

# Essential Design Principles

Session 802

Mike Stern, Design Evangelism Manager

# Human Interface

Apple Inc.

Developer Discover Design Develop Distribute Support Account

macOS beta

Human Interface Guidelines

Overview ▾

- Themes
- App Architecture
- User Interaction
- Input and Output
- System Capabilities
- Visual Design
- Icons and Images
- Windows and Views
- Menus
- Buttons
- Fields and Labels
- Selectors
- Indicators
- Touch Bar
- Extensions

## macOS Design Themes

Four primary themes differentiate macOS apps from iOS, tvOS, and watchOS apps. Keep these themes in mind as you imagine your app's identity.

### Flexible

People expect macOS apps to be intuitive, while at the same time being adaptable to their workflow needs through customization and flexibility. Many apps offer

### Expansive

Large, high-resolution displays are typical for most Mac users, and people often extend their workspace by connecting additional displays. Apps can leverage this



Apple Technical

by Apple Computer, Inc.

File Edit View Label Special

200

# User

Uscr

# Human

Human

# Human Interface Design





# Everyone Needs to...

Feel safe

# Everyone Needs to...

Feel safe

Understand

# Everyone Needs to...

Feel safe

Understand

Achieve

# Everyone Needs to...

Feel safe

Understand

Achieve

Experience beauty

# Apps Should Provide...

# Apps Should Provide...

Predictability and stability

# Apps Should Provide...

Predictability and stability

Clear and helpful information

# Apps Should Provide...

Predictability and stability

Clear and helpful information

Streamlined and simple workflows

# Apps Should Provide...

Predictability and stability

Clear and helpful information

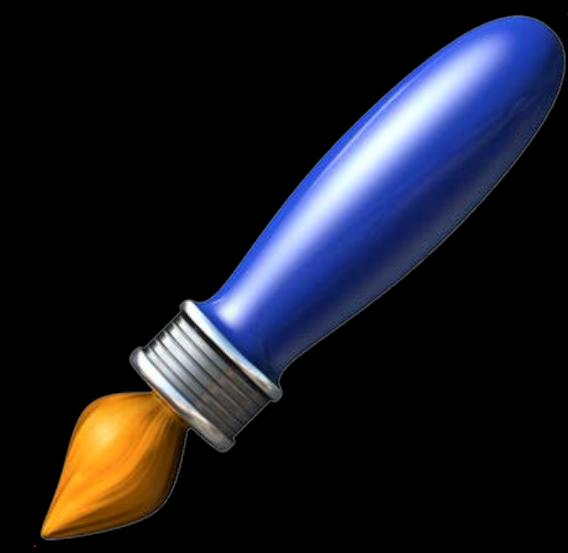
Streamlined and simple workflows

A delightful experience

# Human

# Humanity

# Design Principles

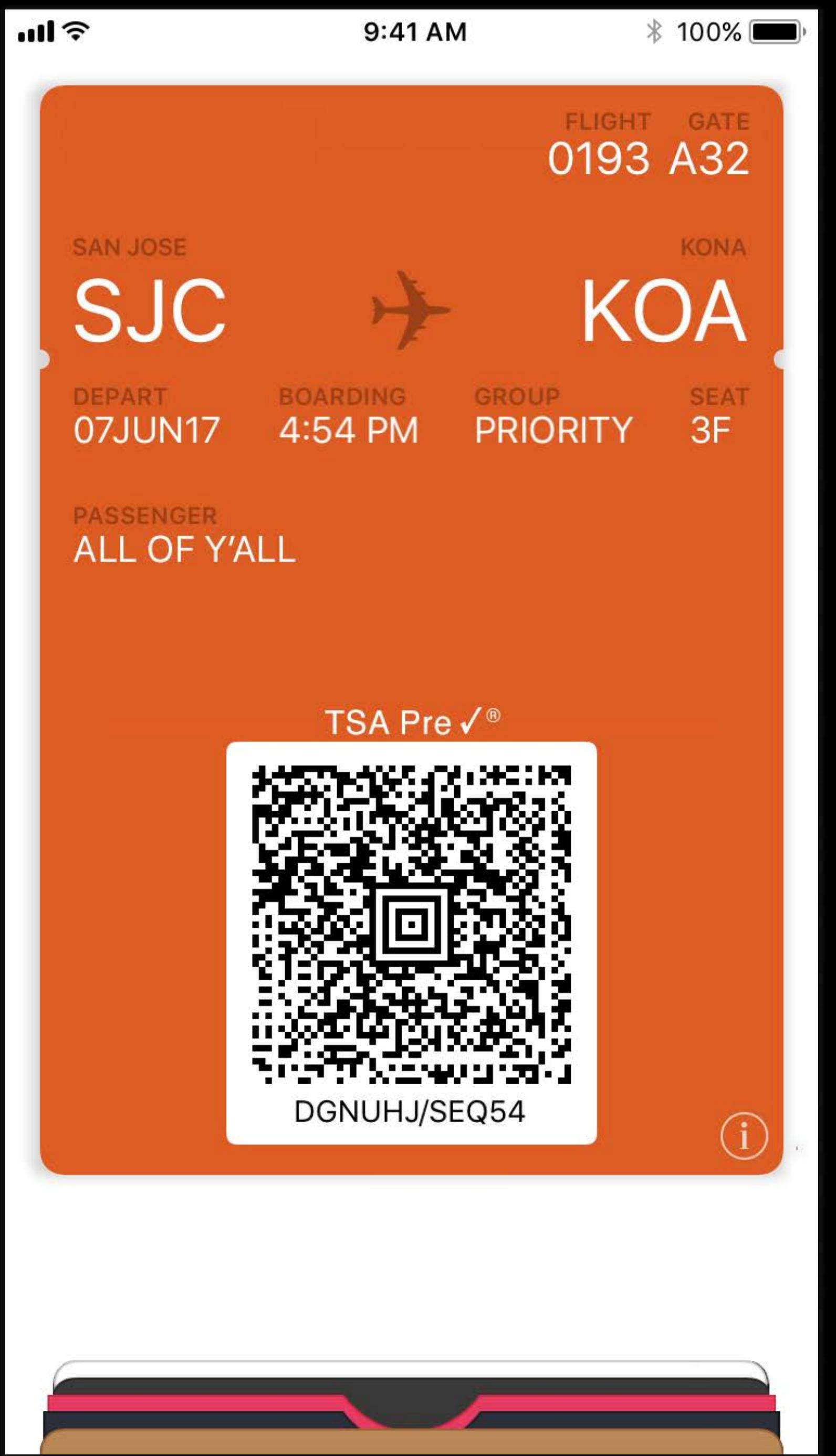


Why, not How

Profound simplicity











# Airport



Terminals

A B C D

Arrivals / Departures

Parking



Terminal

1

Luau Air

Volcano Airlines

Kauai Air

Snorkel Airways





**Gates  
A1-A40**

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**Gates A41-A90 →**

**Gate  
A32**



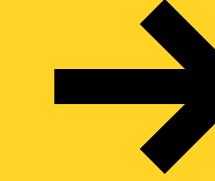
**Gates**  
**A1-A31**



**Gate**  
**A32**



**Gates**  
**A33-A40**





# Wayfinding



Terminals

A B C D

Arrivals / Departures

Parking



Terminal

1

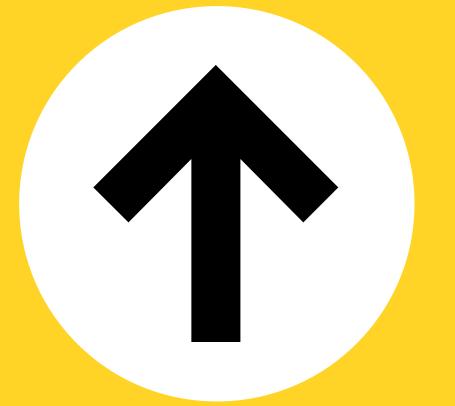
Luau Air

Volcano Airlines

Kauai Air

Snorkel Airways





**Gates  
A1-A40**

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**Gates A41-A90 →**

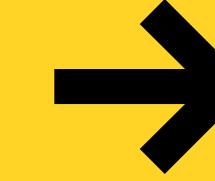
**Gates**  
**A1-A31**



**Gate**  
**A32**



**Gates**  
**A33-A40**





# Wayfinding Answers...

“Where am I?”

# Wayfinding Answers...

“Where am I?”

“Where can I go?”

# Wayfinding Answers...

“Where am I?”

“Where can I go?”

“What will I find when I get there?”

# Wayfinding Answers...

“Where am I?”

“Where can I go?”

“What will I find when I get there?”

“What's nearby?”

# Wayfinding Answers...

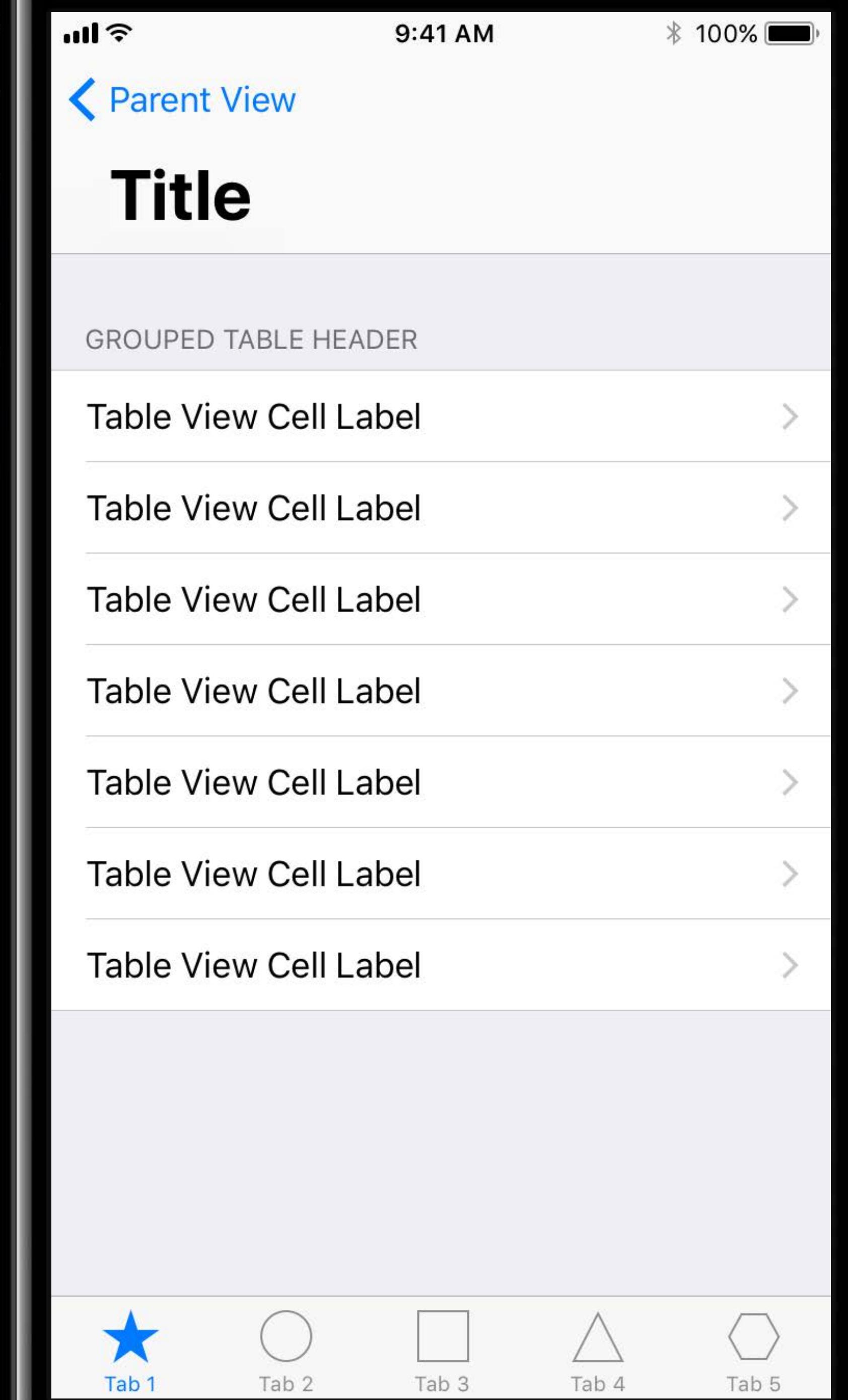
“Where am I?”

“Where can I go?”

“What will I find when I get there?”

“What's nearby?”

“How do I get out?”





9:41 AM 100%

OTHER PLACES YOU CAN GO

- Place A >
- Place B >
- Place C >
- Place D >
- Place E >
- Place F >
- Place G >

Nearby      Nearby      Nearby      Nearby

9:41 AM 100%

OTHER PLACES YOU CAN GO

- Descriptive Label for Place A >
- Descriptive Label for Place B >
- Descriptive Label for Place C >
- Descriptive Label for Place D >
- Descriptive Label for Place E >
- Descriptive Label for Place F >
- Descriptive Label for Place G >

Circles Squares Triangles Hexagons



# Wayfinding Answers...

“Where am I?”

“Where can I go?”

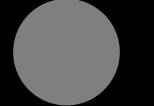
“What will I find when I get there?”

“What's nearby?”

“How do I get out?”







Car







# Feedback

# Feedback

Status

# Feedback

Status

Completion

# Feedback

Status

Completion

Warning

# Feedback

Status

Completion

Warning

Errors

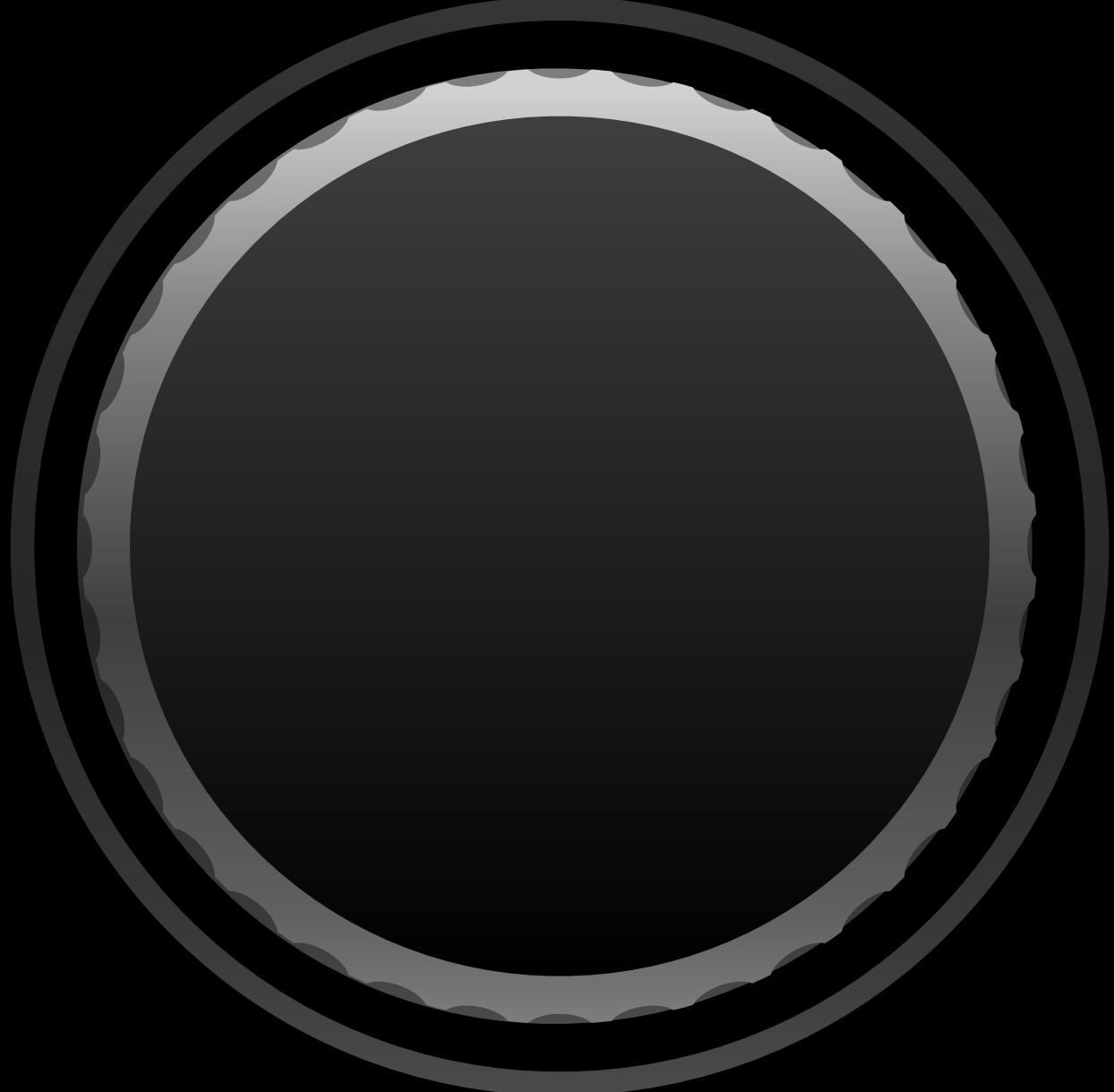
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Status

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Warning

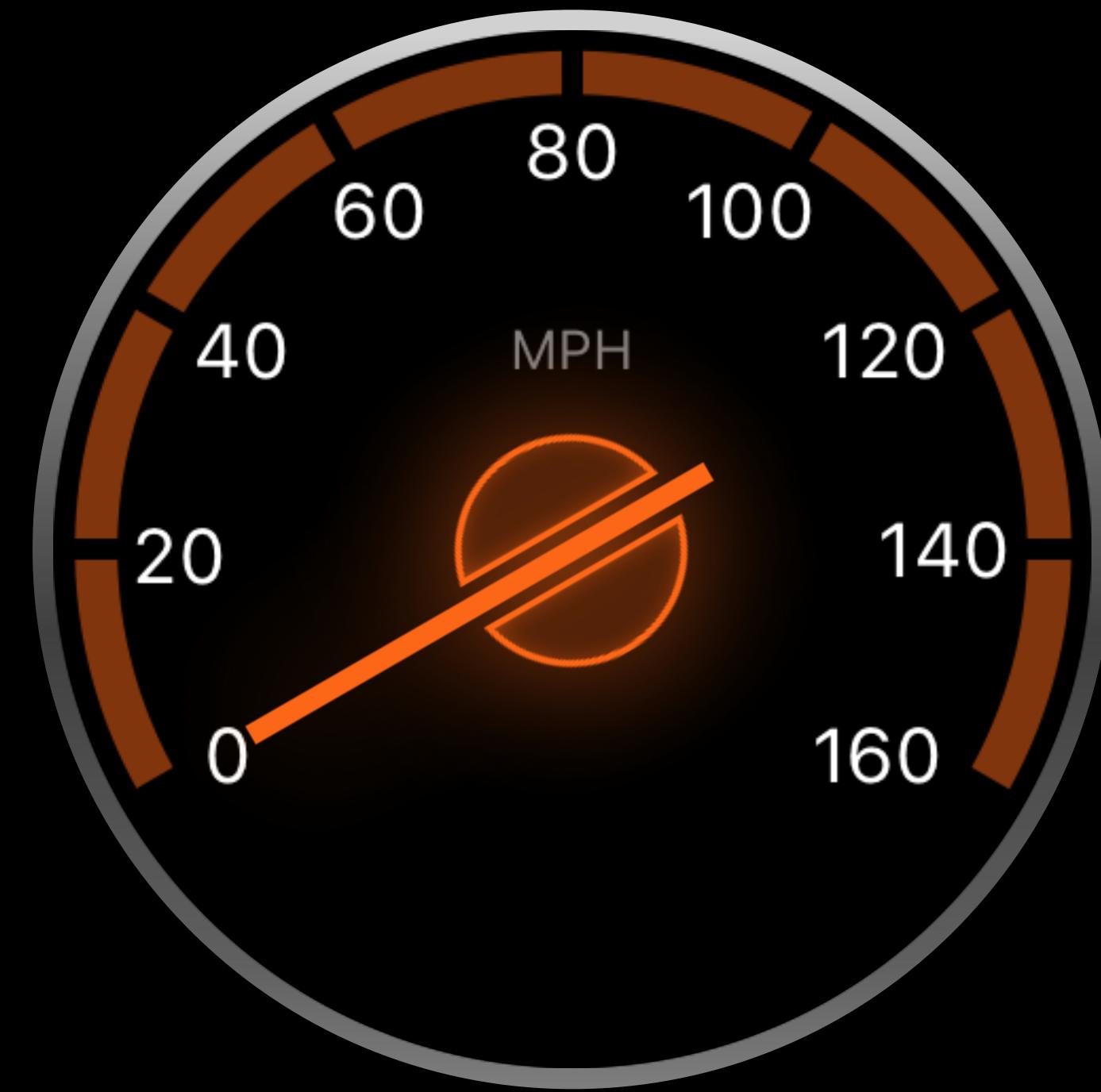
Errors



P R N D S



P R N D S



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Trip  
67.0 km

Temp  
76°C



Time  
9:41

Trip  
67.0 km

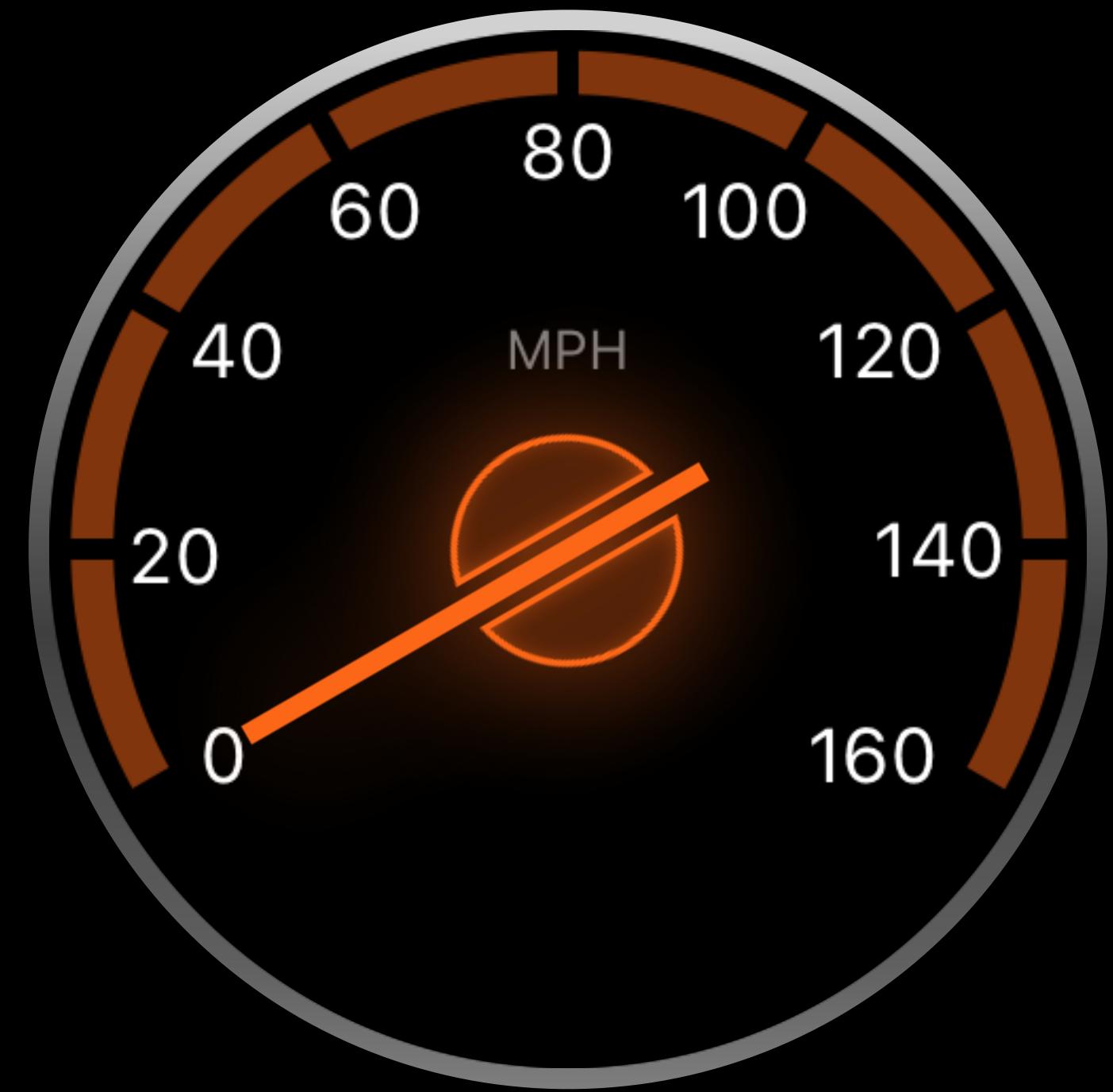
Temp  
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Trip  
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- 9:41 AM 100%
- [Back](#) [Edit](#)
- ## Inbox
- Search
- 
- Doug LeMoine** 9:41 AM >  
★ New apartment!  
✉ Hey folks, we finally moved in to our new pad! We're looking forward to having everyone over...
- 
- Lauren Strehlow** 9:30 AM >  
★ Today's Meeting - Location Change  
Hi team, Today's meeting is going to be in the San Francisco conference room in IL1, 1st...
- 
- Beam Seilaudom** 8:04 AM >  
★ Trip logistics!  
✉ Hey, John. How excited are you for this year's camping trip?! Let's try to connect today about...
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Check out this event!  
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- Amy Frost** 7:32 AM >  
Re: Basketball Game  
You're going down today. Got to make up for my
-  Updated Just Now 

