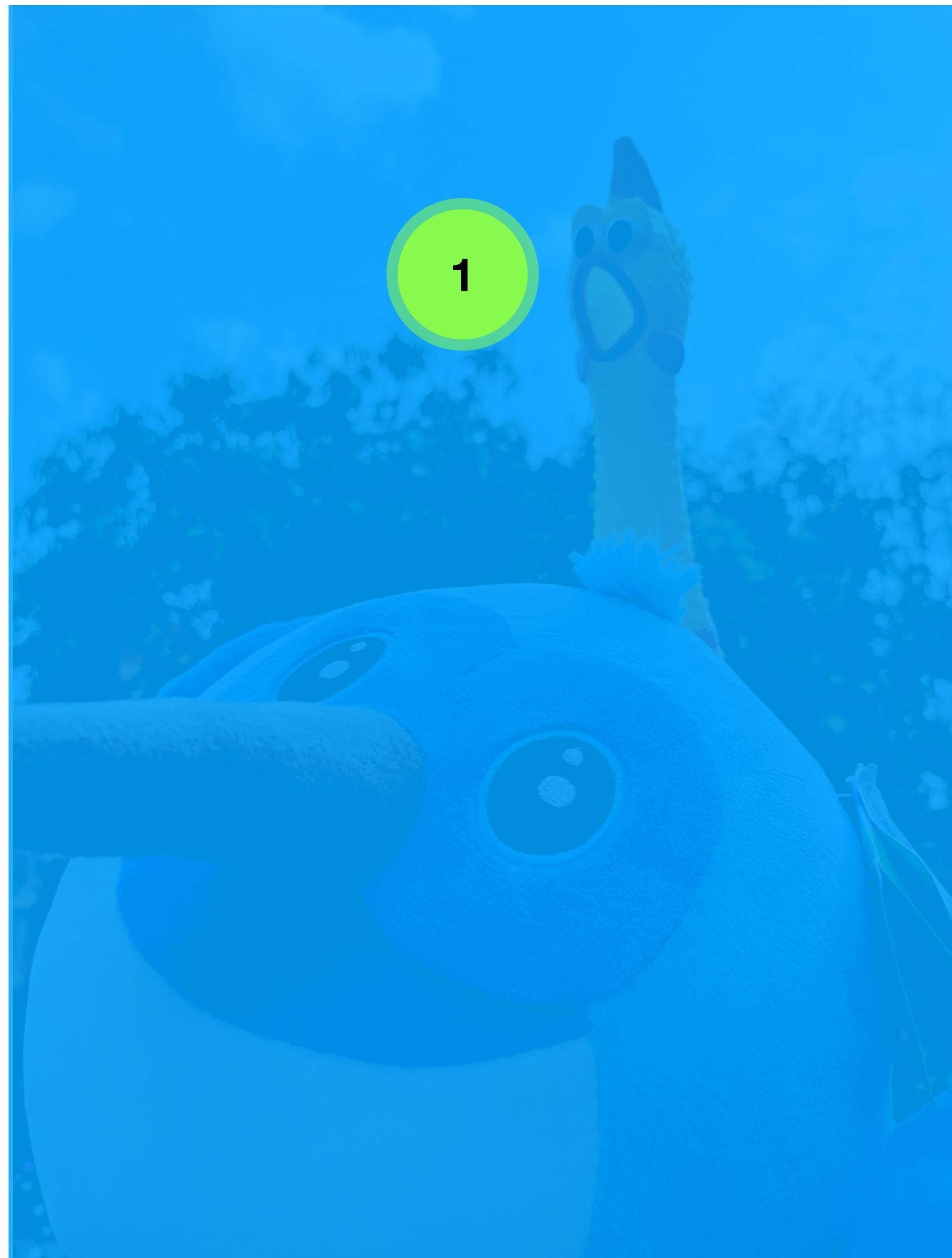
There was no rotation :(

How rotation works



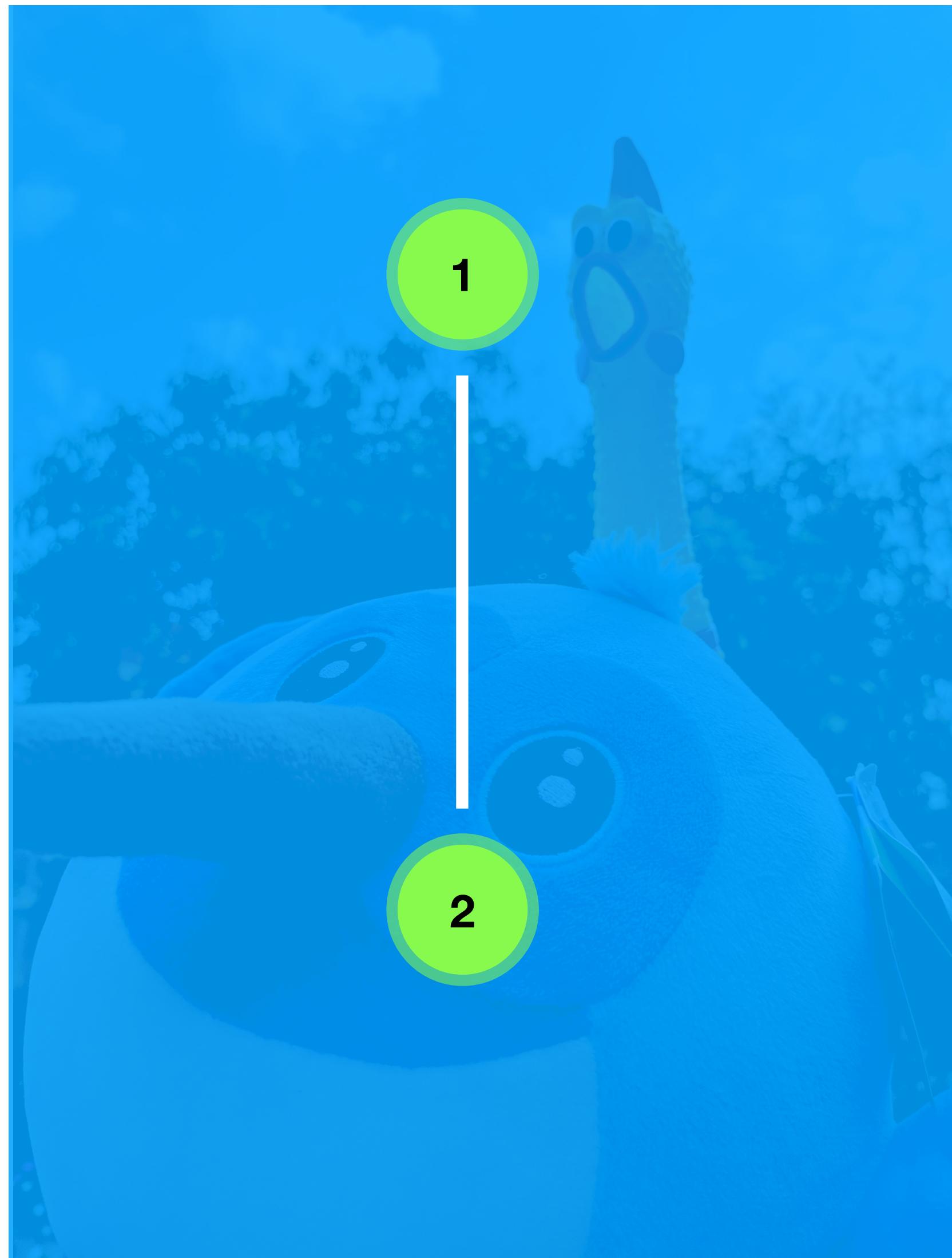
How rotation works

1. Scale starts