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9:41 AM 100%

< June 13 Event Details Edit

## Design Review

Apple Inc.  
1 Infinite Loop, Cupertino, CA 95014-2083,  
United States

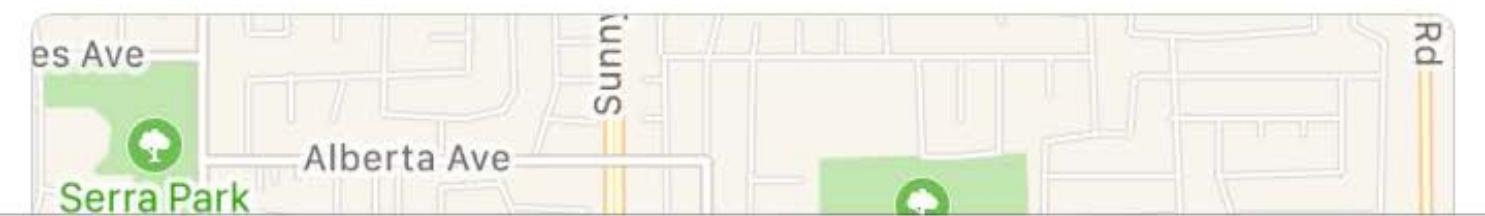
Monday, June 9, 2017  
from 2 PM to 3 PM

2 PM Design Review  
Apple Inc....  
3 PM  
4 PM

Calendar • Apple >

Invitees 1 >  
✖ Doug LeMoine

Alert Time to Leave >



Delete Event

9:41 AM 100%

< June 13 Event Details Edit

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Monday, June 9, 2017  
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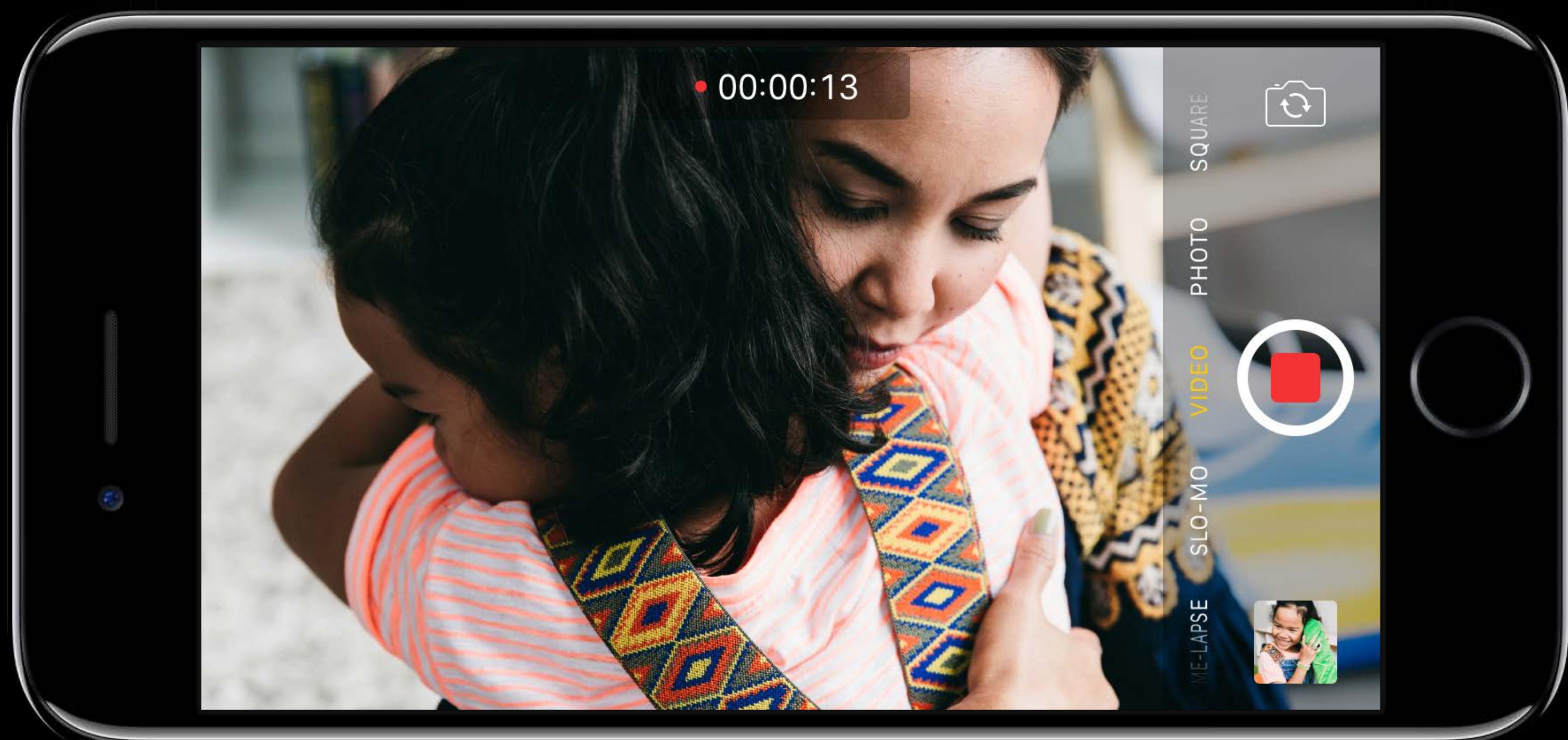
Calendar • Apple >

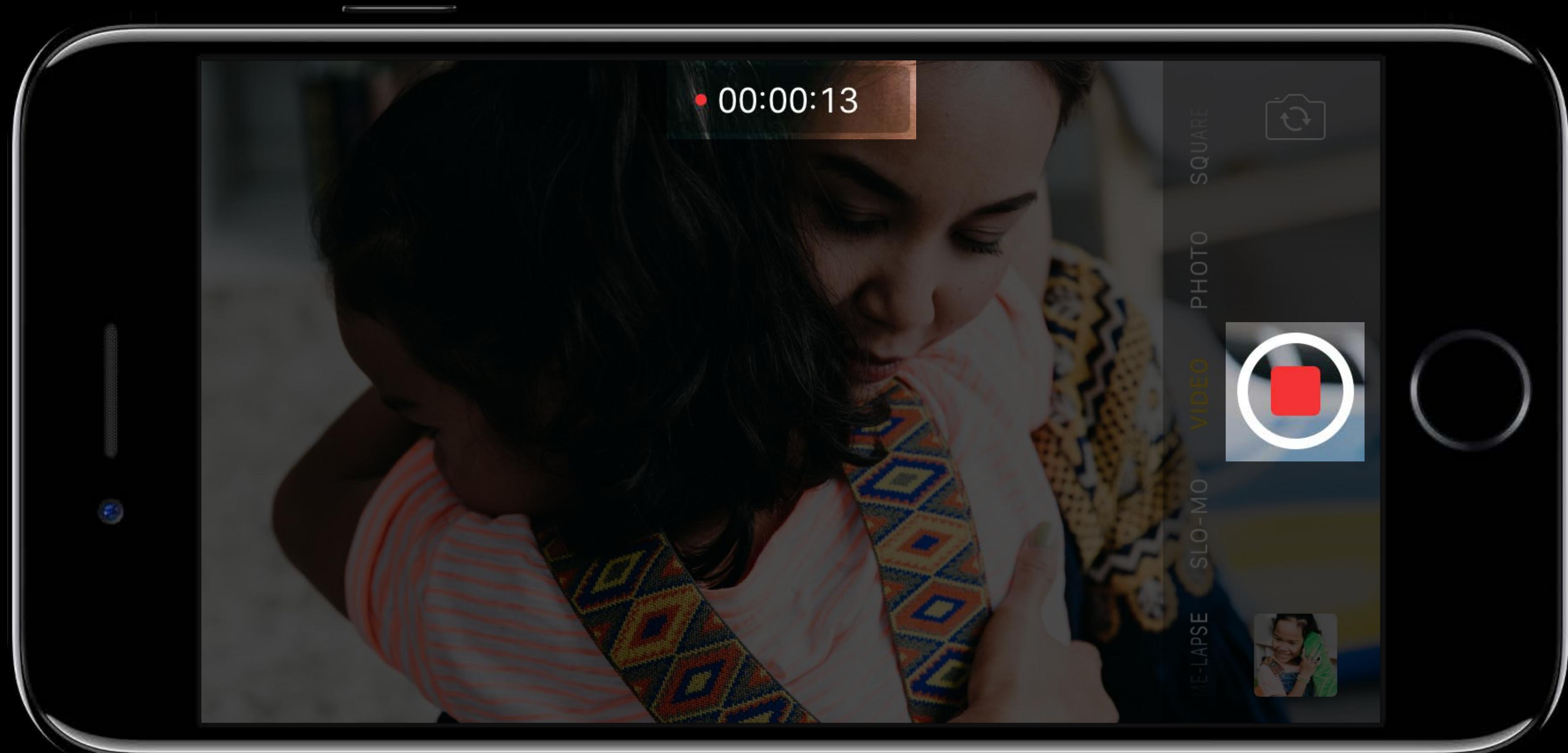
Invitees 1 >  
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Alert Time to Leave >



Delete Event





# Feedback

Status

Completion

Warning

Errors





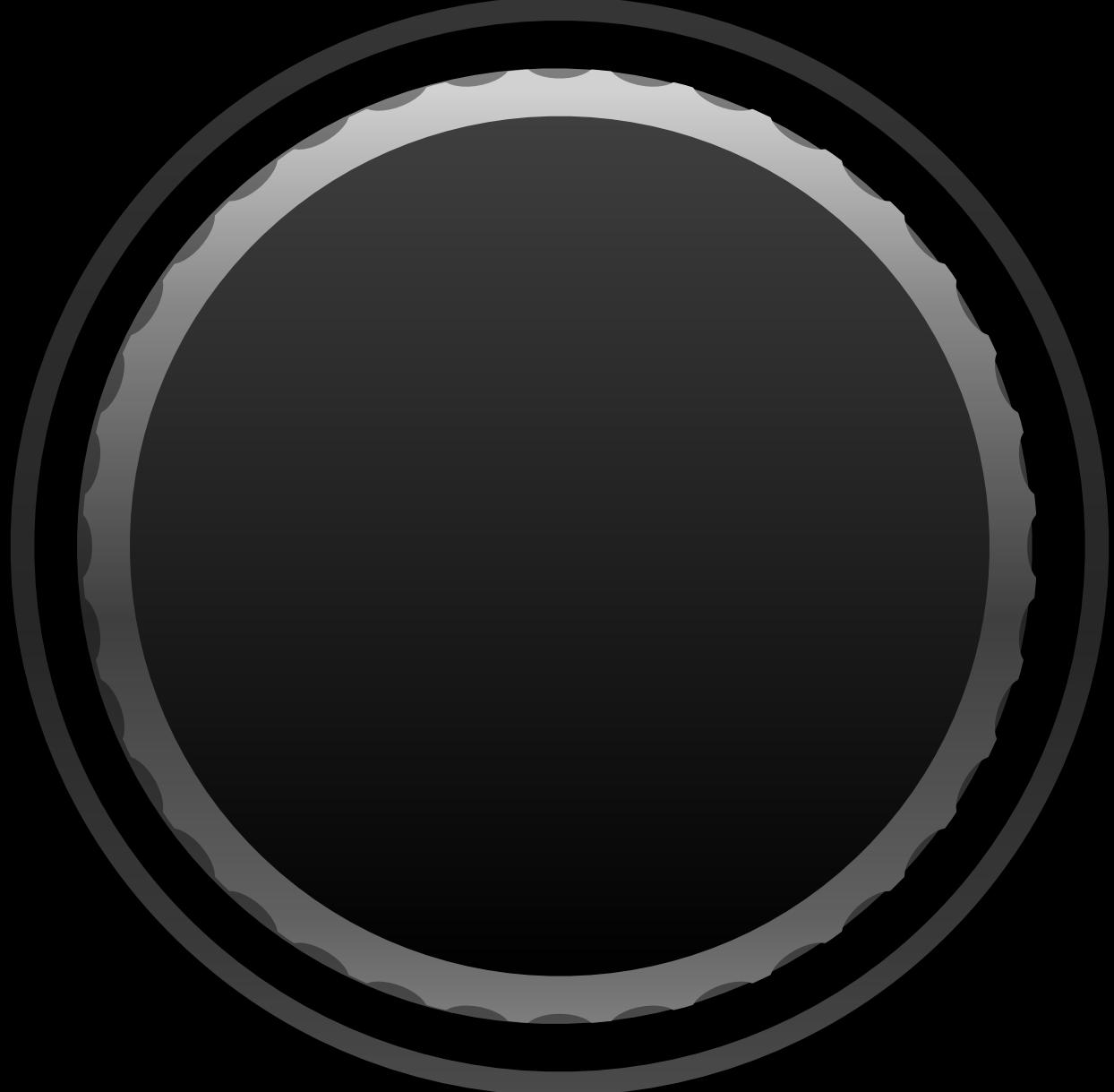




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Trip  
67.0 km

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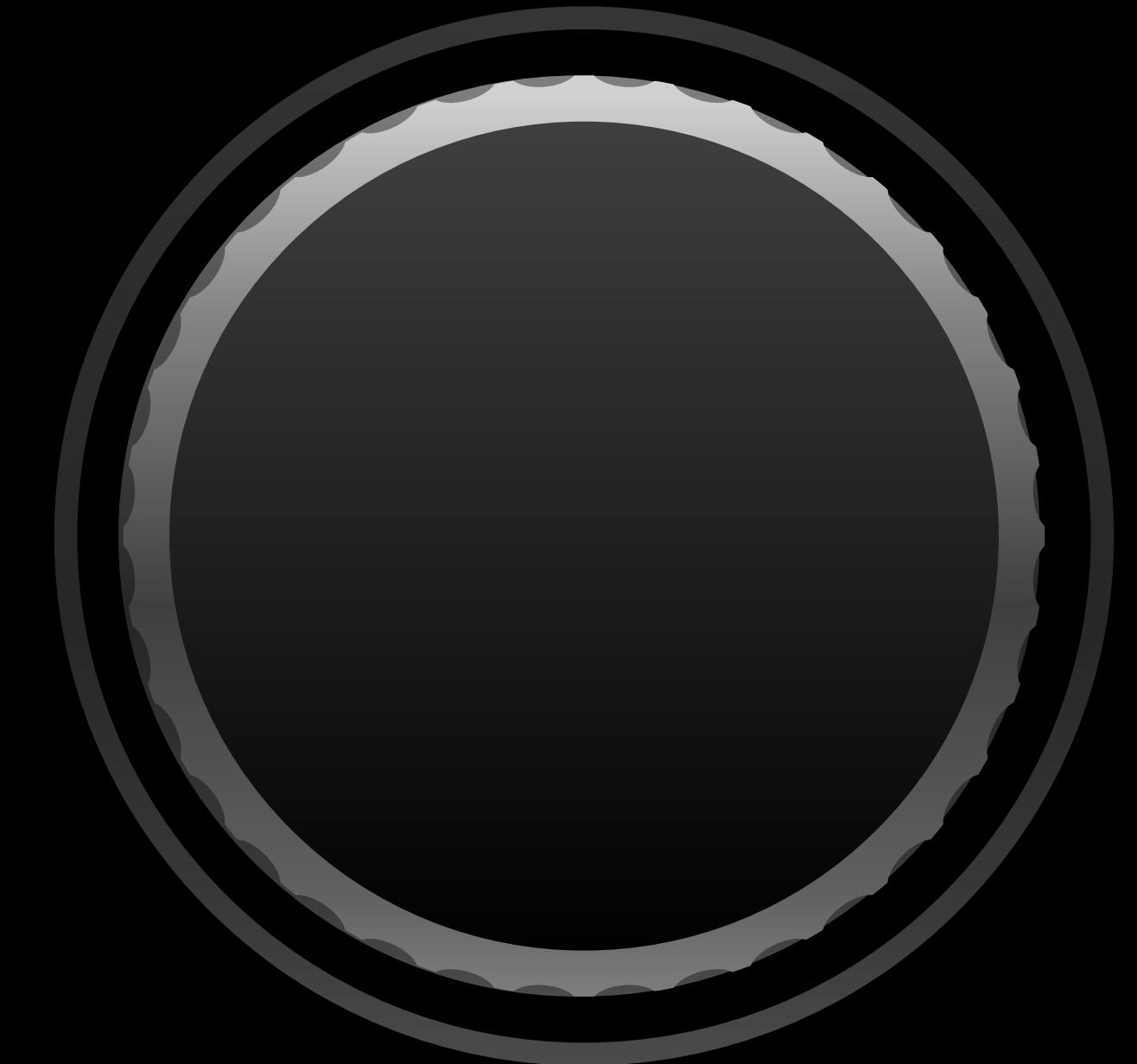


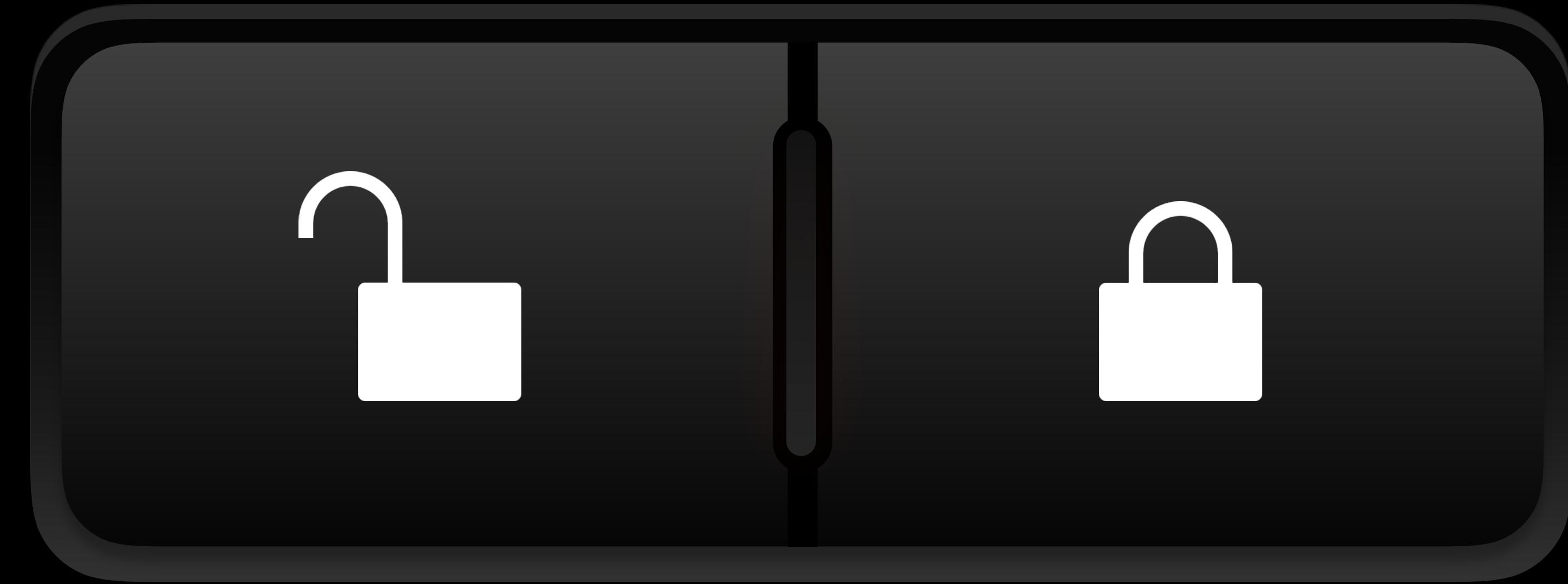
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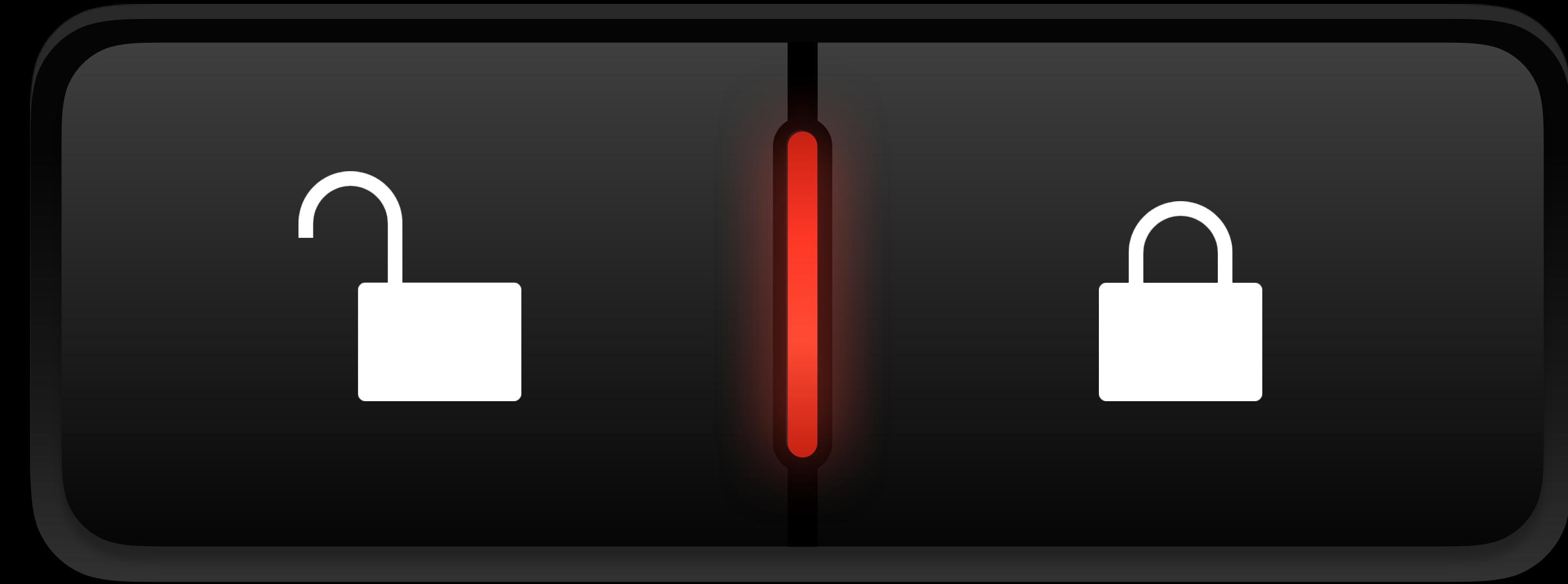


P R N D S

P R N D S

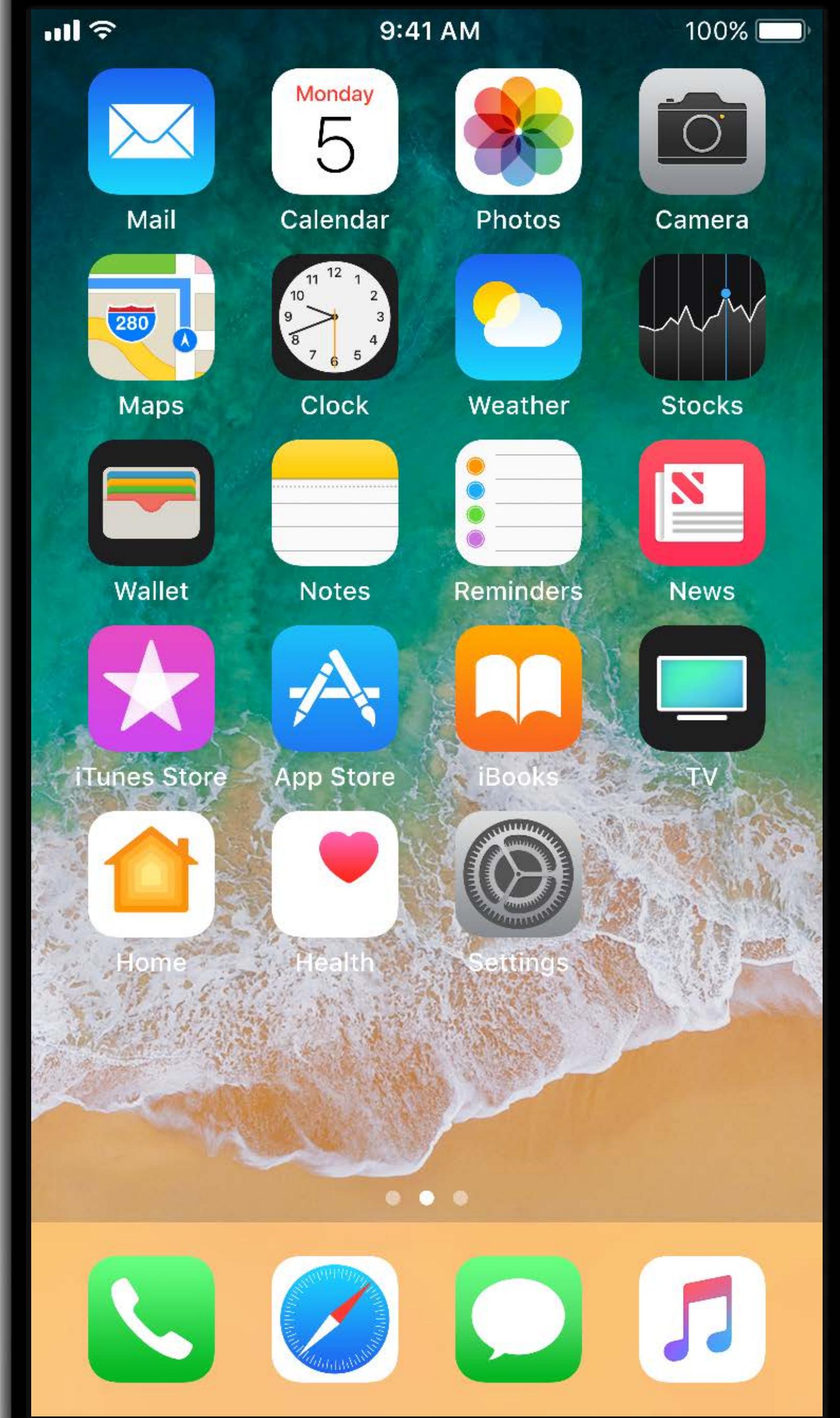








It's all good!





- 9:41 AM 100%
- < Back Edit
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Out of Office Today  
Hey team, I'm going to take a day off to decompress after WWDC. Will be in tomorrow...
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- Ivy Calhoun** 2:44 PM >  
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3 Unread

9:41 AM 100%

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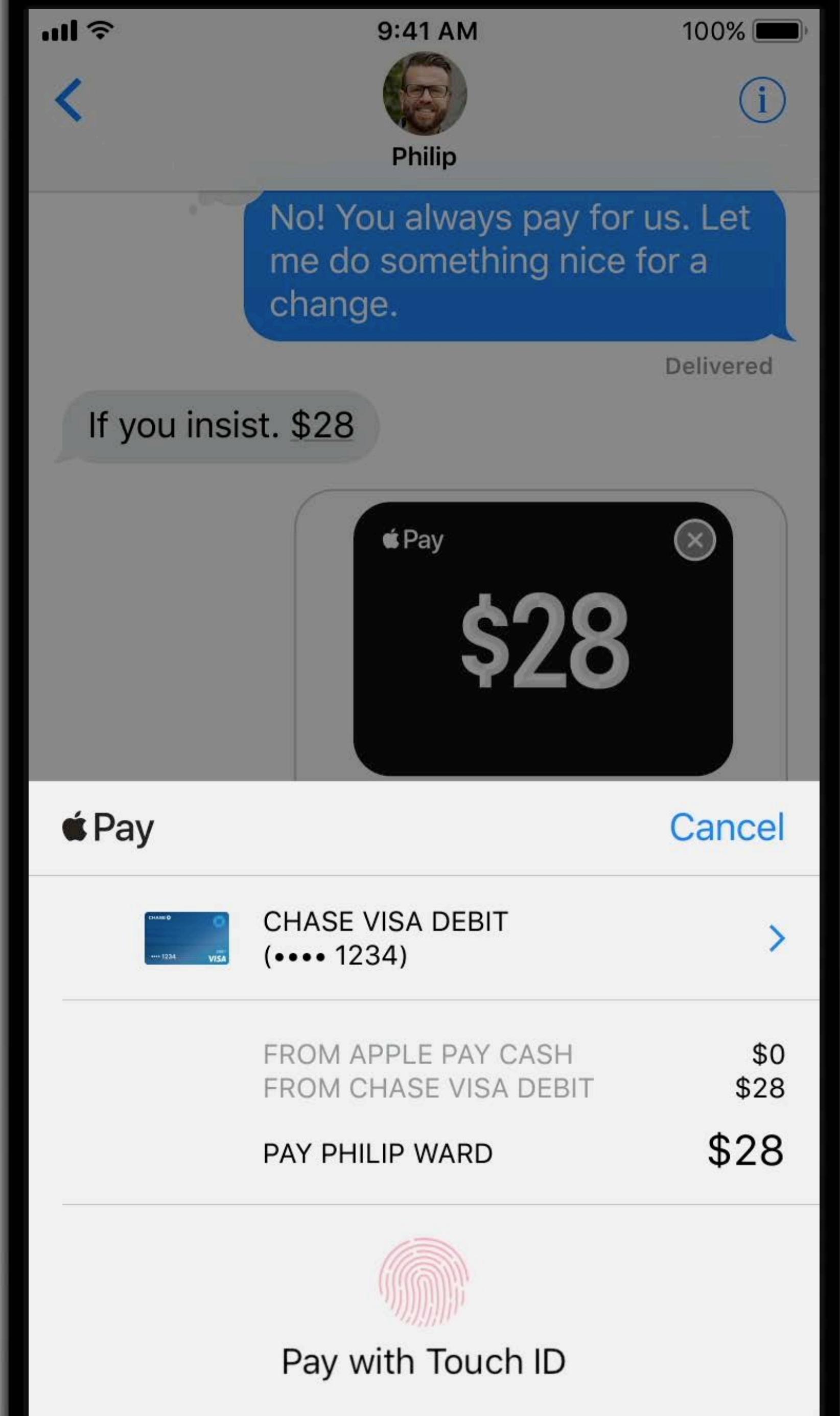
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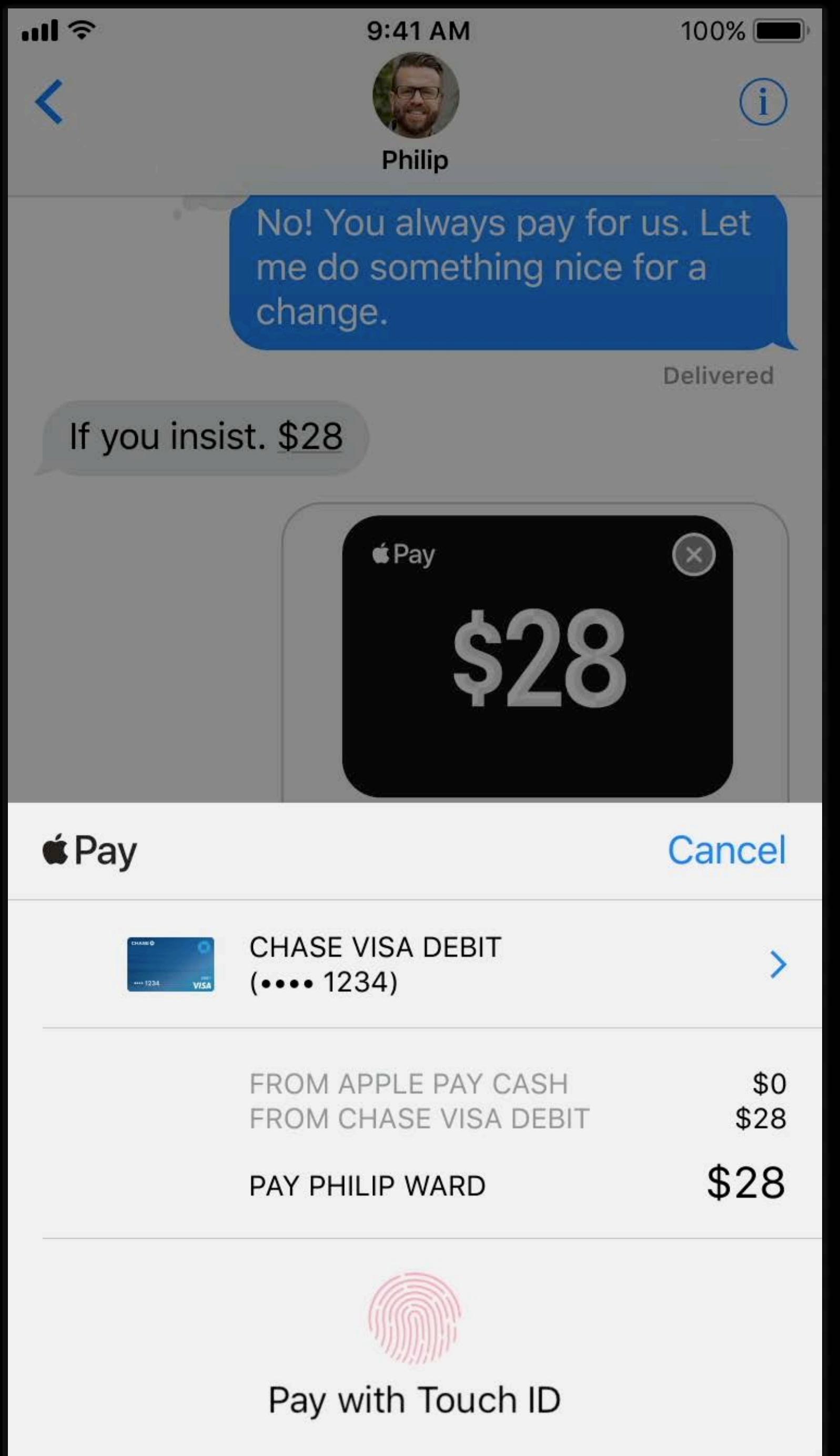
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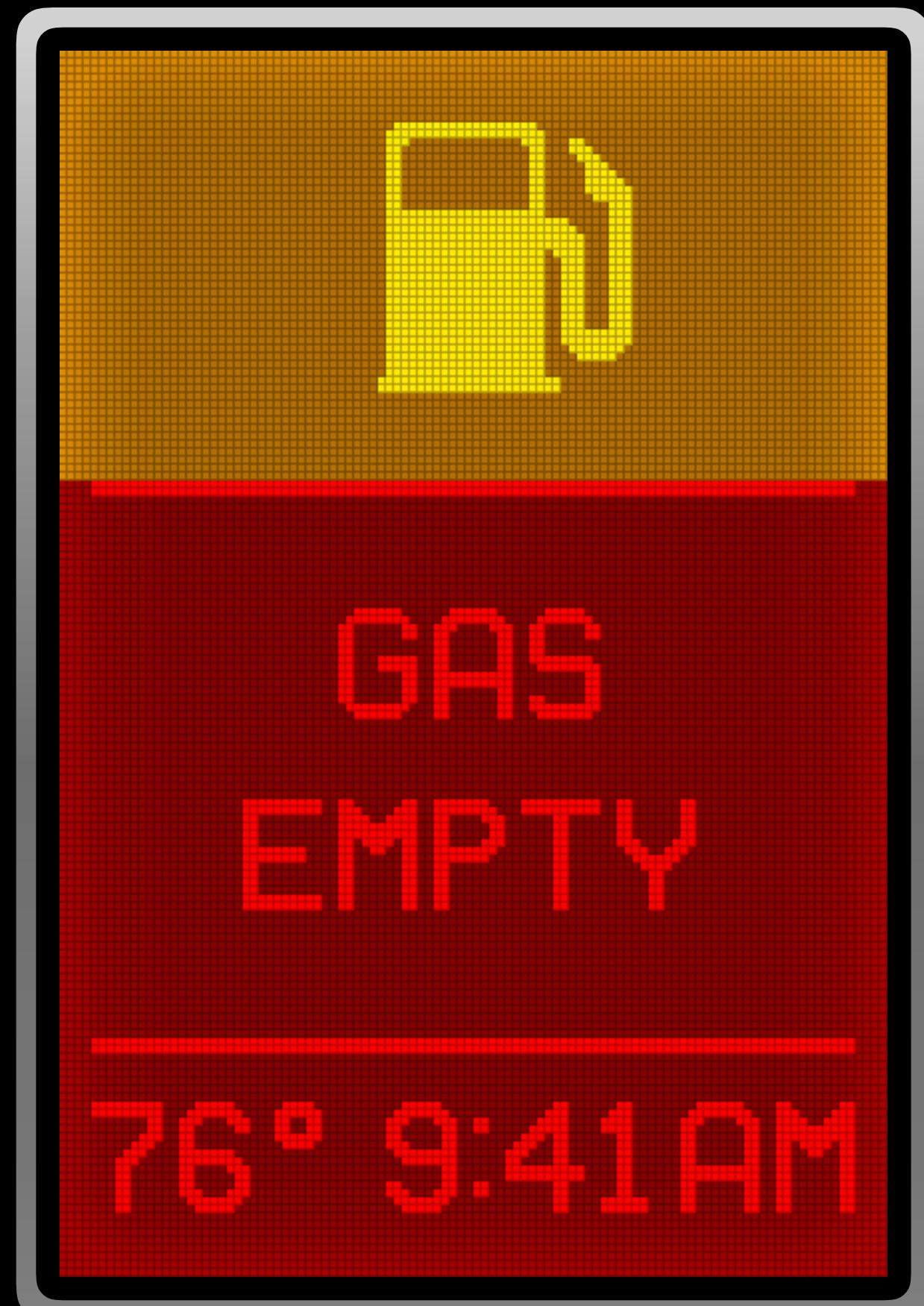
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Warning

Errors





9:41 AM 100%

Cancel Sign Up Next

First Name Required

Last Name Required

Email Required

Password Required

Q W E R T Y U I O P

A S D F G H J K L

↑ Z X C V B N M ⌫

123 ⌘ ⌥ space return

9:41 AM 100%

Cancel Sign Up Next

First Name Mike ✓

Last Name Stern ✓

Email Required

Password Required

Q W E R T Y U I O P  
A S D F G H J K L  
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Cancel Sign Up Next

First Name Mike ✓

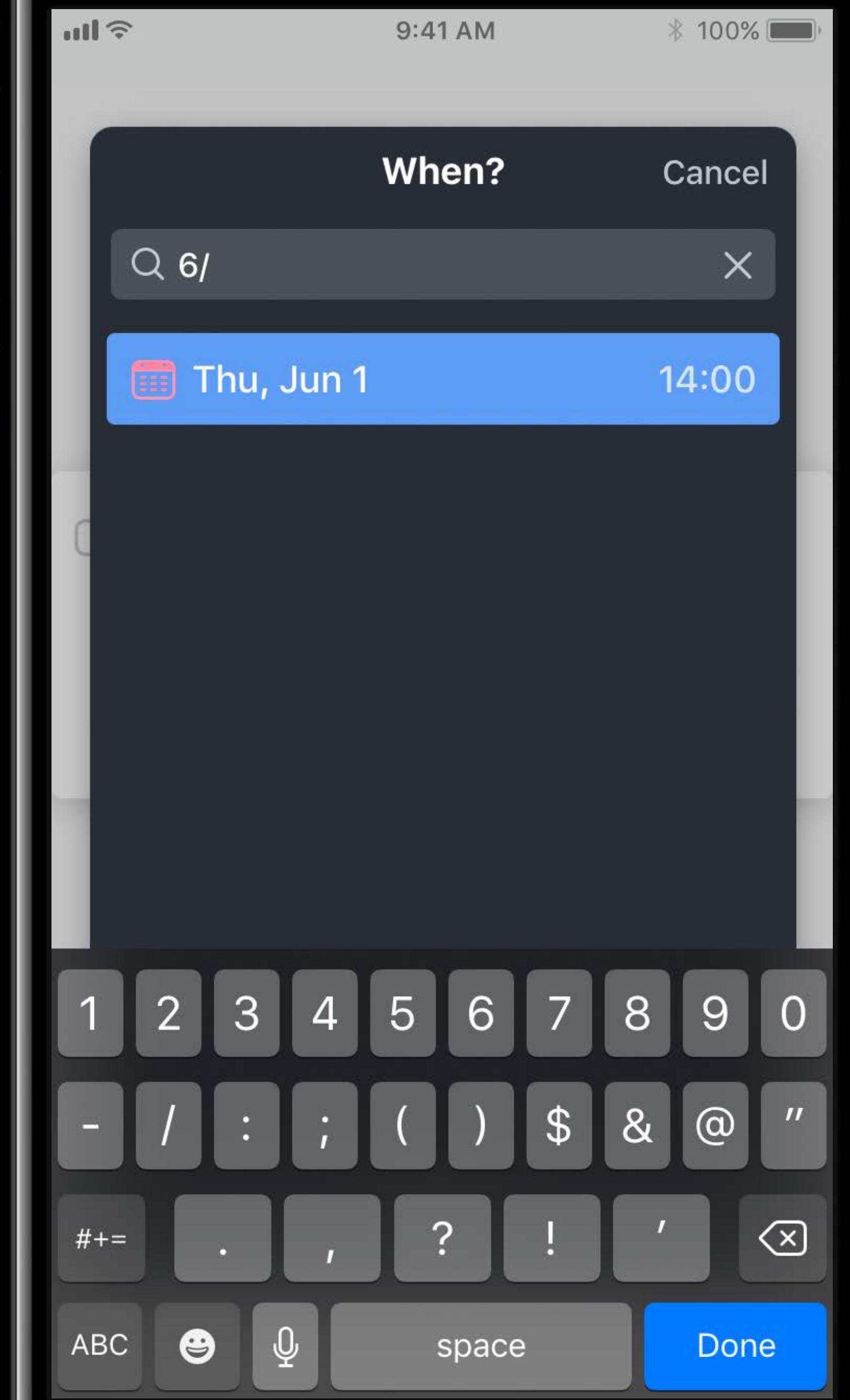
Last Name Stern ✓

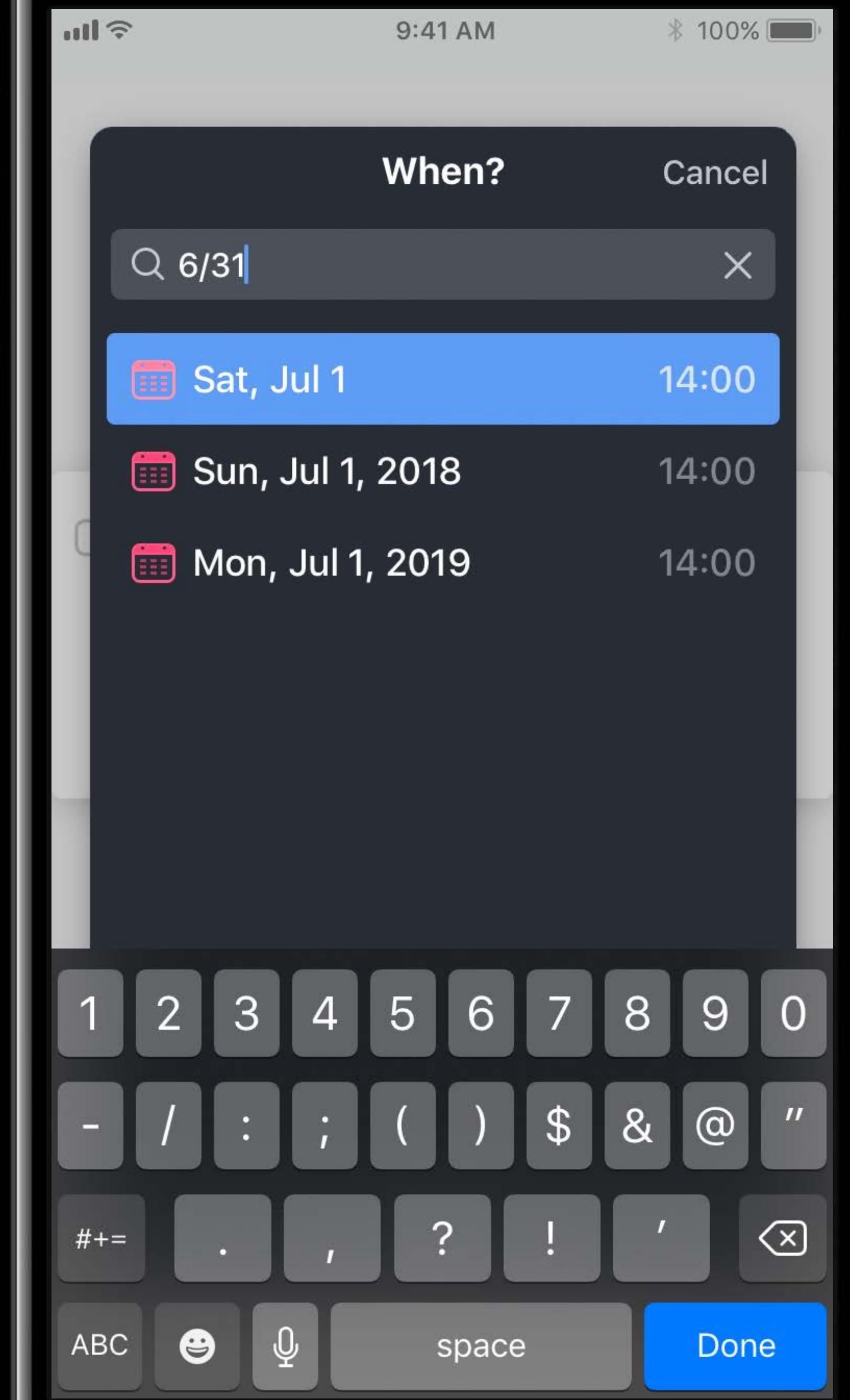
Email @apple.com !