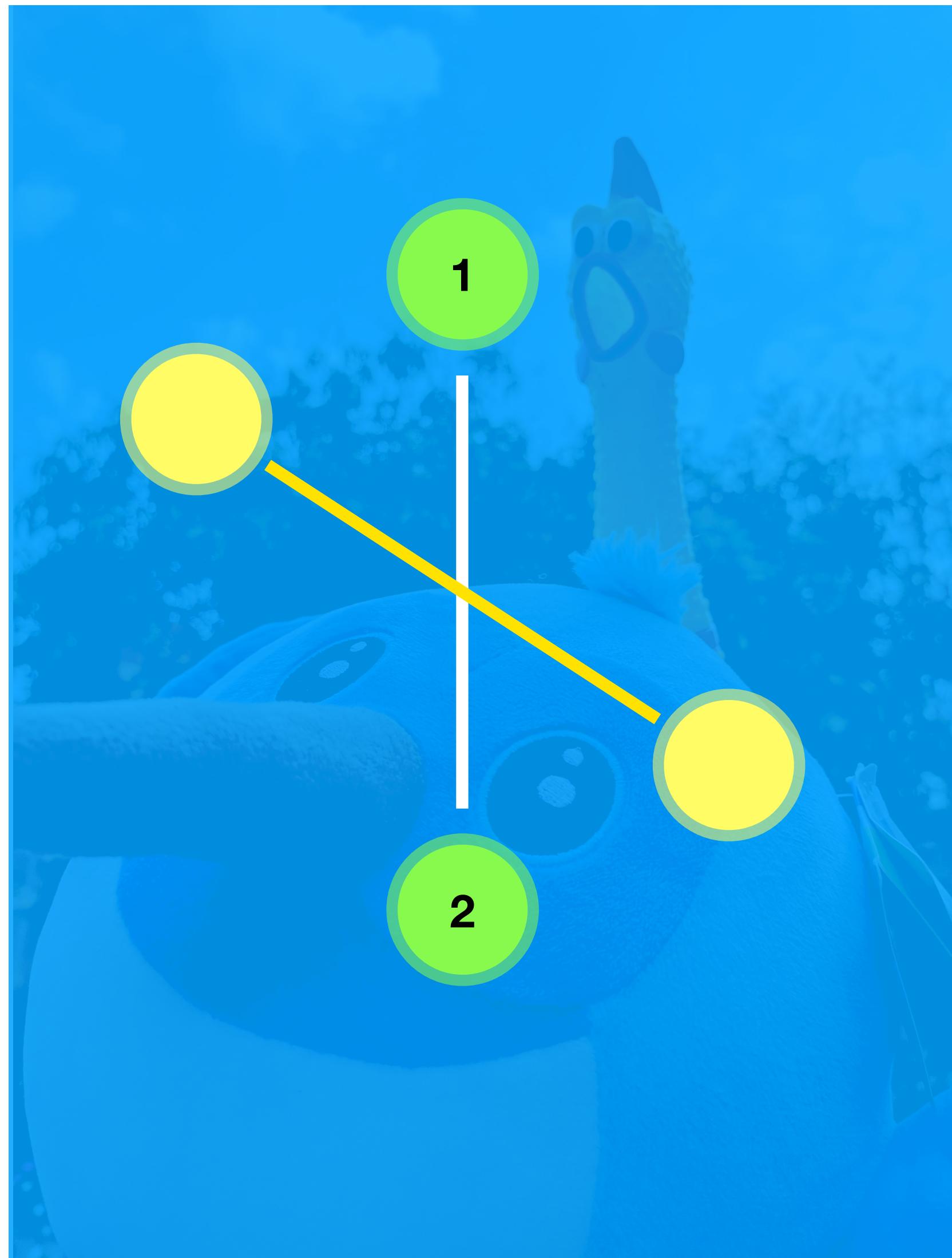
How rotation works

1. Scale starts
2. We have a line



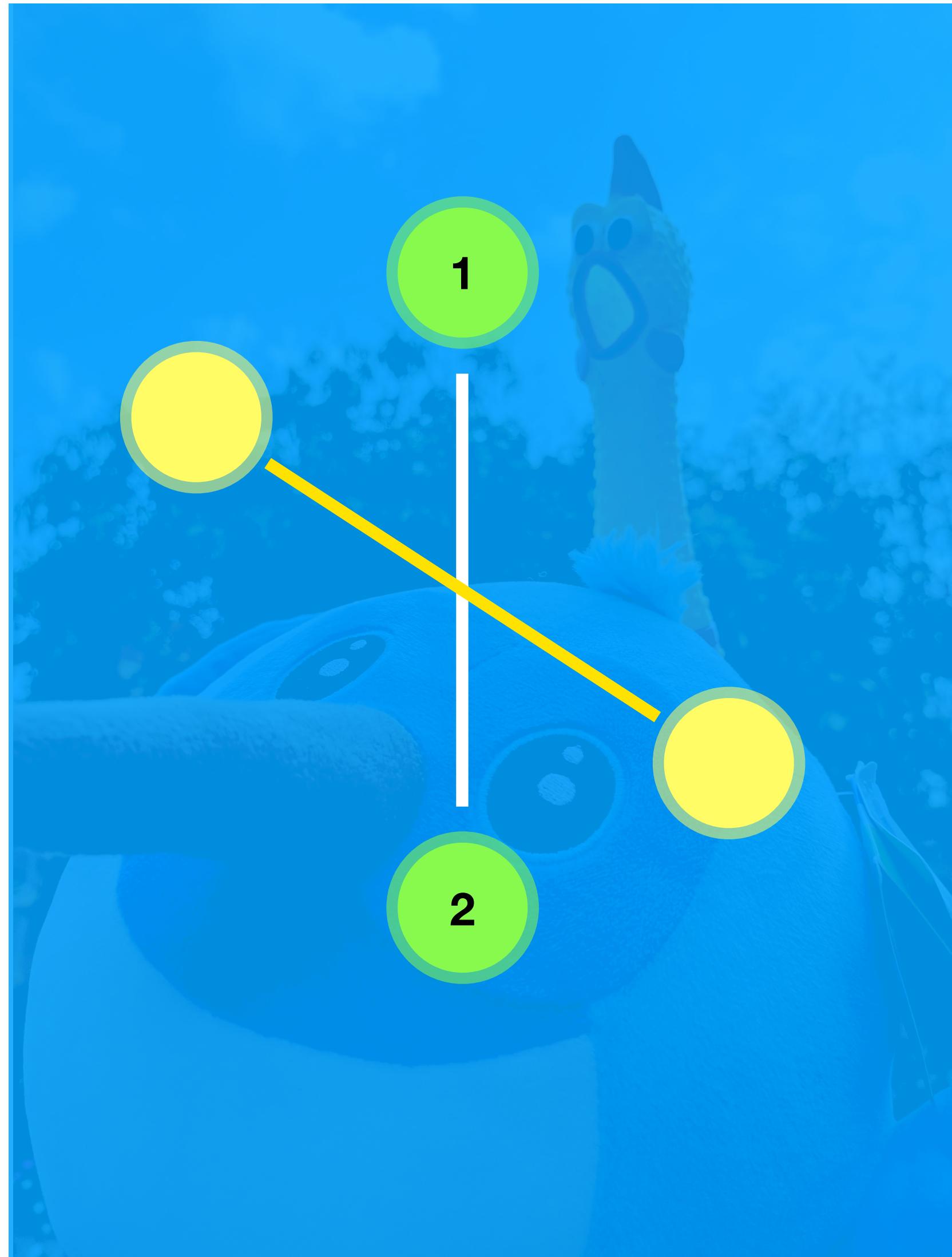
How rotation works

1. Scale starts
2. We have a line
3. Move fingers



How rotation works

1. Scale starts
2. We have a line
3. Move fingers
4. We have an angle



And then we have rotation

3rd round

Custom child

Put some limits: min, max and initial scale



**Container
Size**



**Image
Size**

**Container
Size**



Anything
image
Size

Putting some scale boundaries

maxScale = 2.0

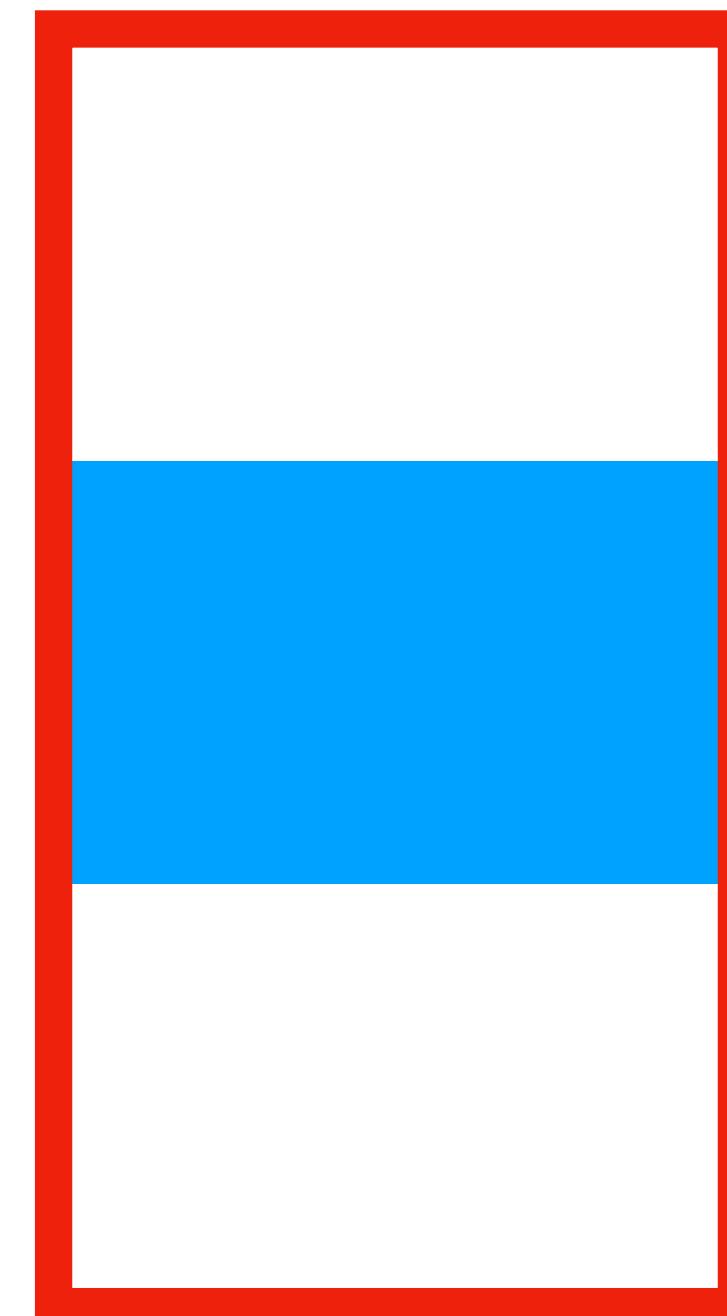
Putting some scale boundaries

maxScale = 2.0 Easy peasy 🍋 squeezy

Putting some scale boundaries

maxScale = 2.0 Easy peasy 🍋 squeezy

minScale =