Password ······

Email is missing user account name

Q W E R T Y U I O P  
A S D F G H J K L  
Z X C V B N M   
123   space return





# Good Feedback Answers...

# Good Feedback Answers...

What can I do?

# Good Feedback Answers...

What can I do?

What just happened?

# Good Feedback Answers...

What can I do?

What just happened?

What's happening?

# Good Feedback Answers...

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What just happened?

What's happening?

What will happen in the future?

What can I do?

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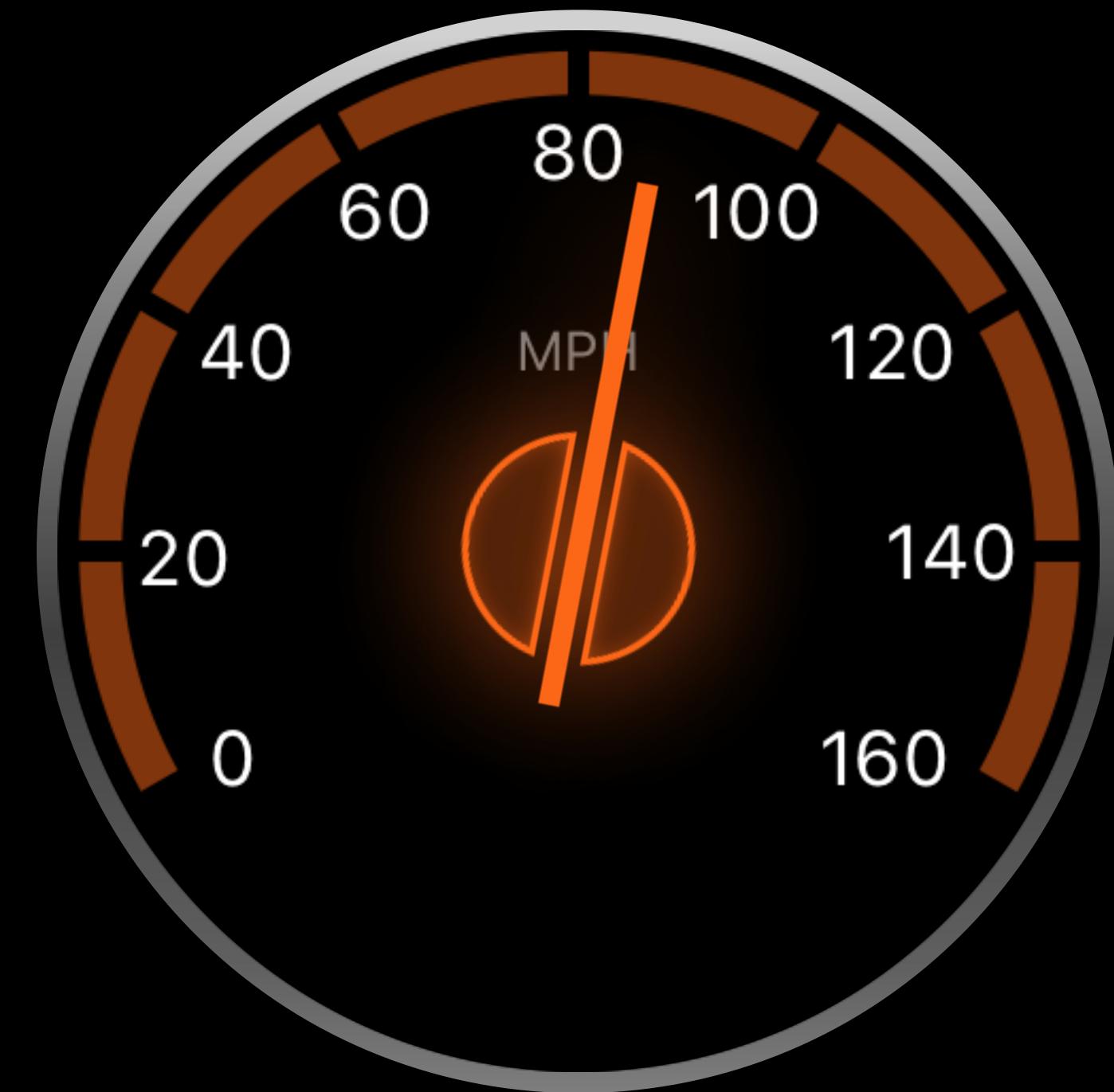
Not to worry, I'll walk you through this. I can help you figure this all out.

What would you say?

Then say it!

# Visibility

Visibility improves usability



Time  
9:41

Trip  
67.0 km

Temp  
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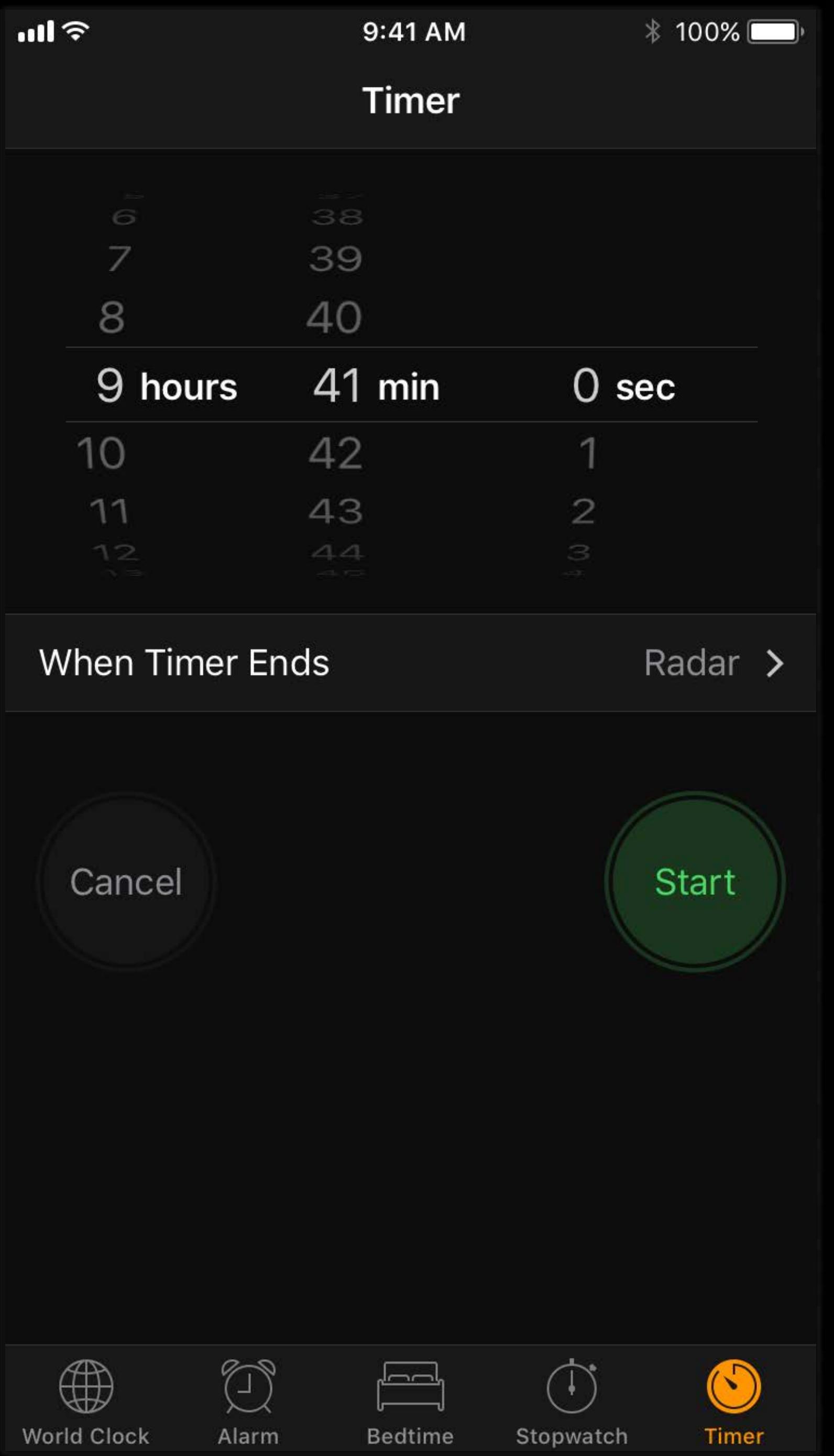
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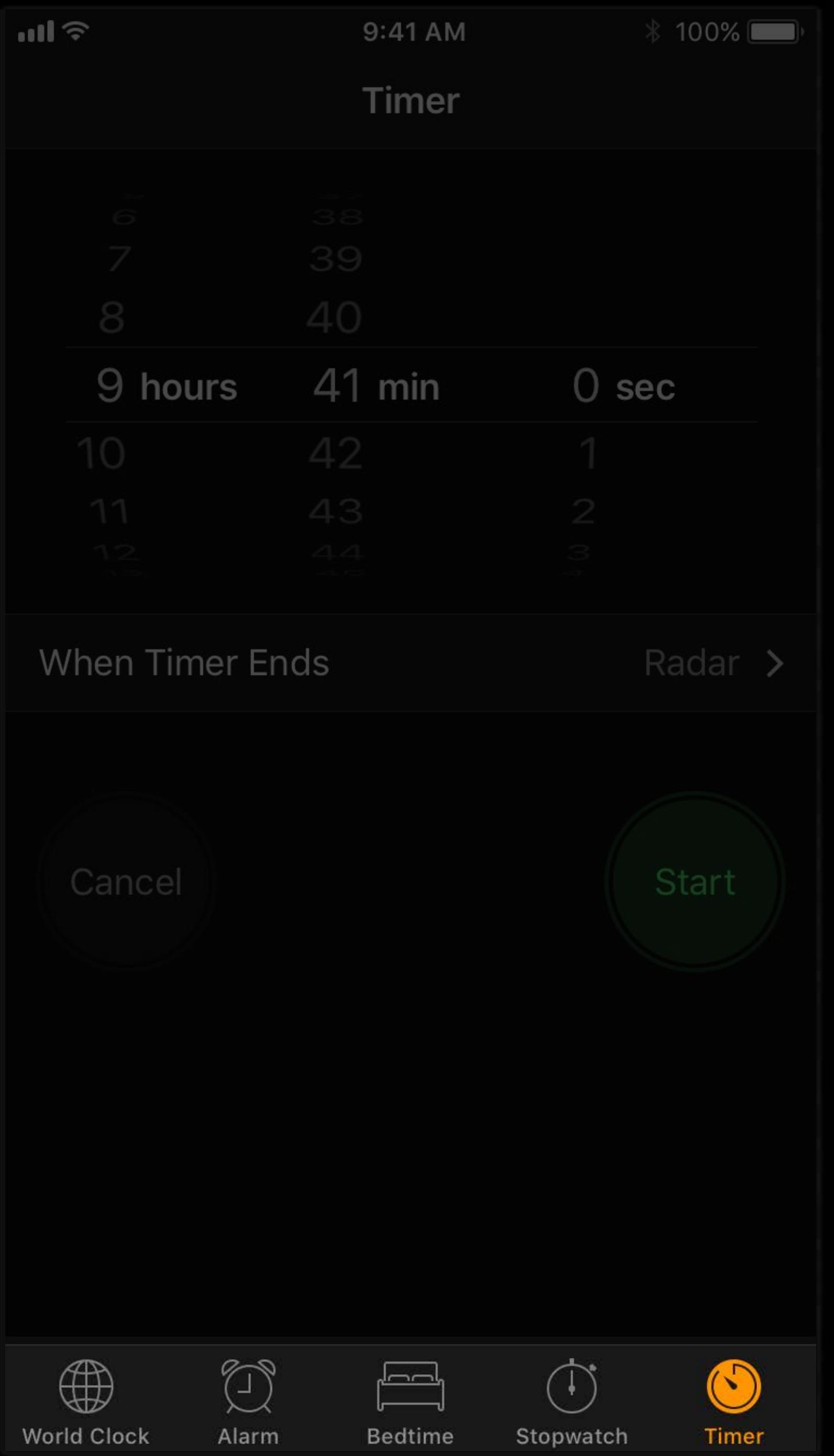
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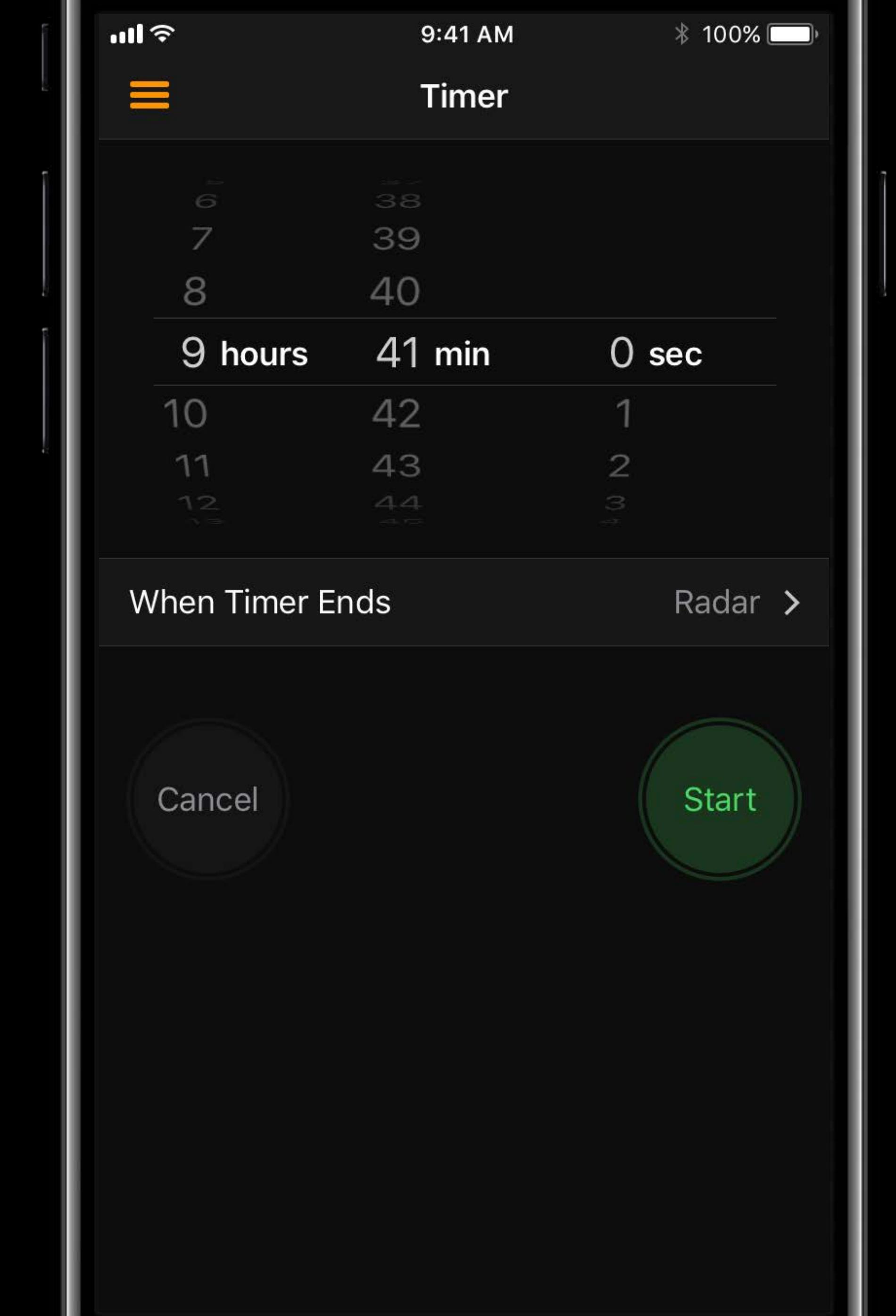
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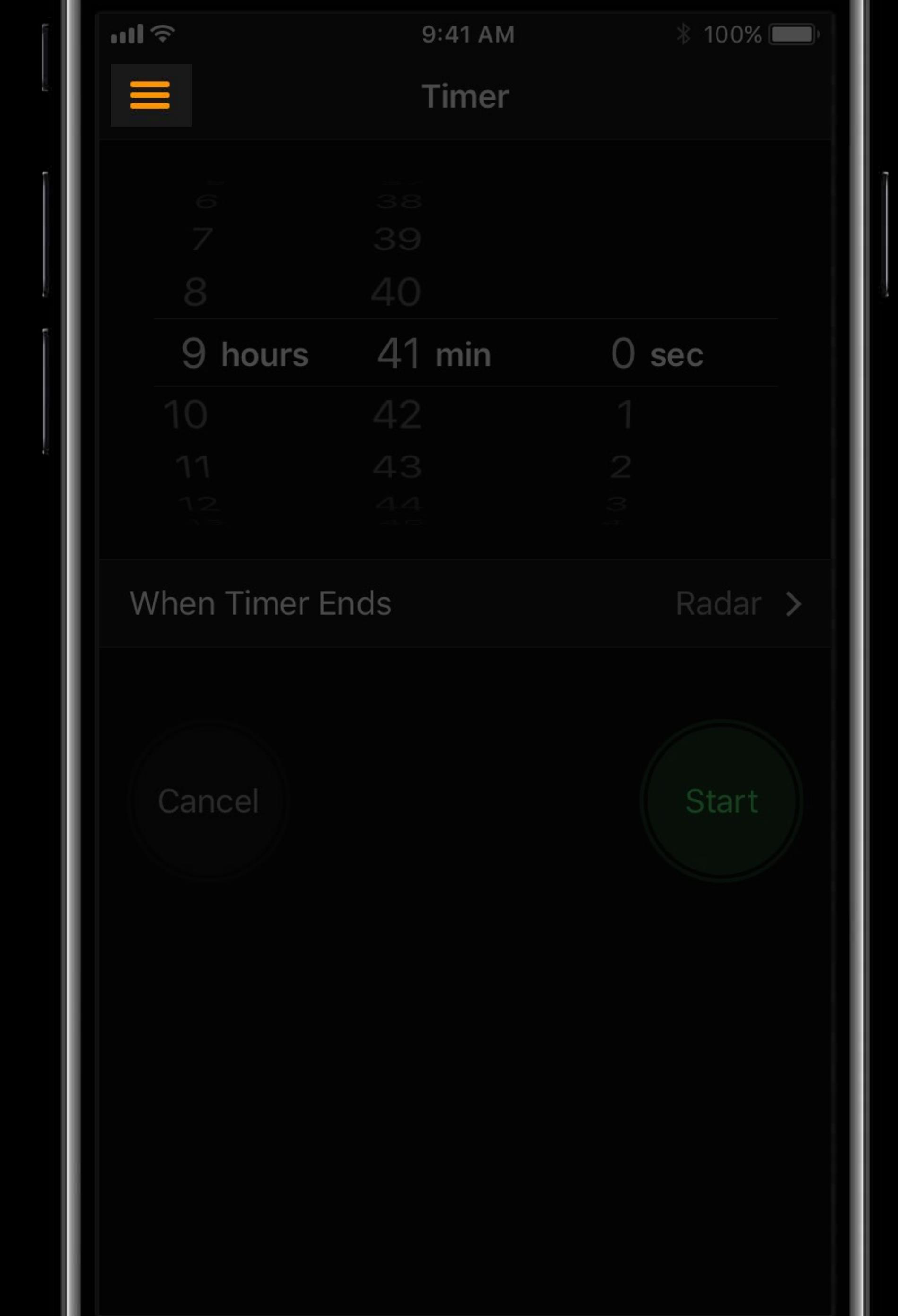
**Amy Frost** 7:32 AM >  
Re: Basketball Game  
*You're going down today. Got to make up for my*

Updated Just Now



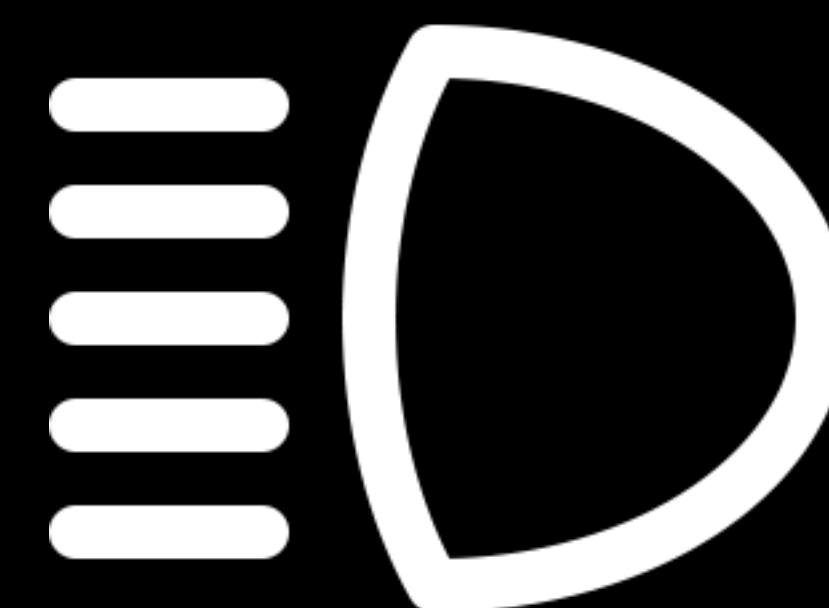
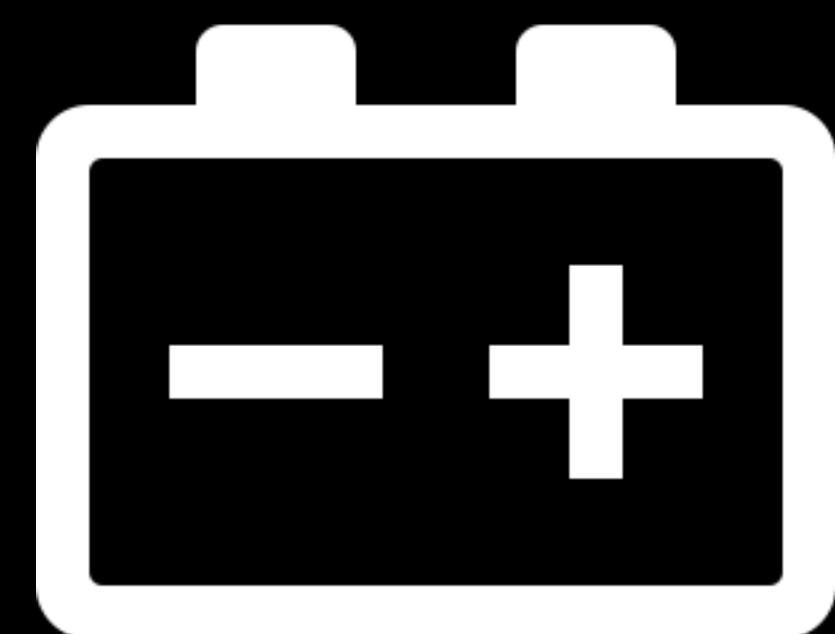
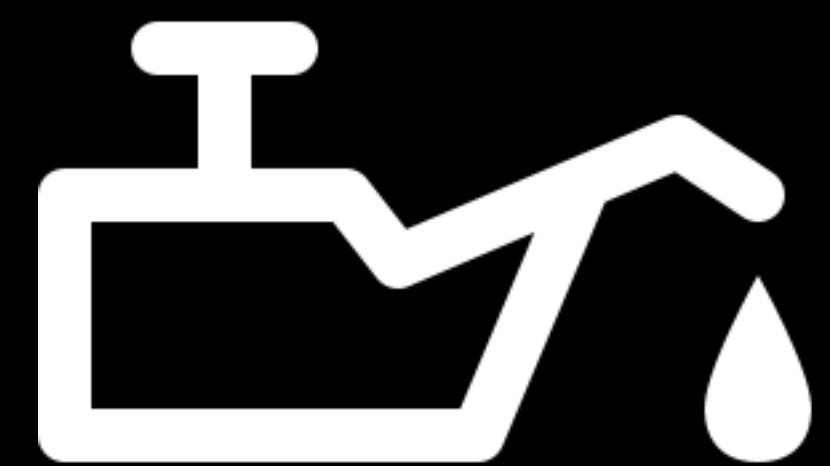
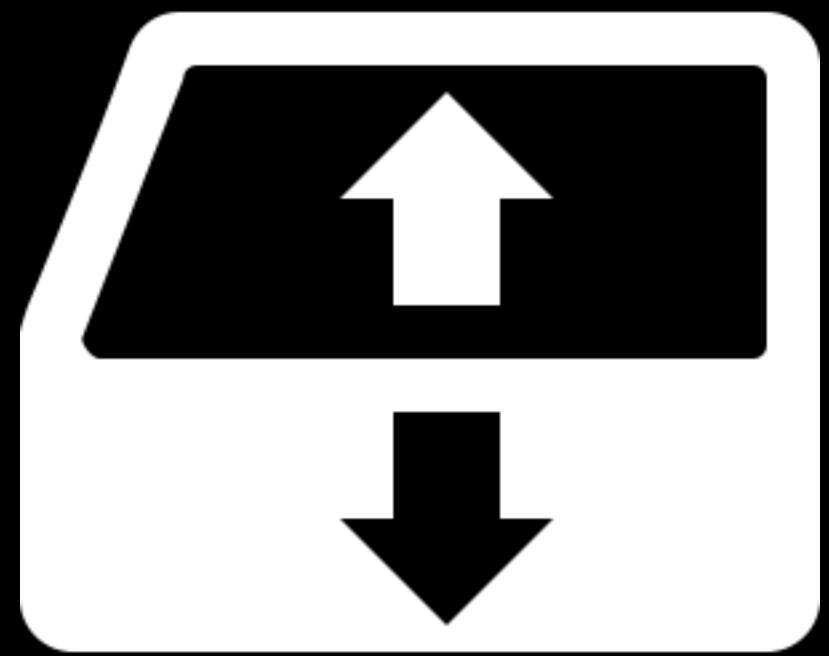