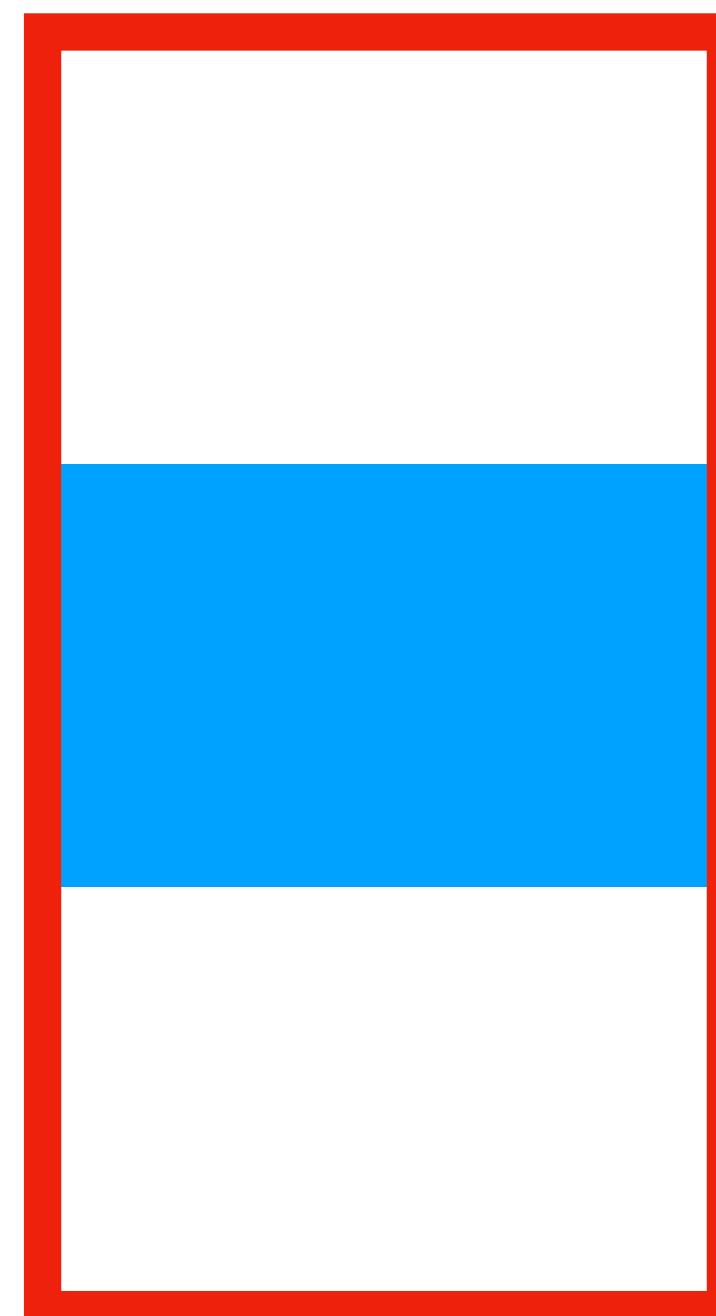


Putting some scale boundaries

maxScale = 2.0 Easy peasy 🍋 squeezy

minScale =

Haaaaard



Solution:
A *different* enum

4th round

Controllers!

PhotoView got state

Position

Scale state



Scale

Rotation

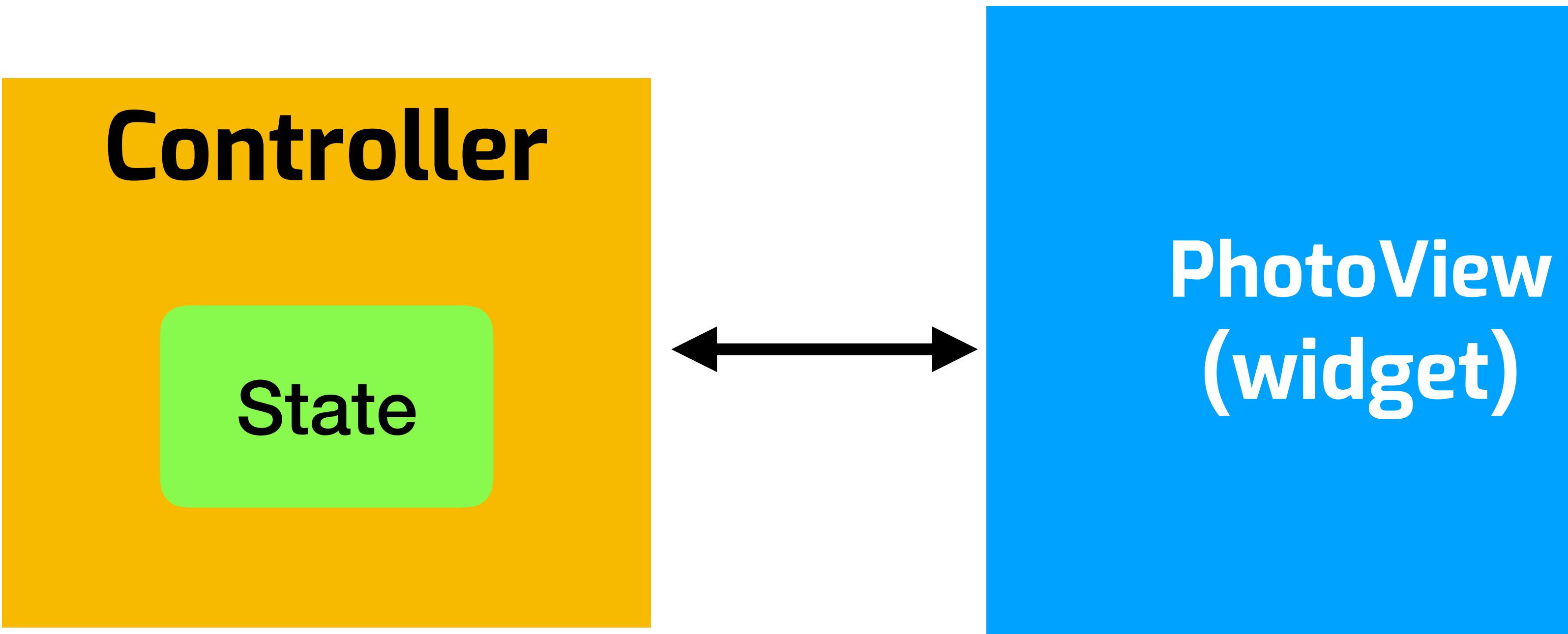
The need

- Make things disappear when image is zoomed in
 - Show the scale factor as a text in the screen
- Reset when button pressed
 - Zoom in and out buttons

**The solution
Controllers!**

PhotoView

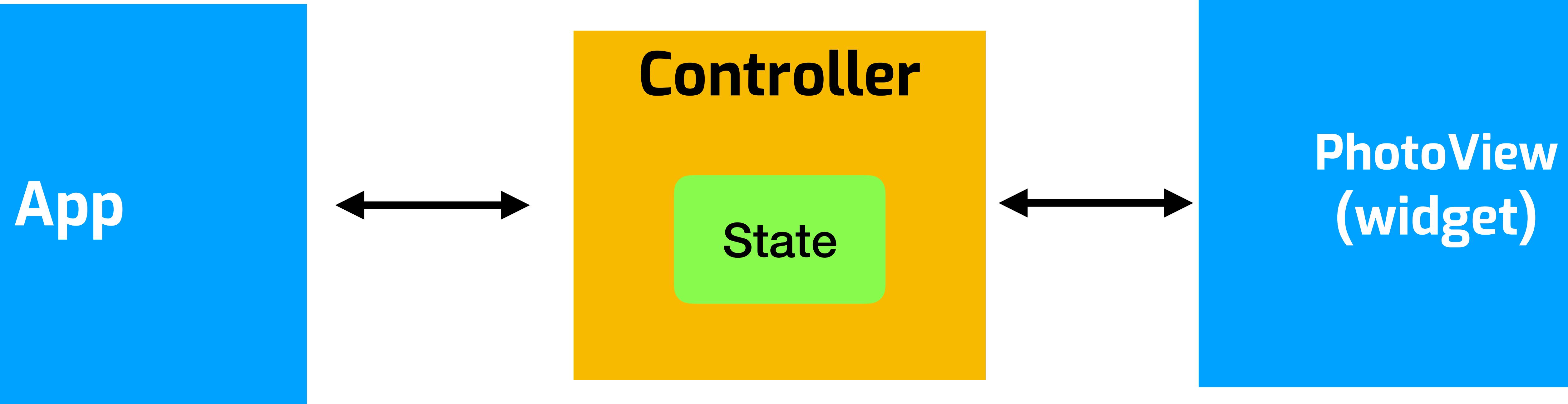
State



App



**PhotoView
(widget)**



Instantiable separately
from the widget

5th round

Gallery!





PageView Approach

Sollution: our own gesture detector

Rounds cleared!

LetsPicture

Projects



LetsPicture

Projects



Future

- Custom physics (?)
- More controllability
- Improve image loading process

Thanks, see ya!

Vlw fw!