Visibility has its limits

# Consistency



Park

Drive

Reverse

Neutral

Brake

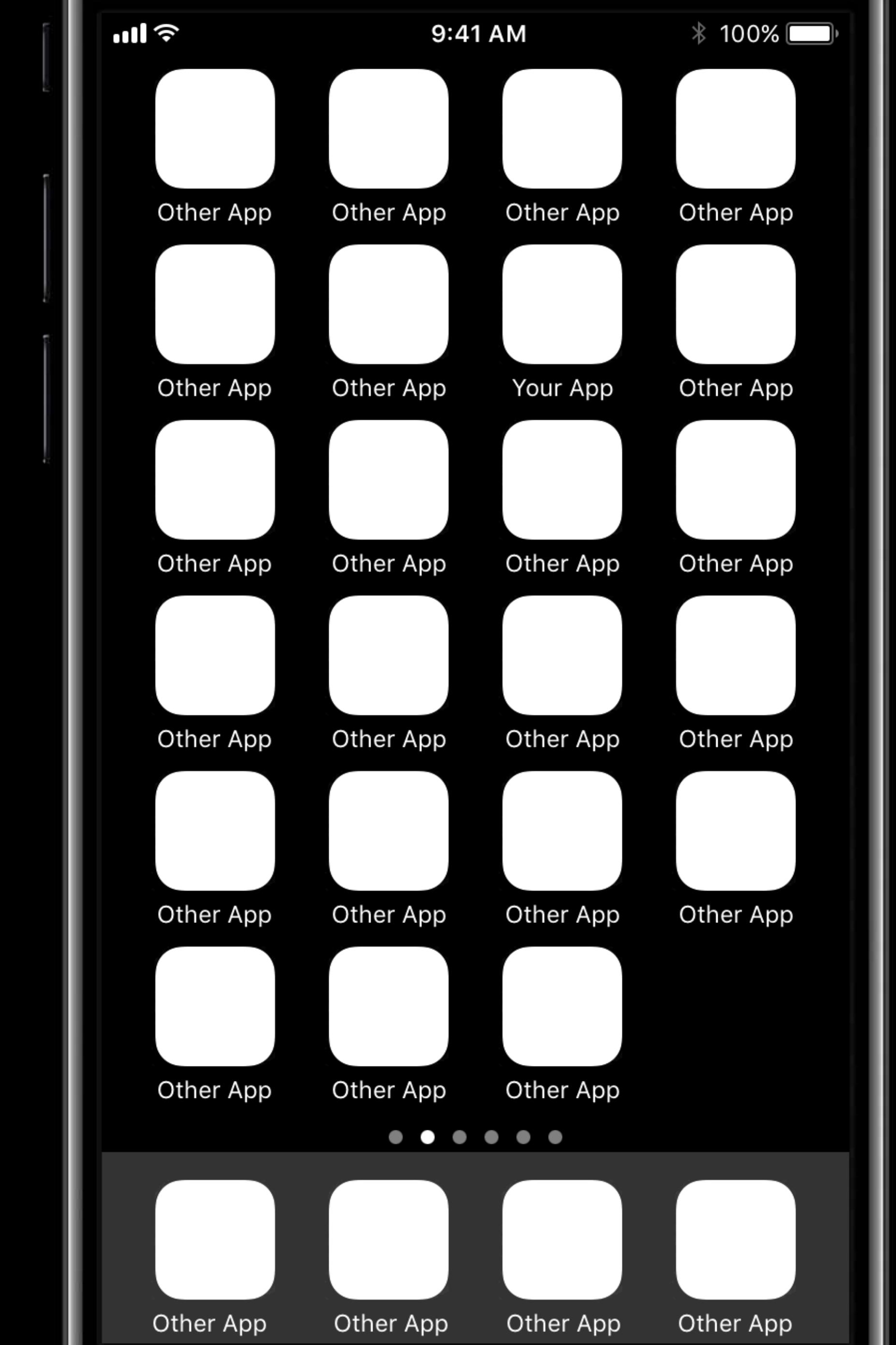
Signal



Consistency improves usability

Inconsistency undermines usability

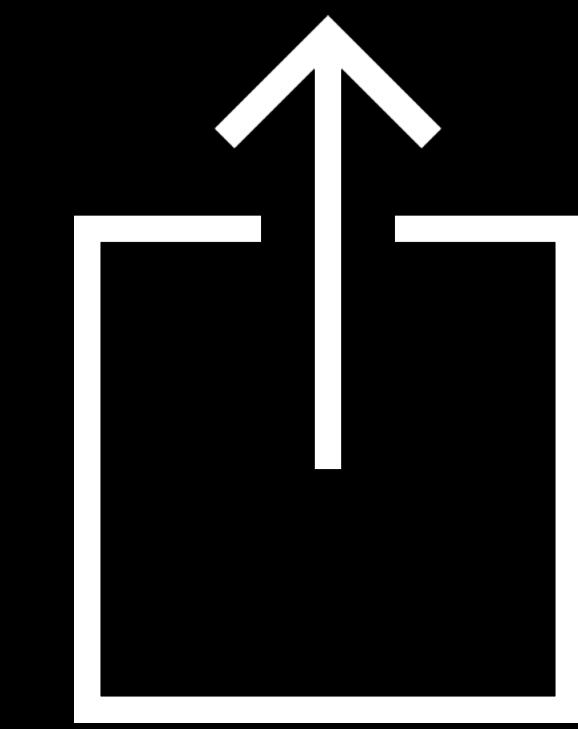


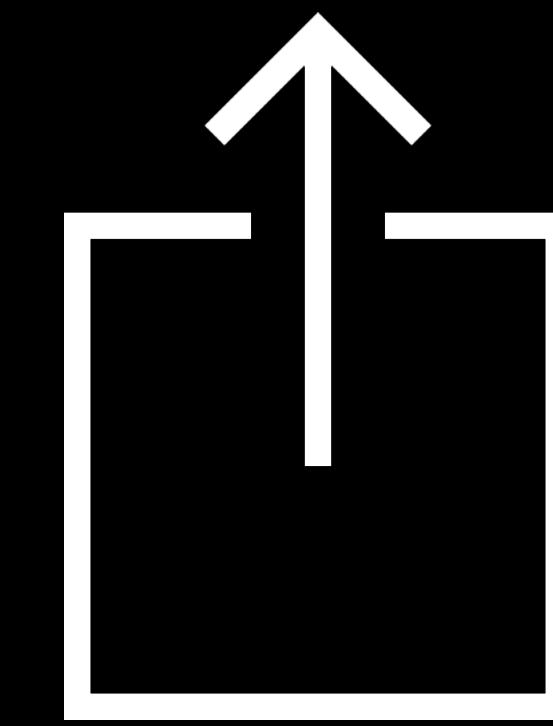




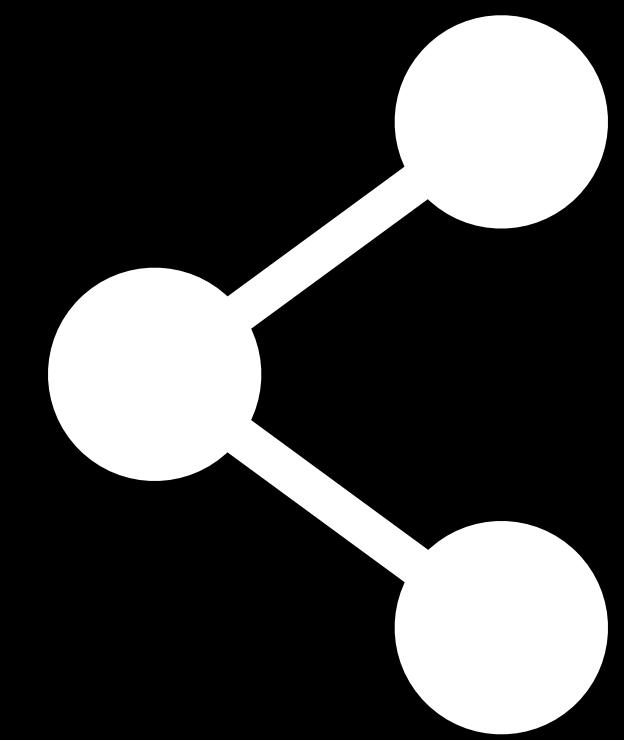


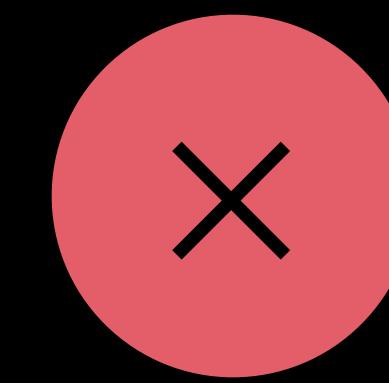
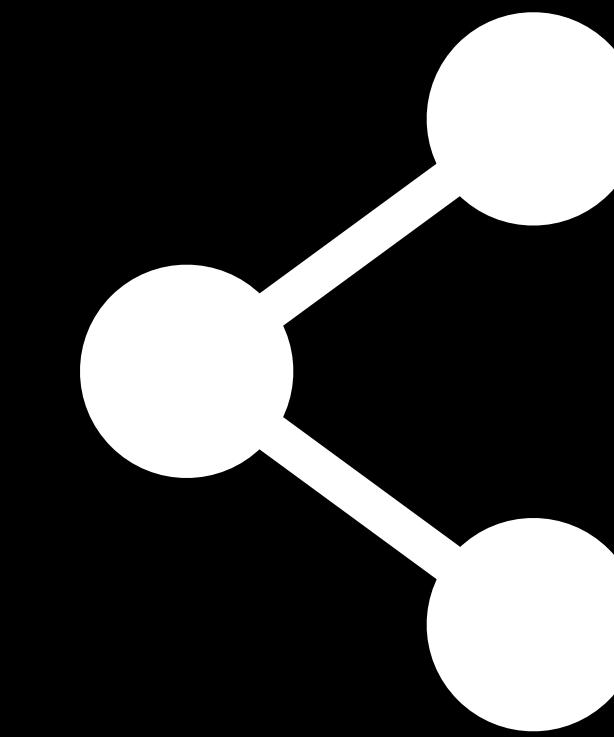
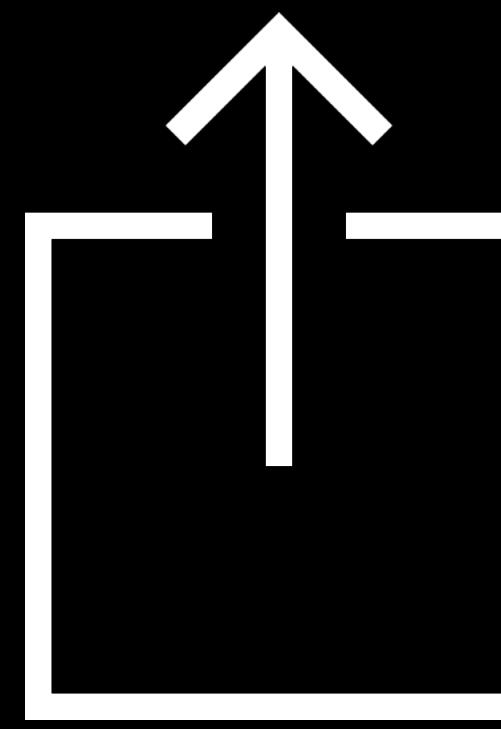






“Sharrows”









I just gotta be me!

# Internal Consistency

LABEL

Label

Label

LABEL

Label

Label

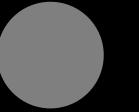
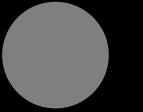


Label

Label

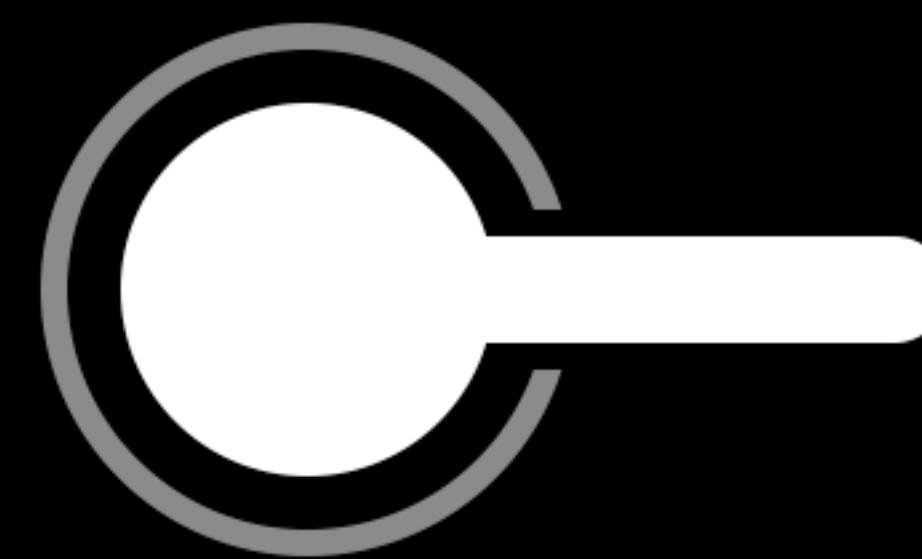
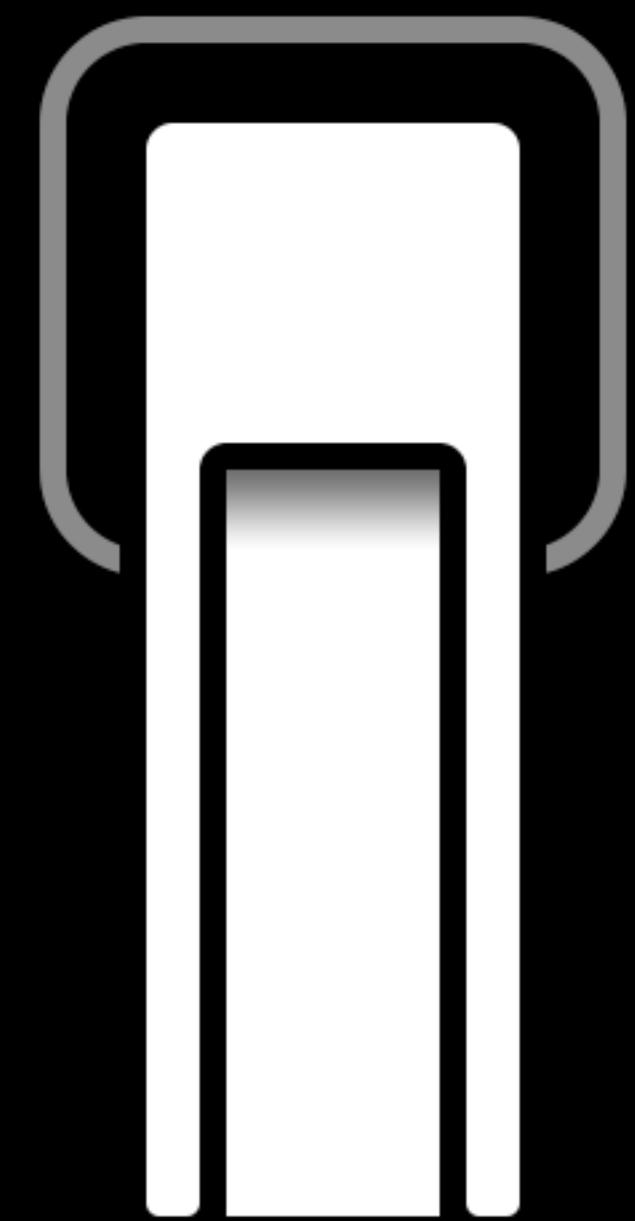
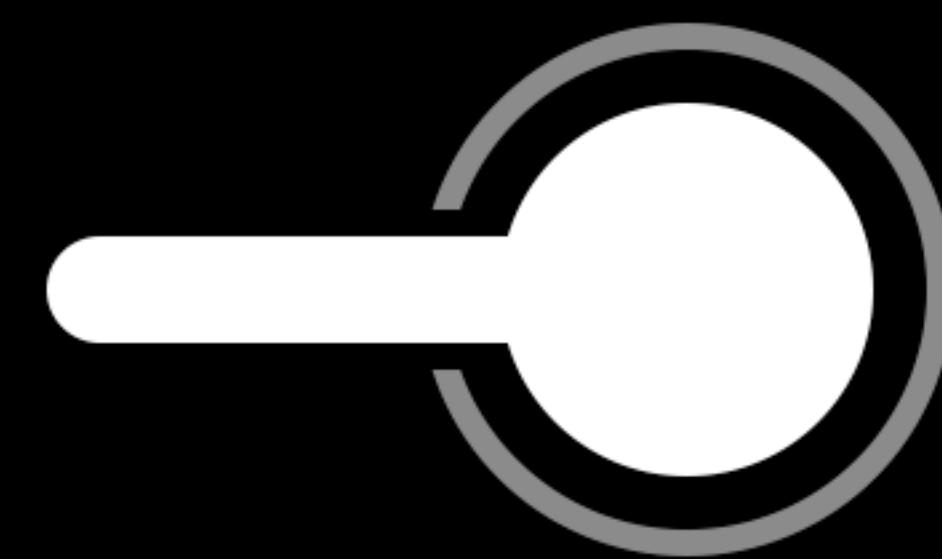
Label

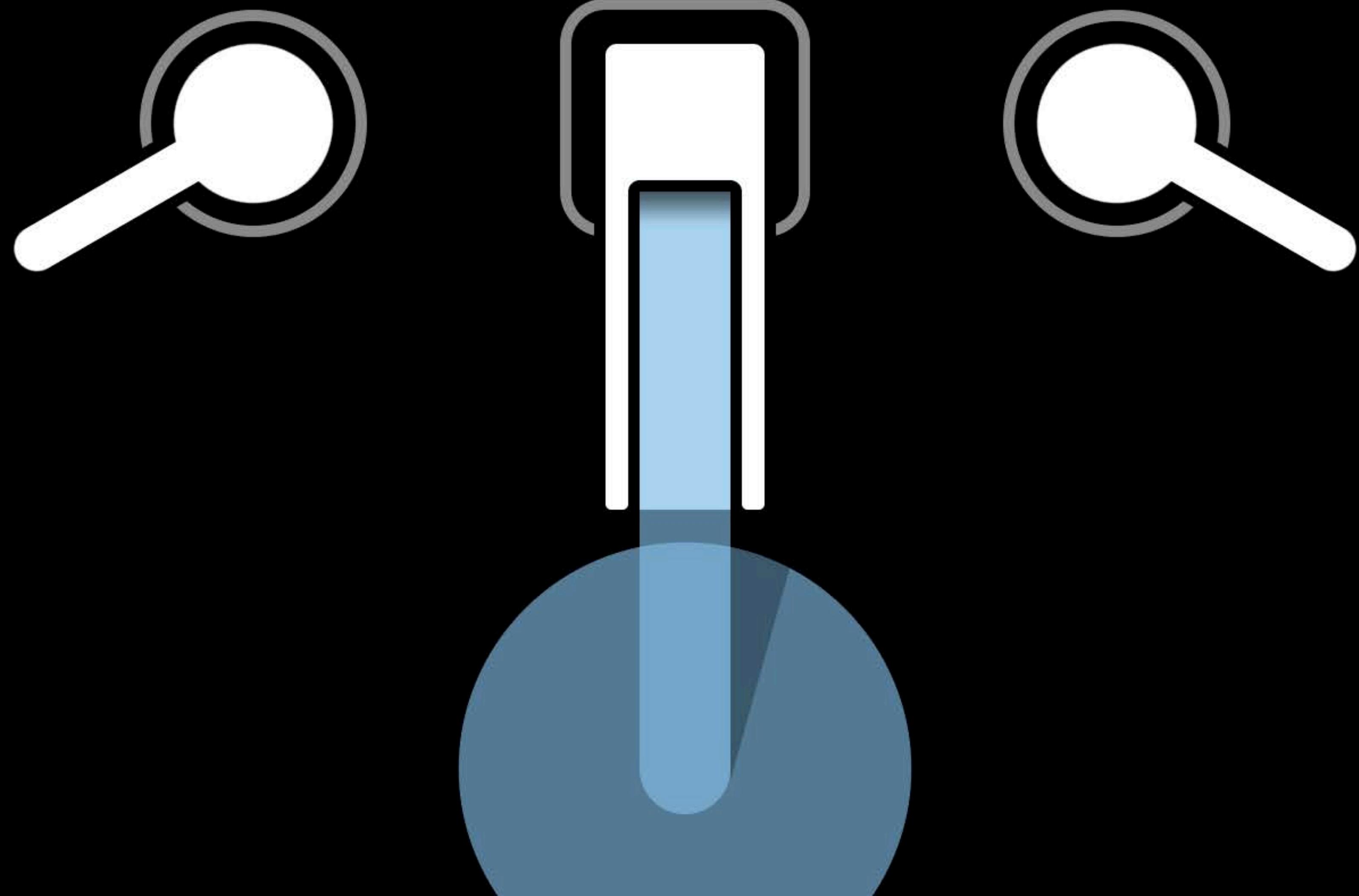
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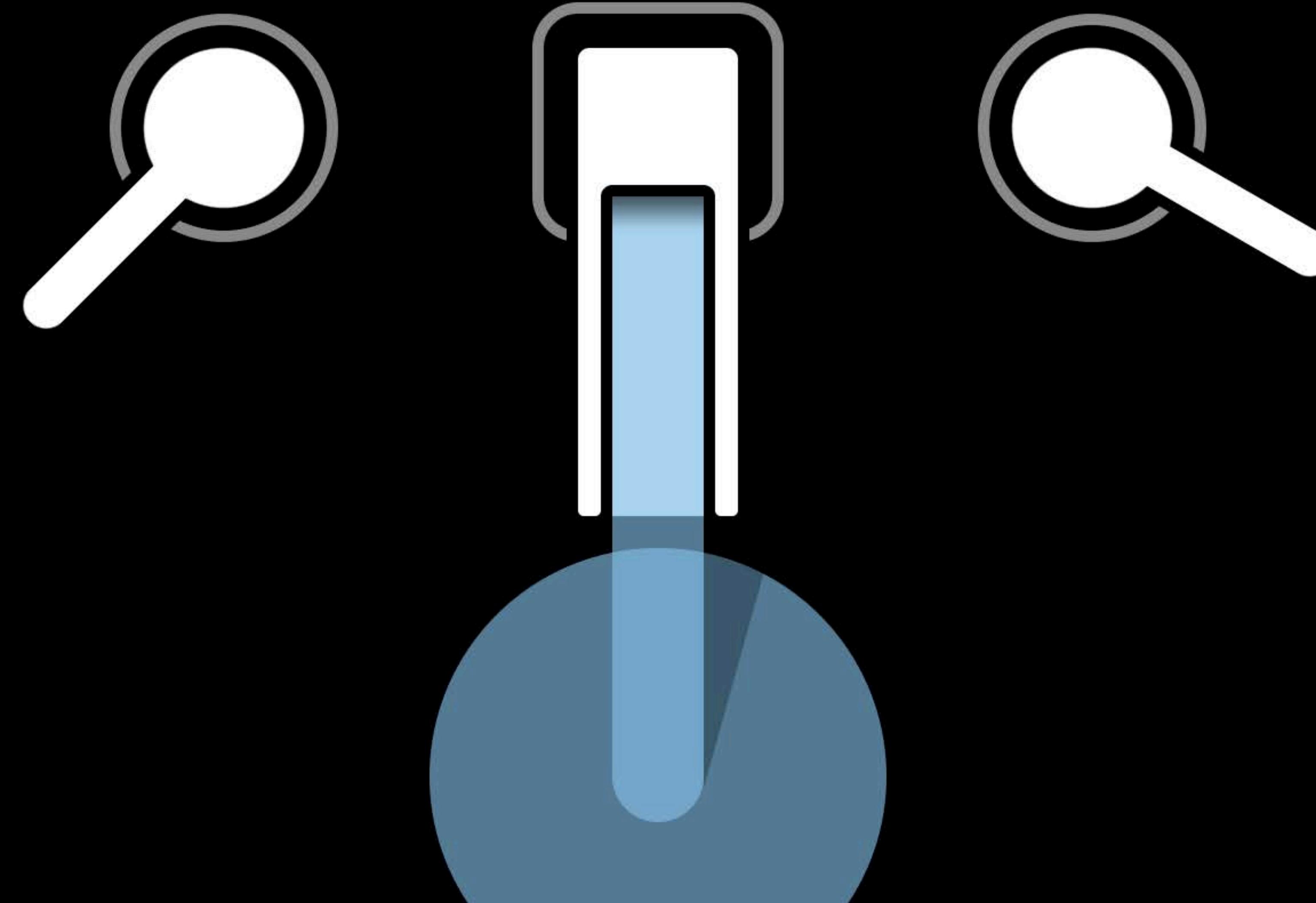


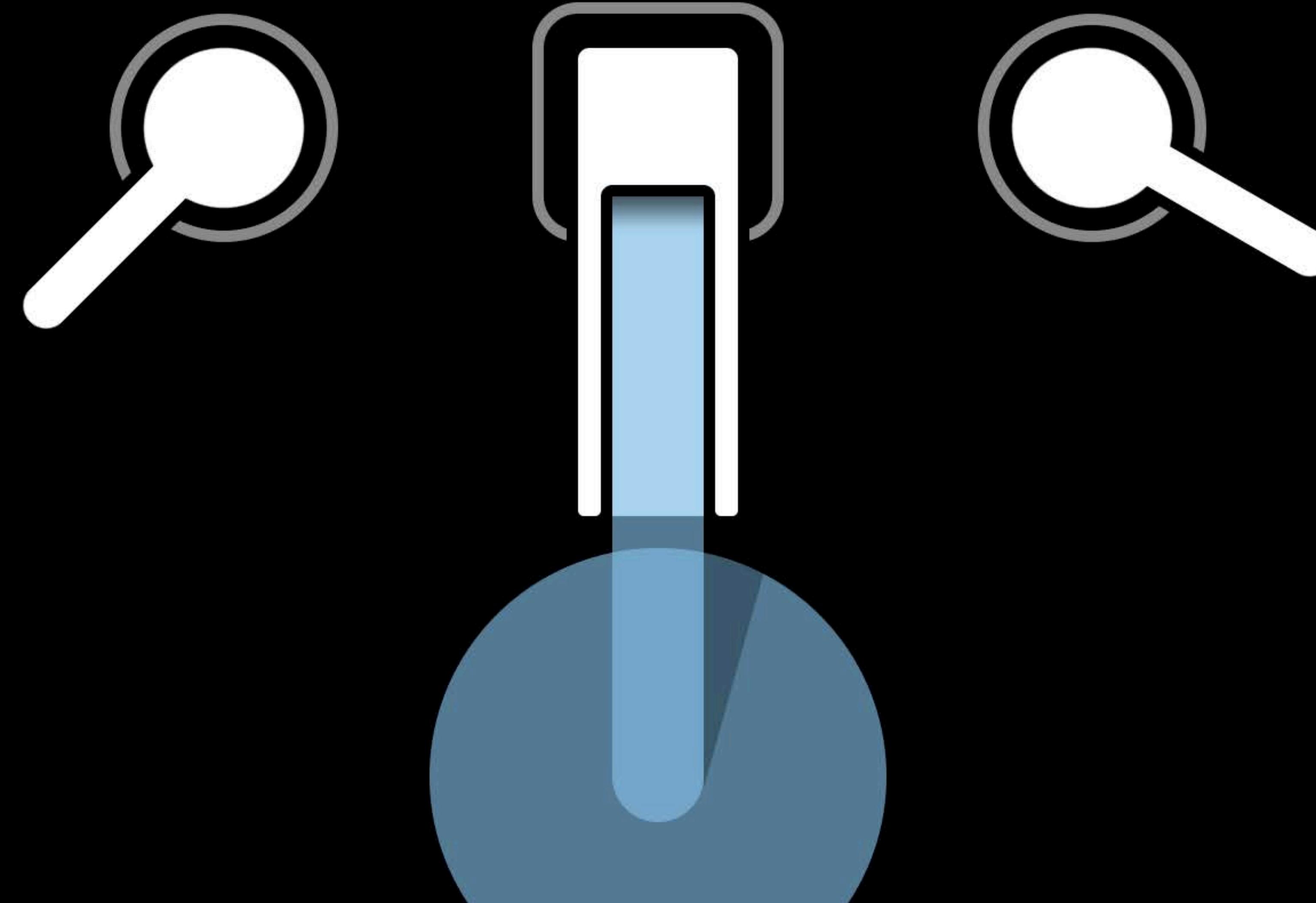
Hotel

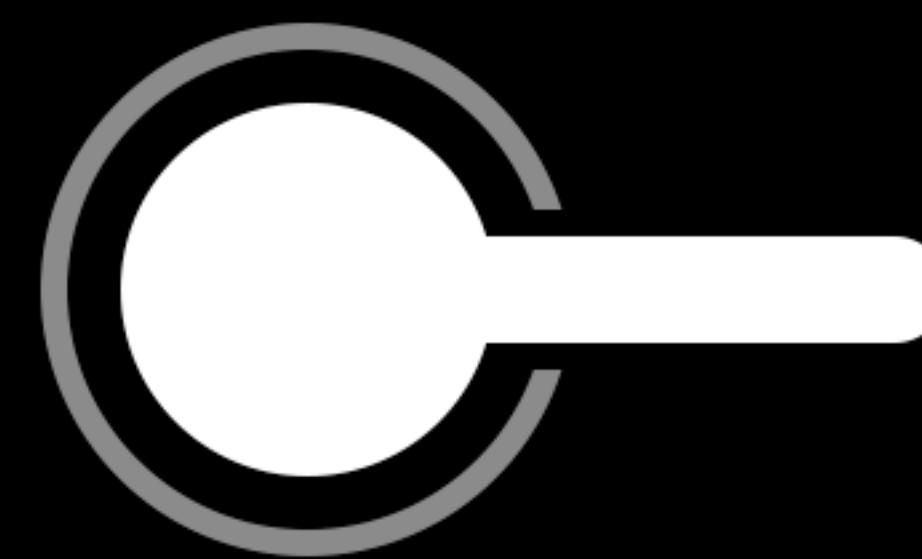
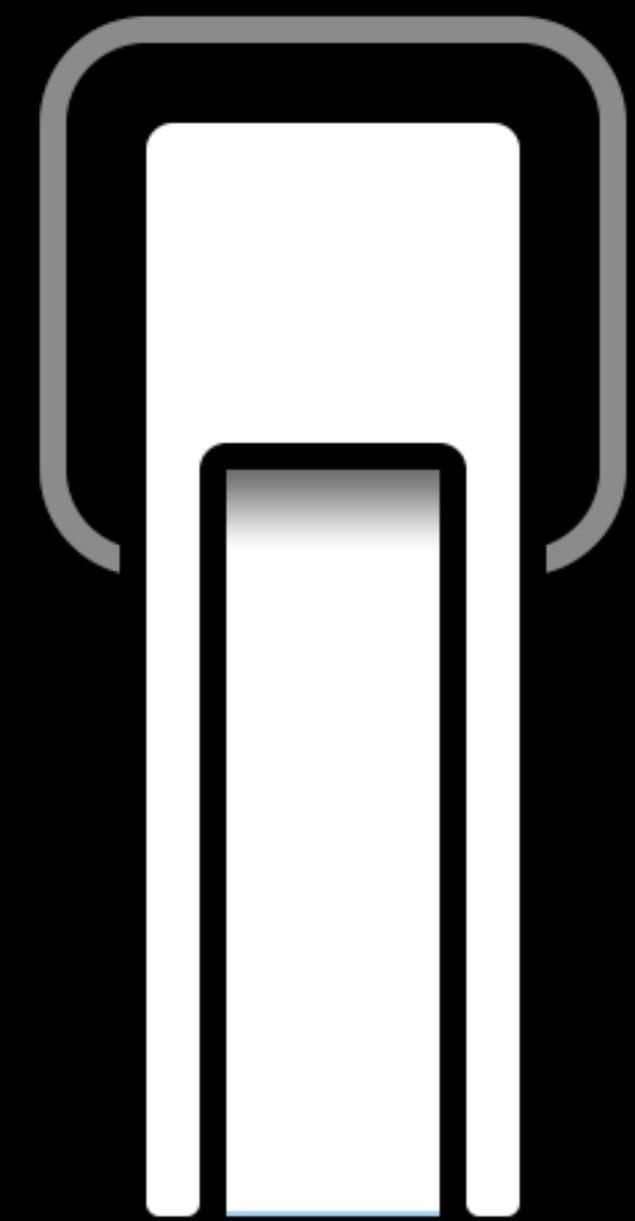
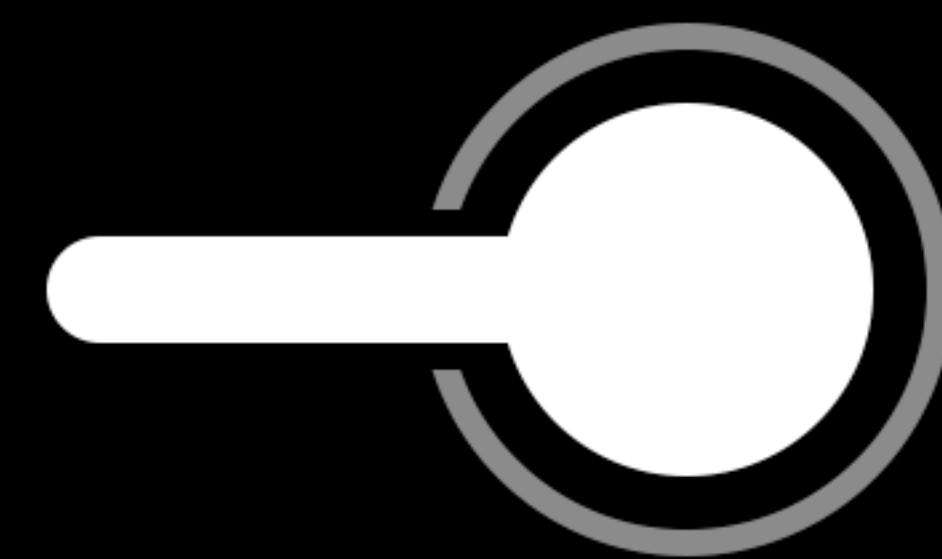




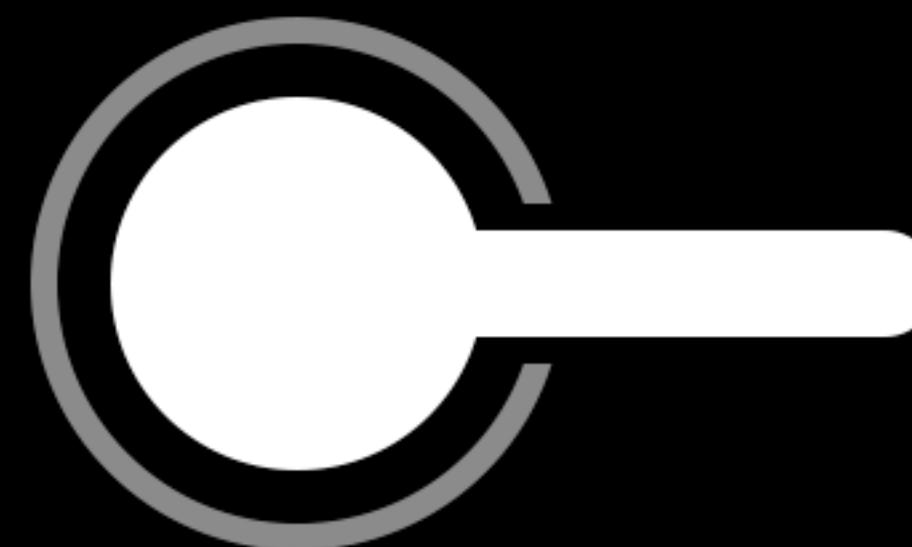
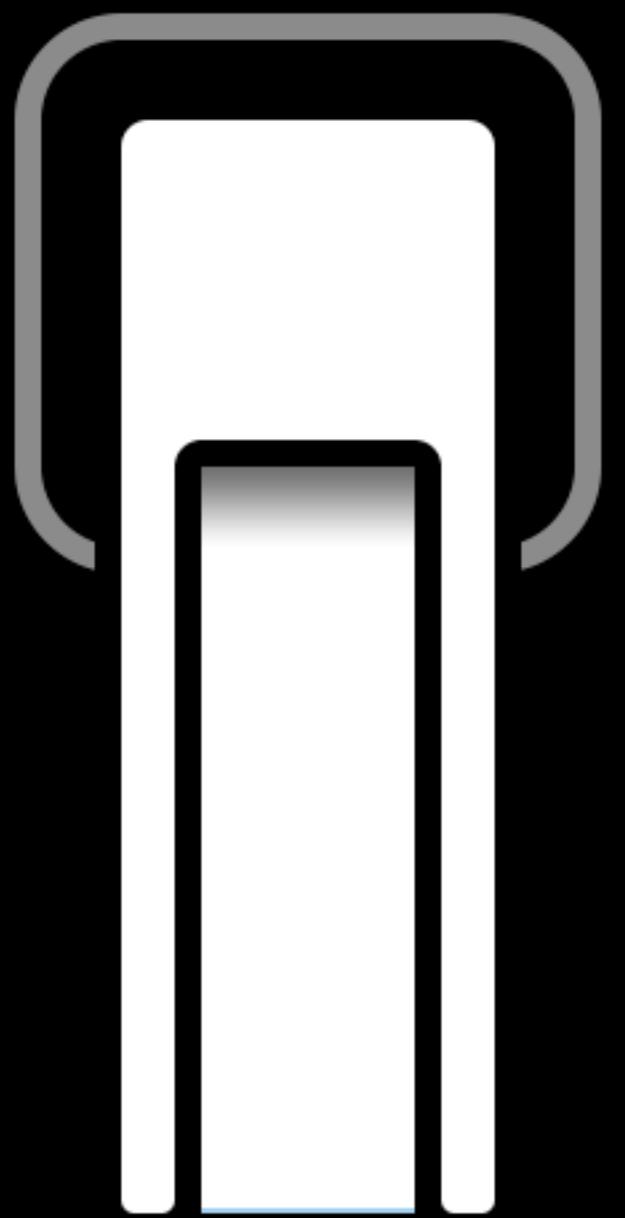
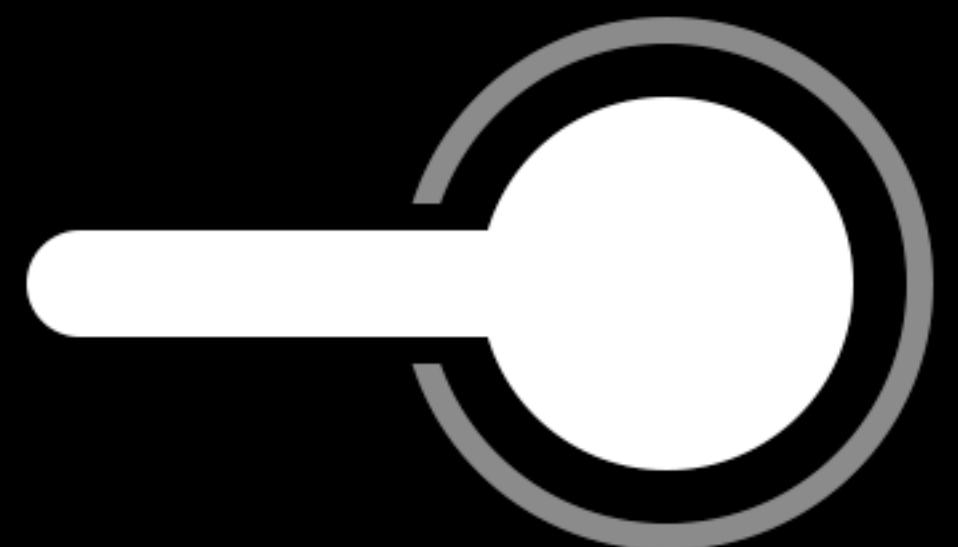


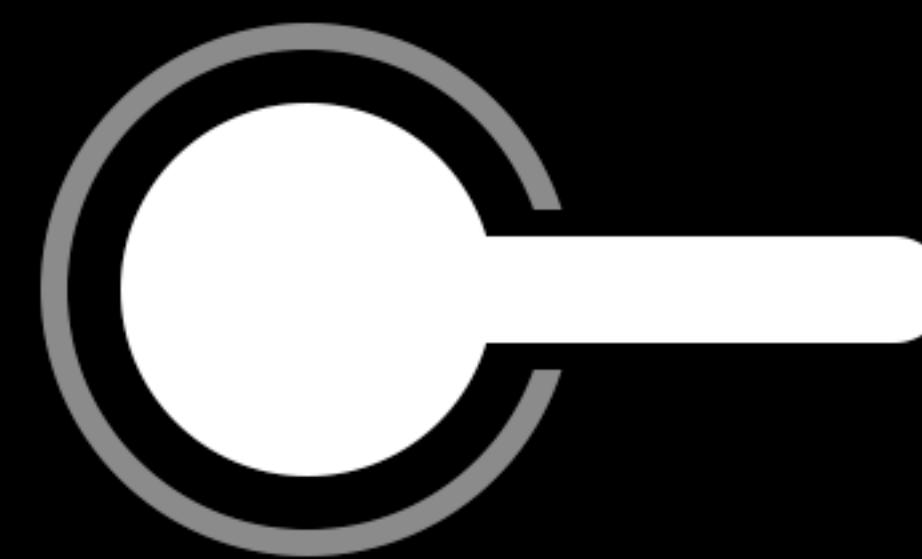
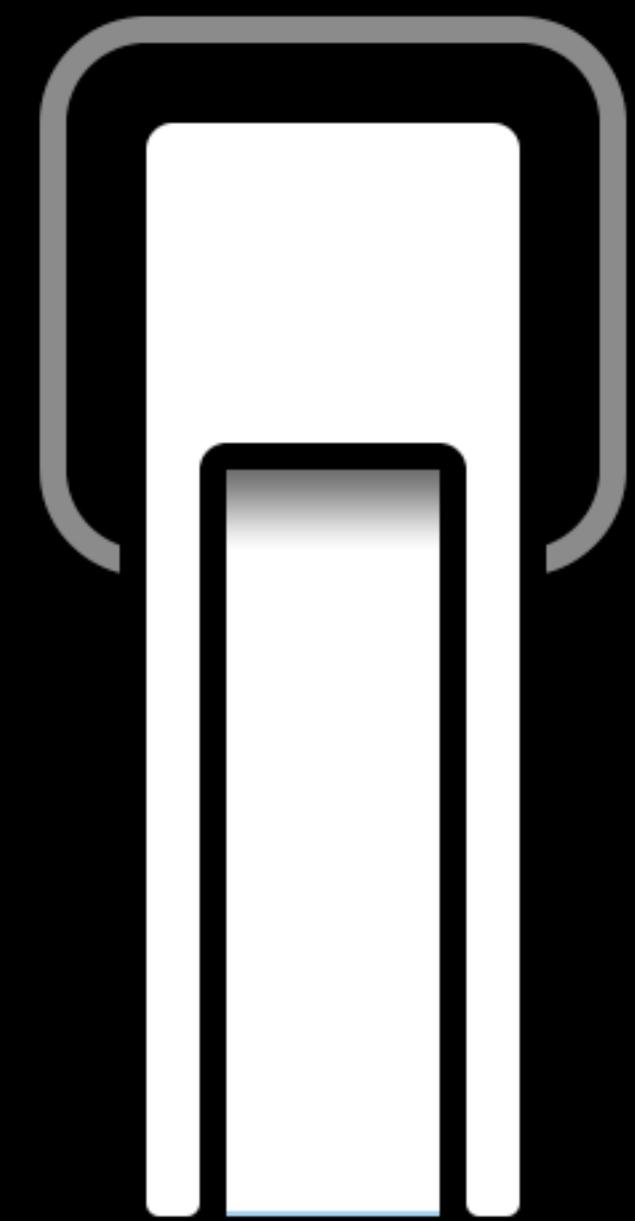
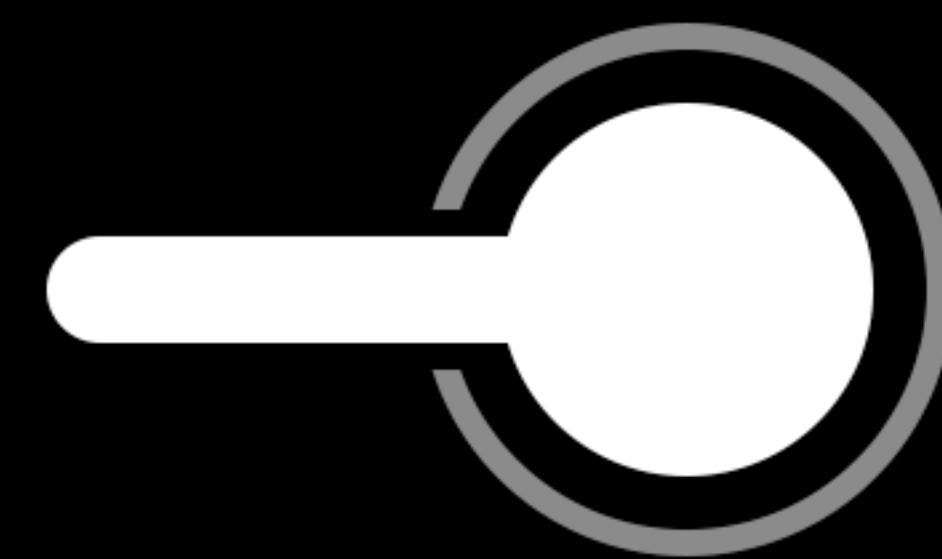


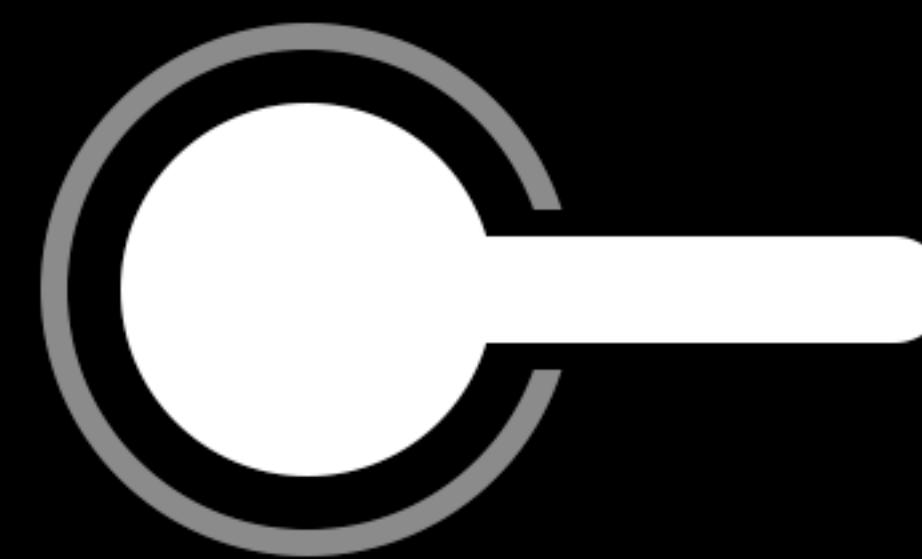
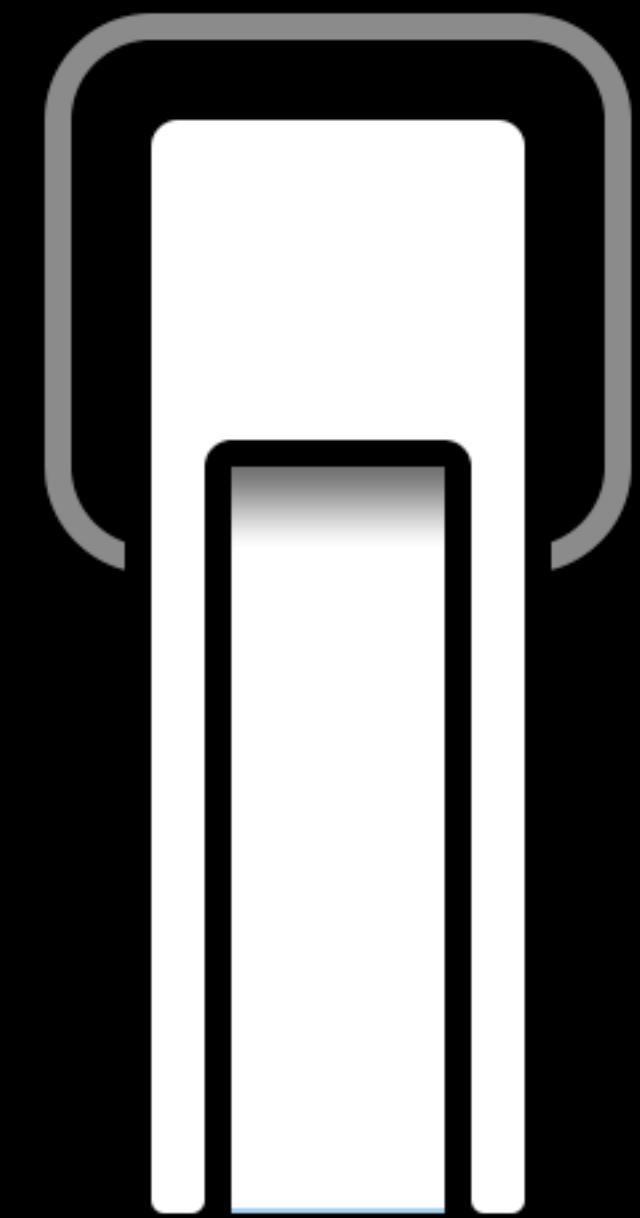
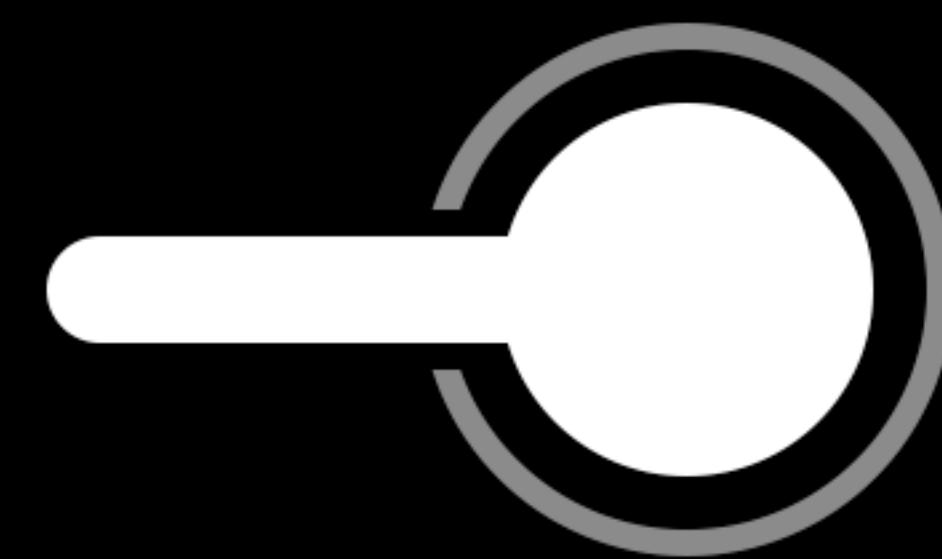


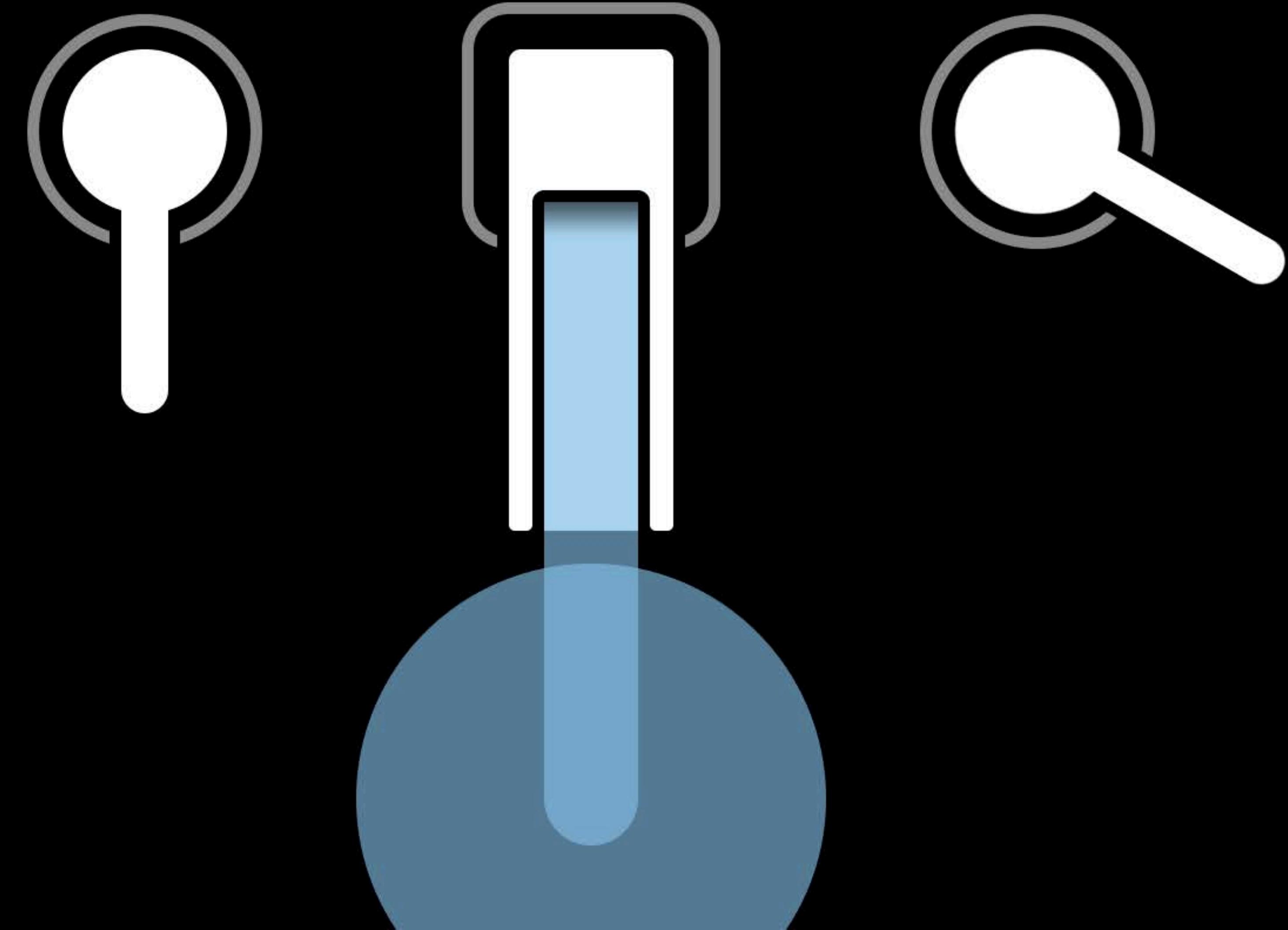


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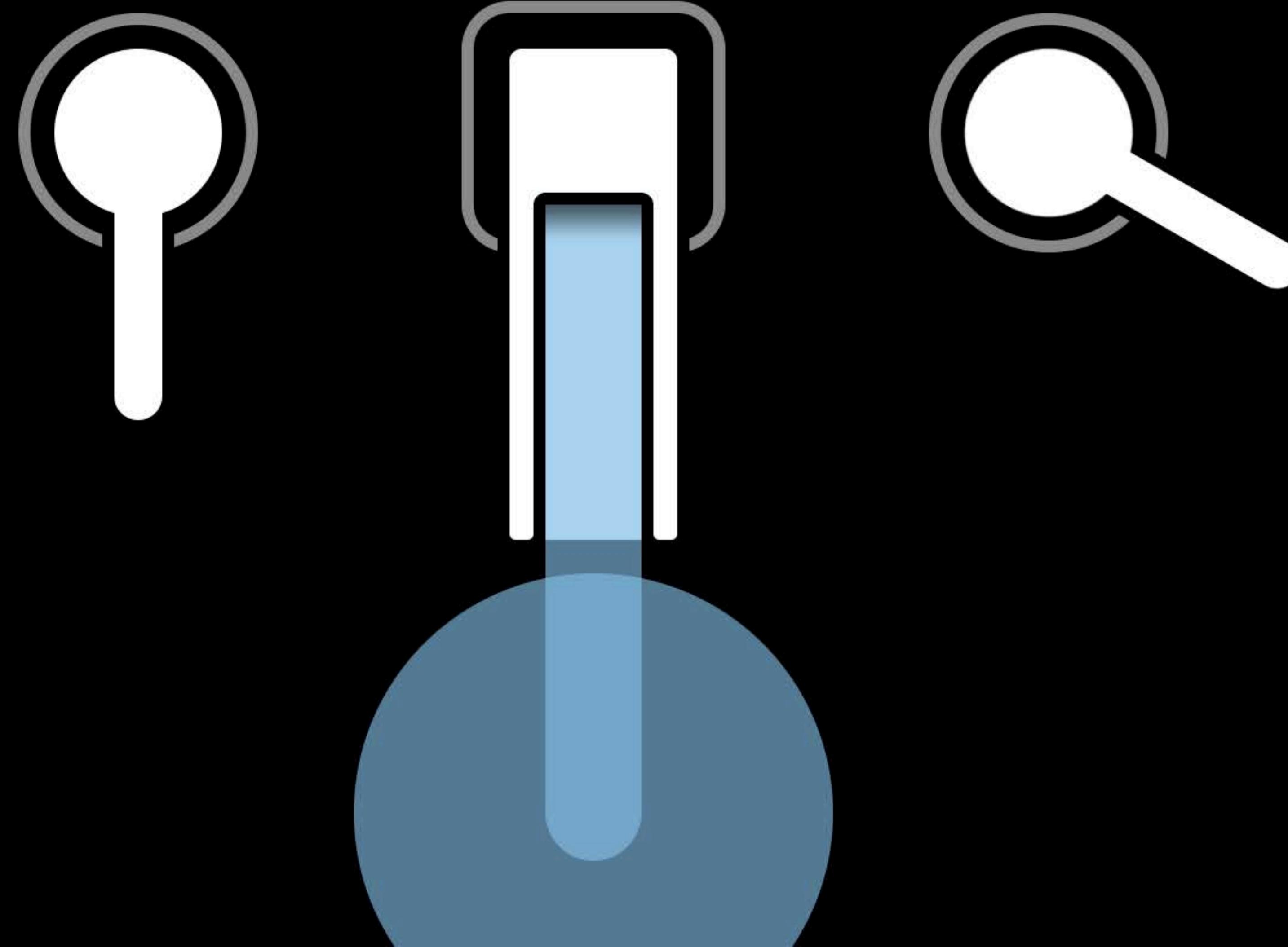




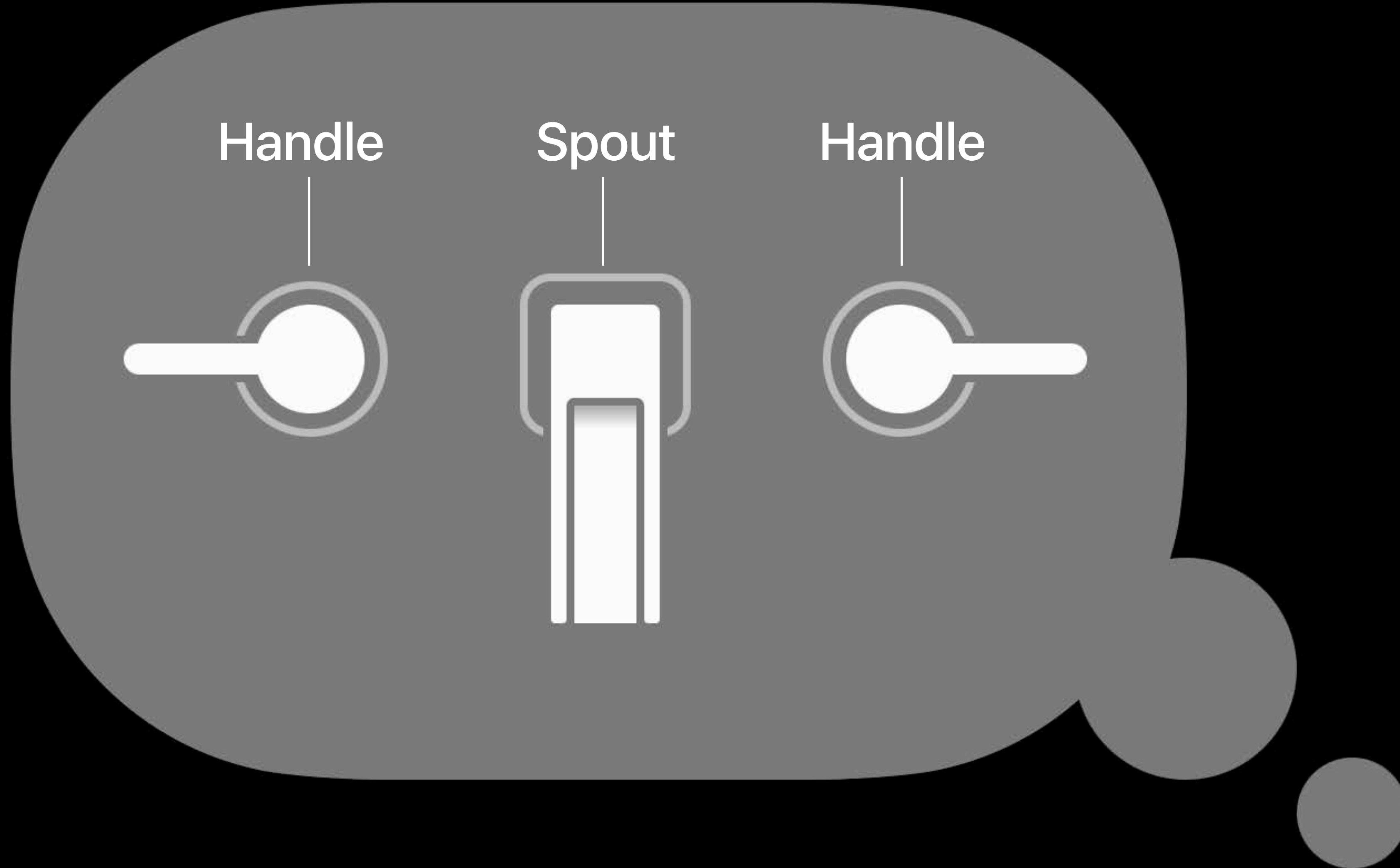




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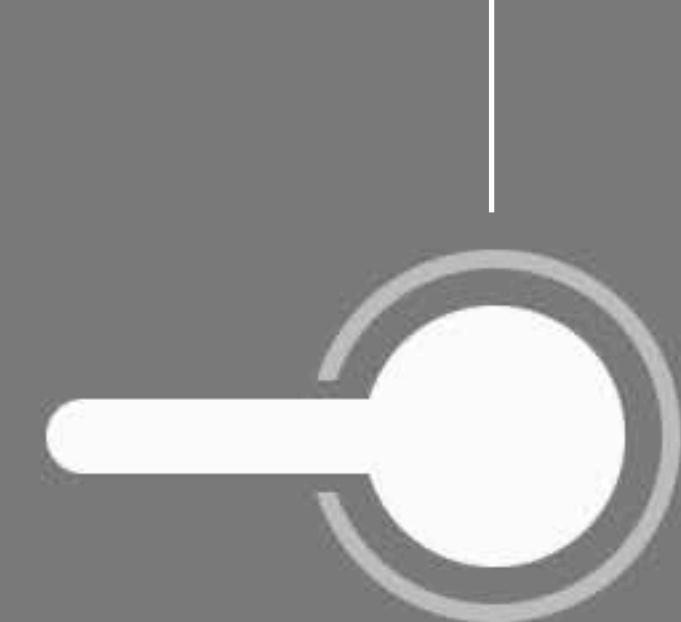


Handle

Spout

Handle

Hot  
Left

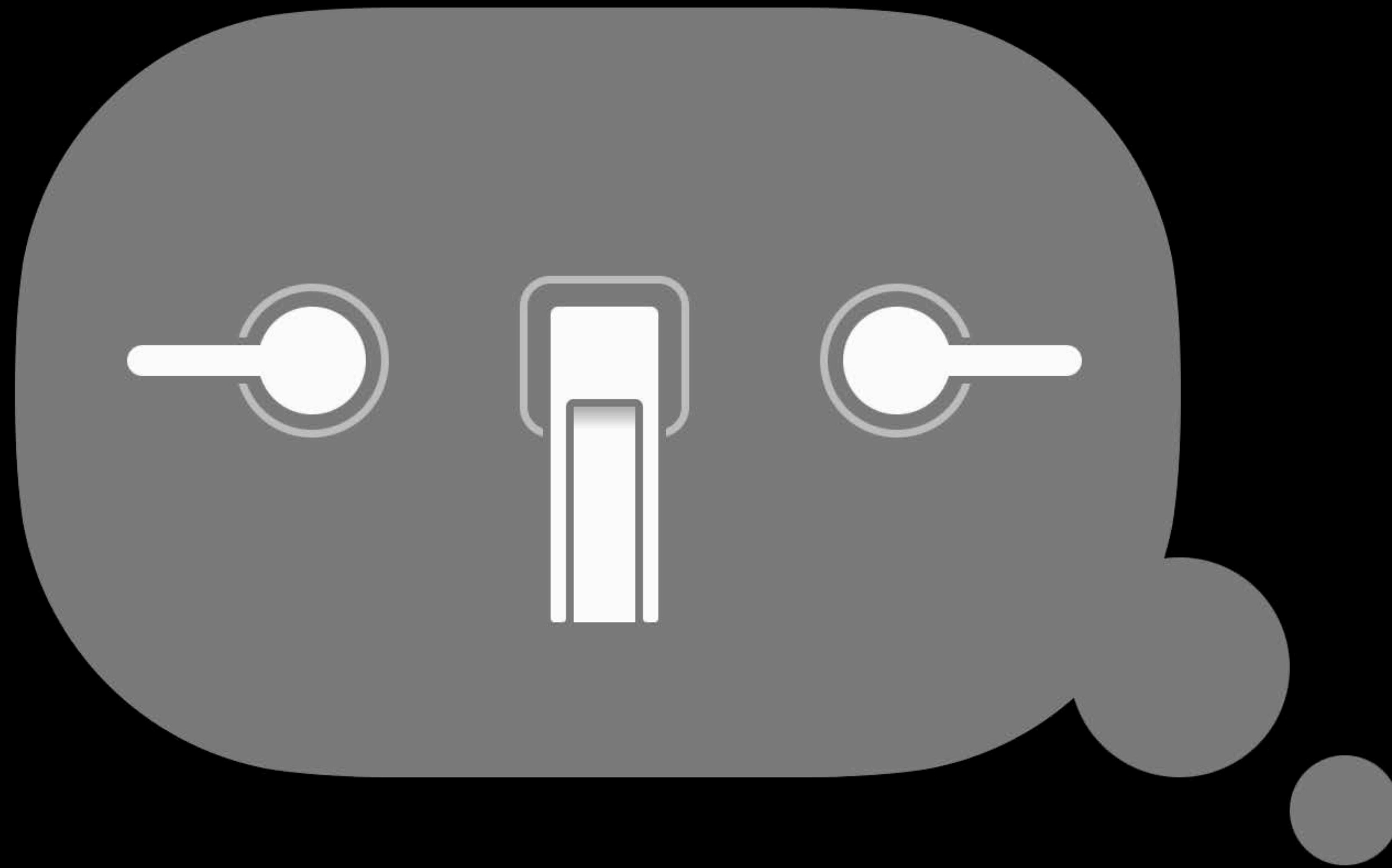


Spout  
Center



Cold  
Right



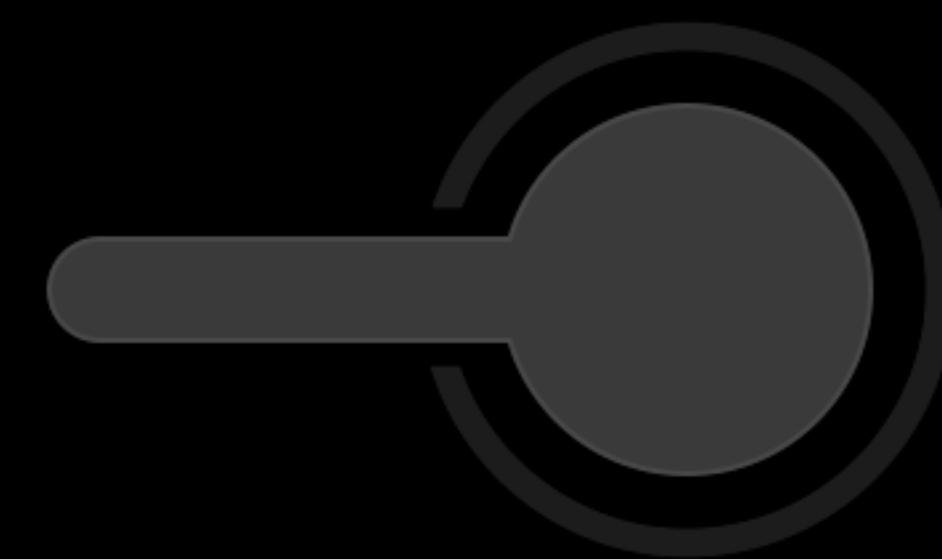


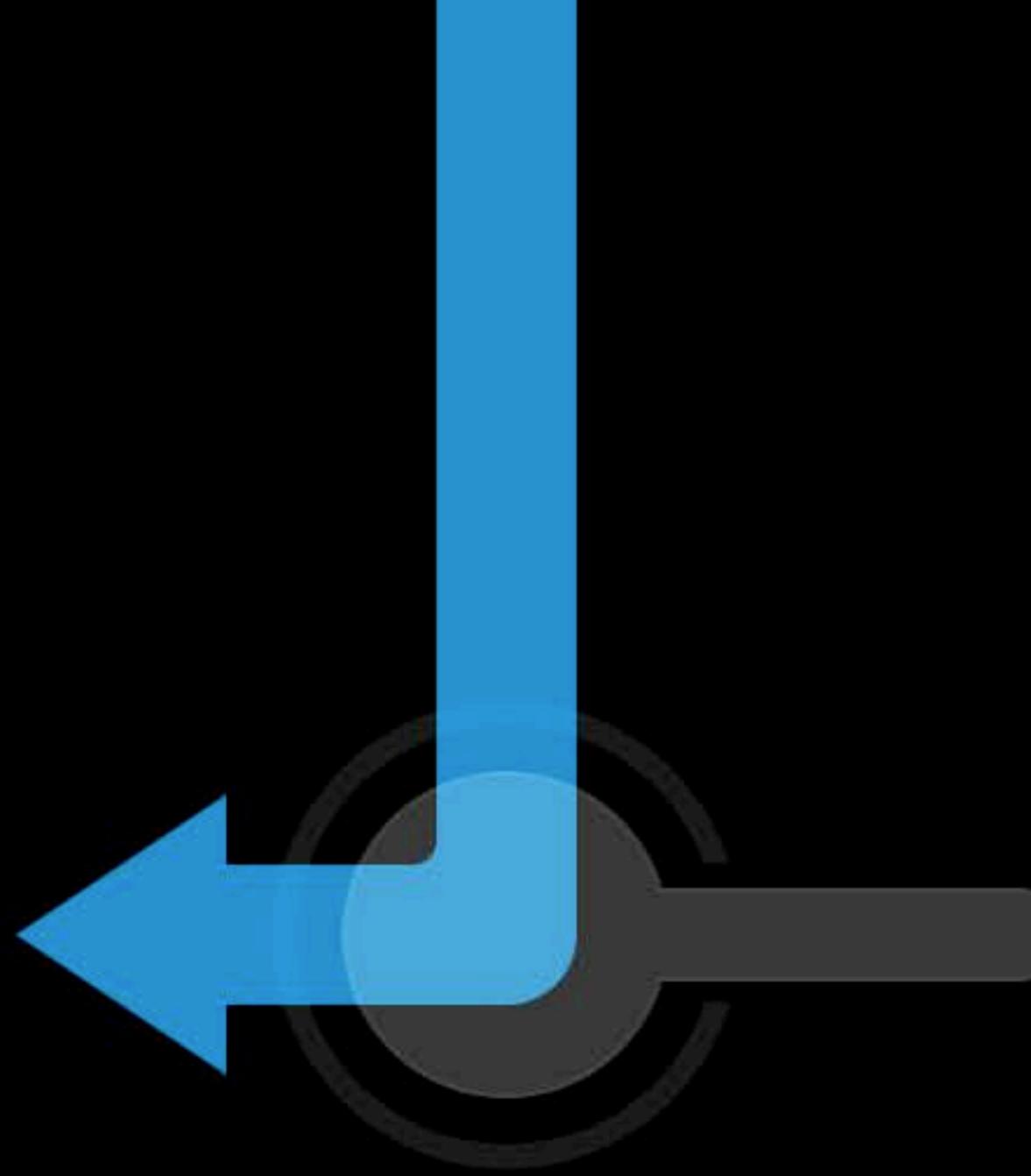
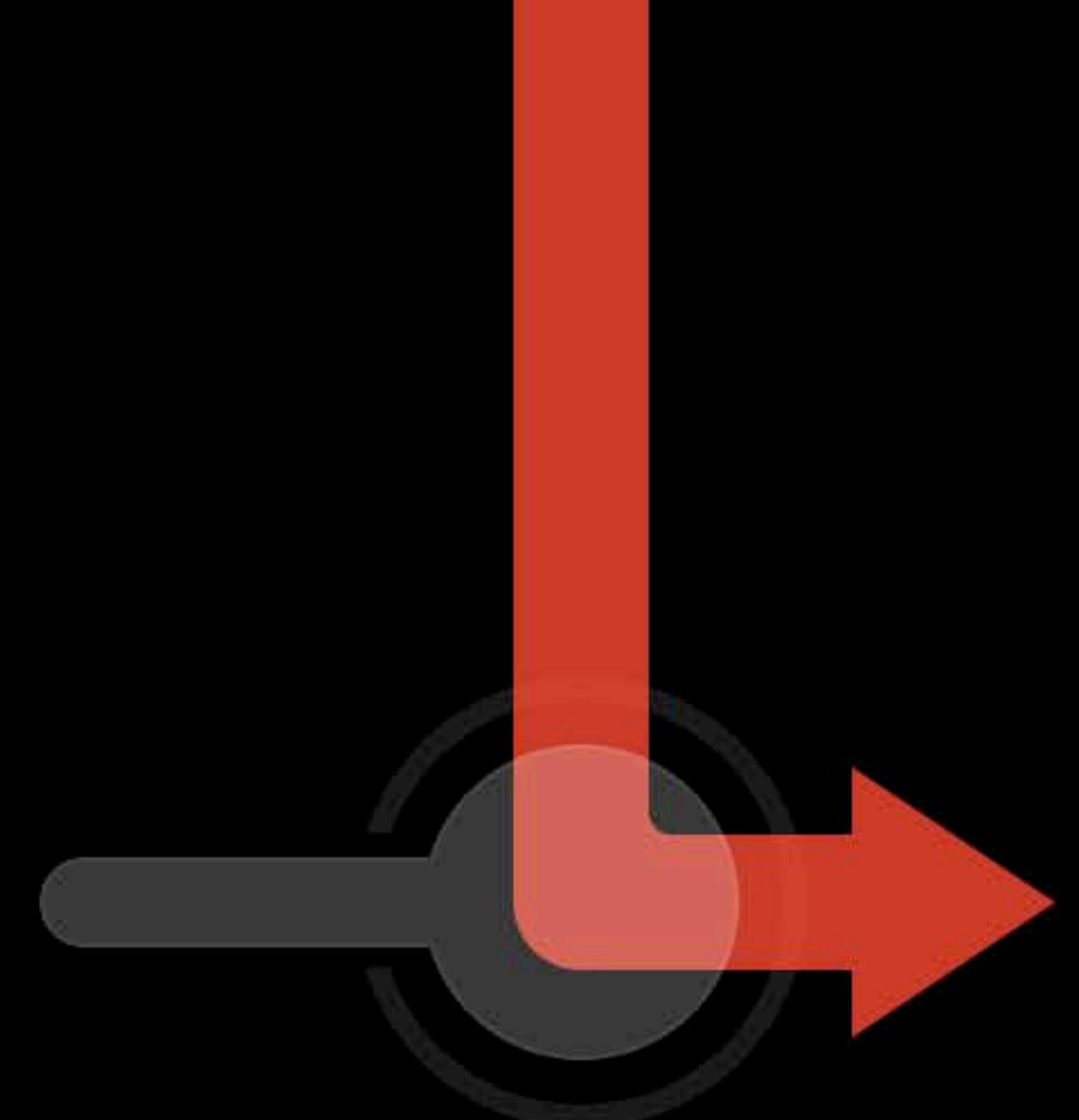
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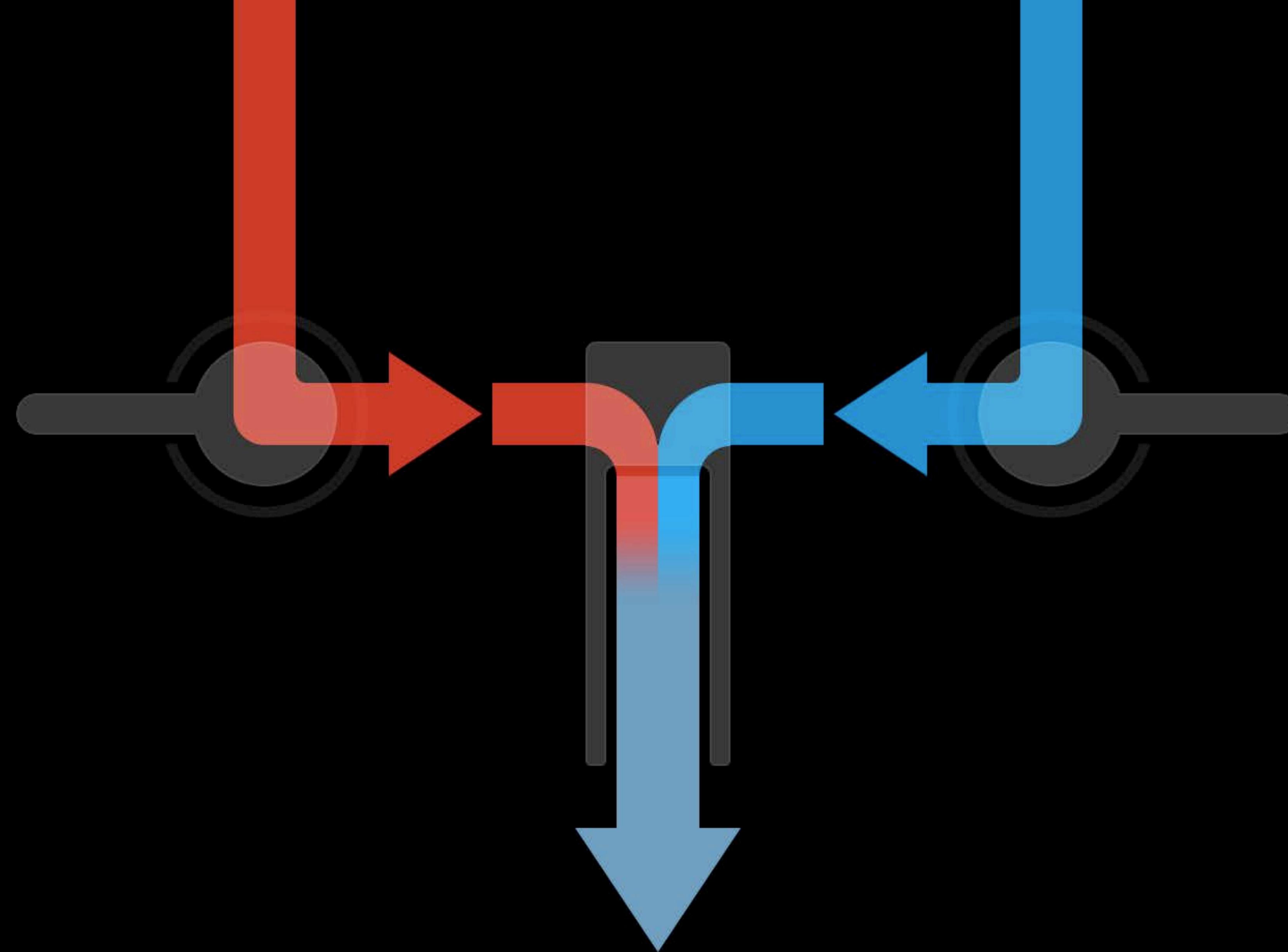


# Mental Model

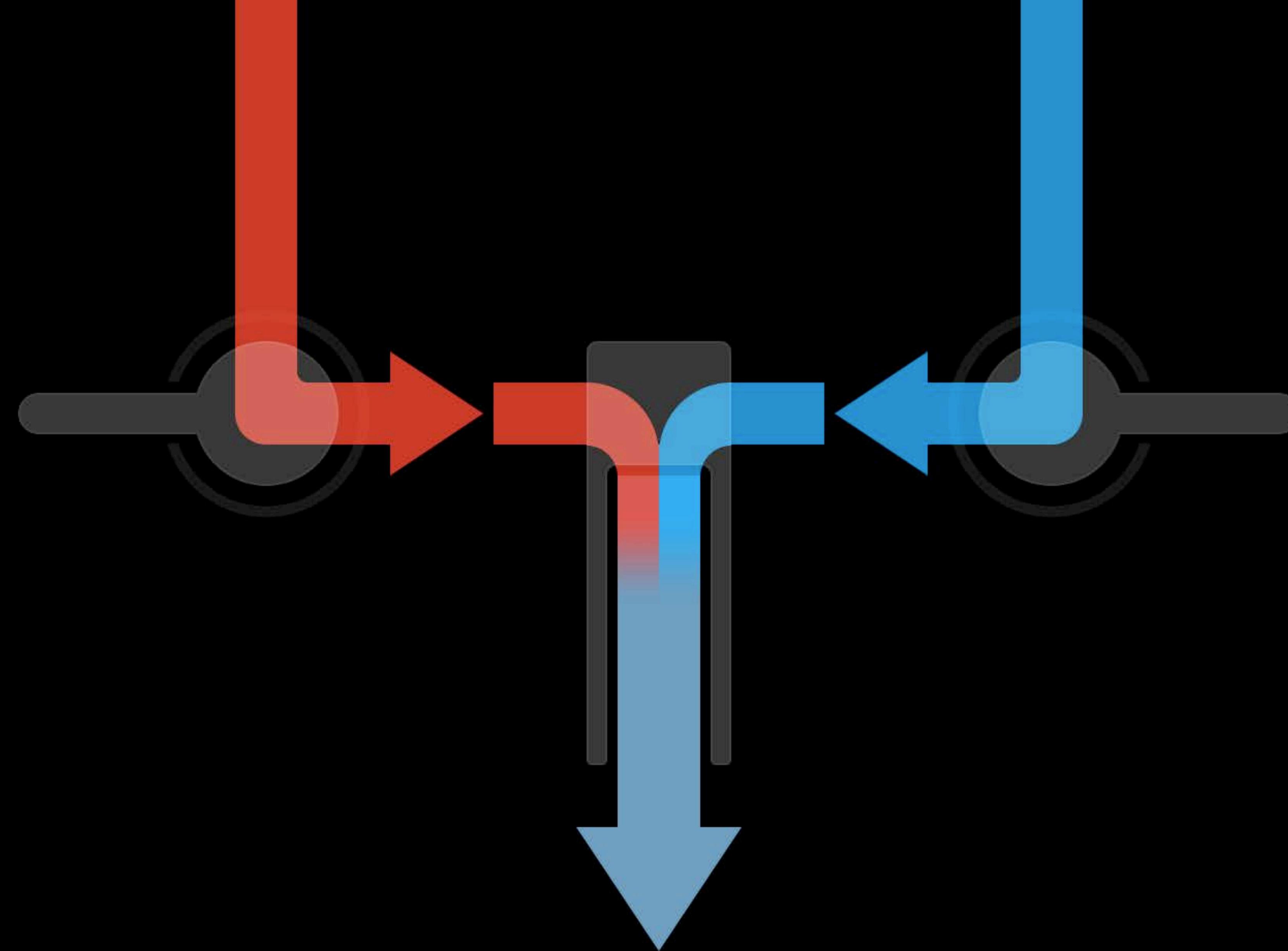
# System Model





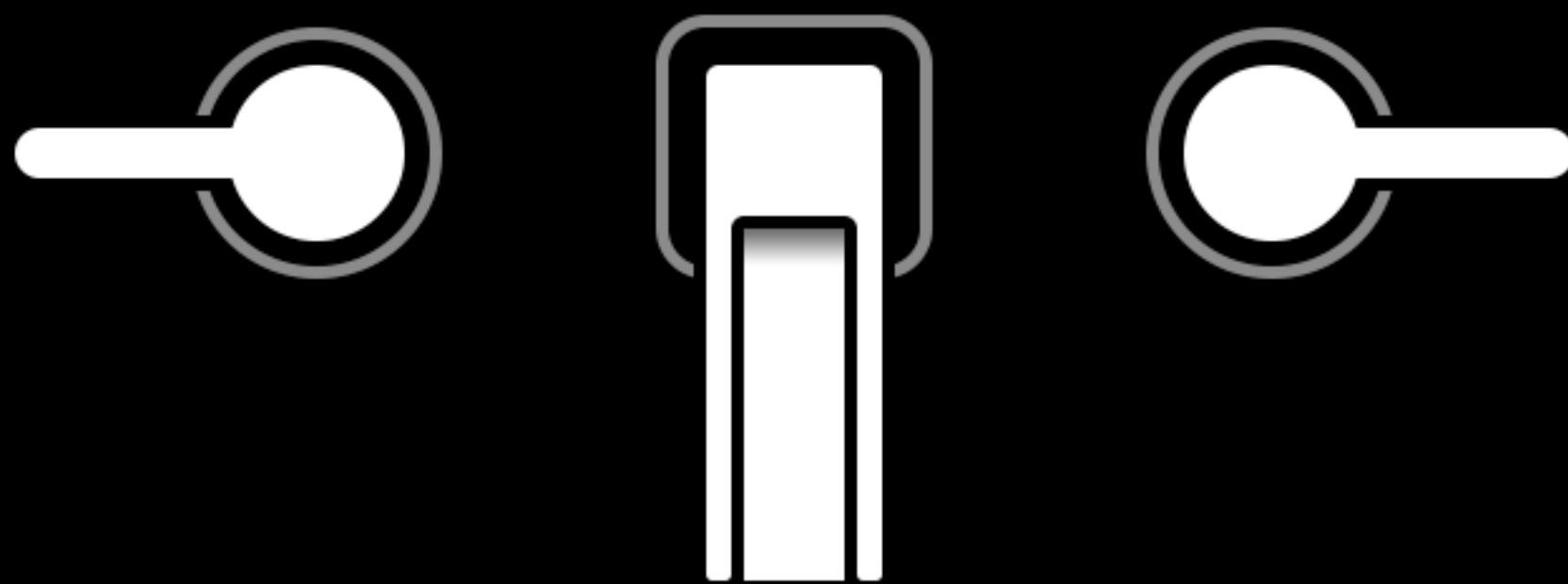
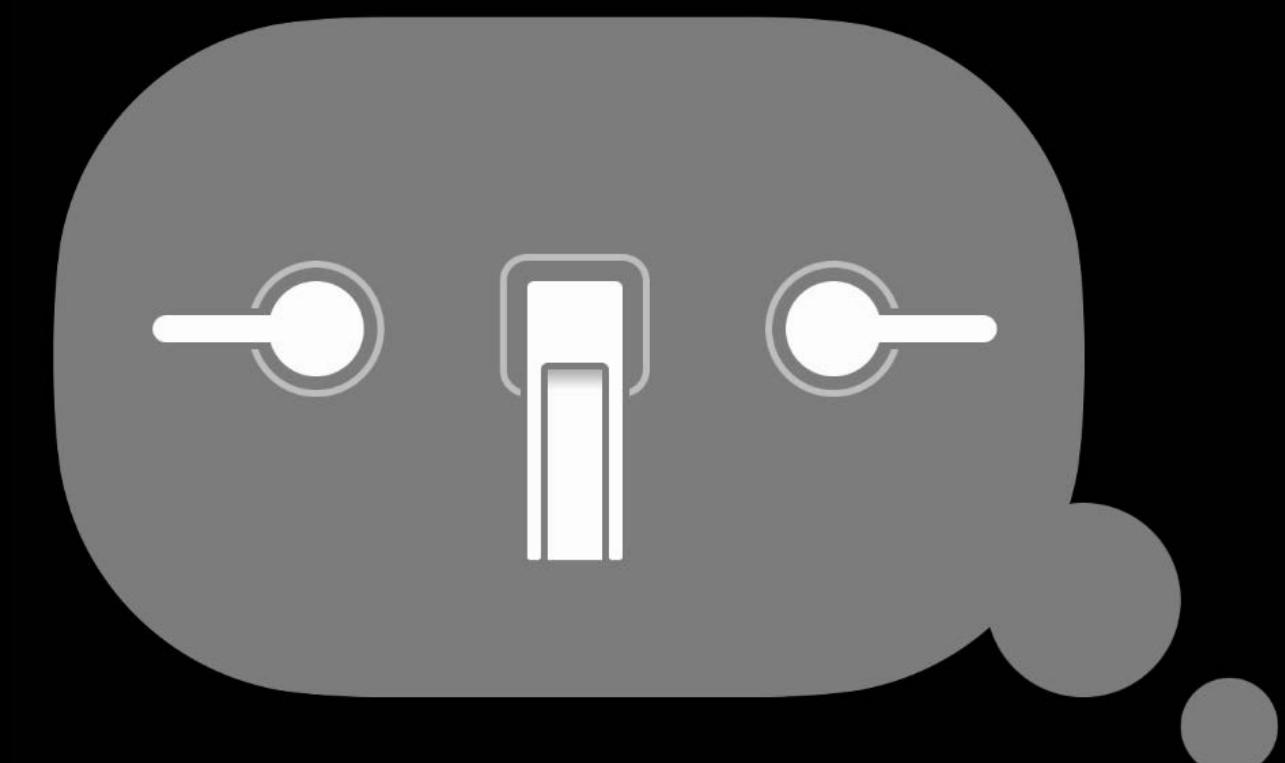


# Interaction Model



# System Model

# Interaction Model

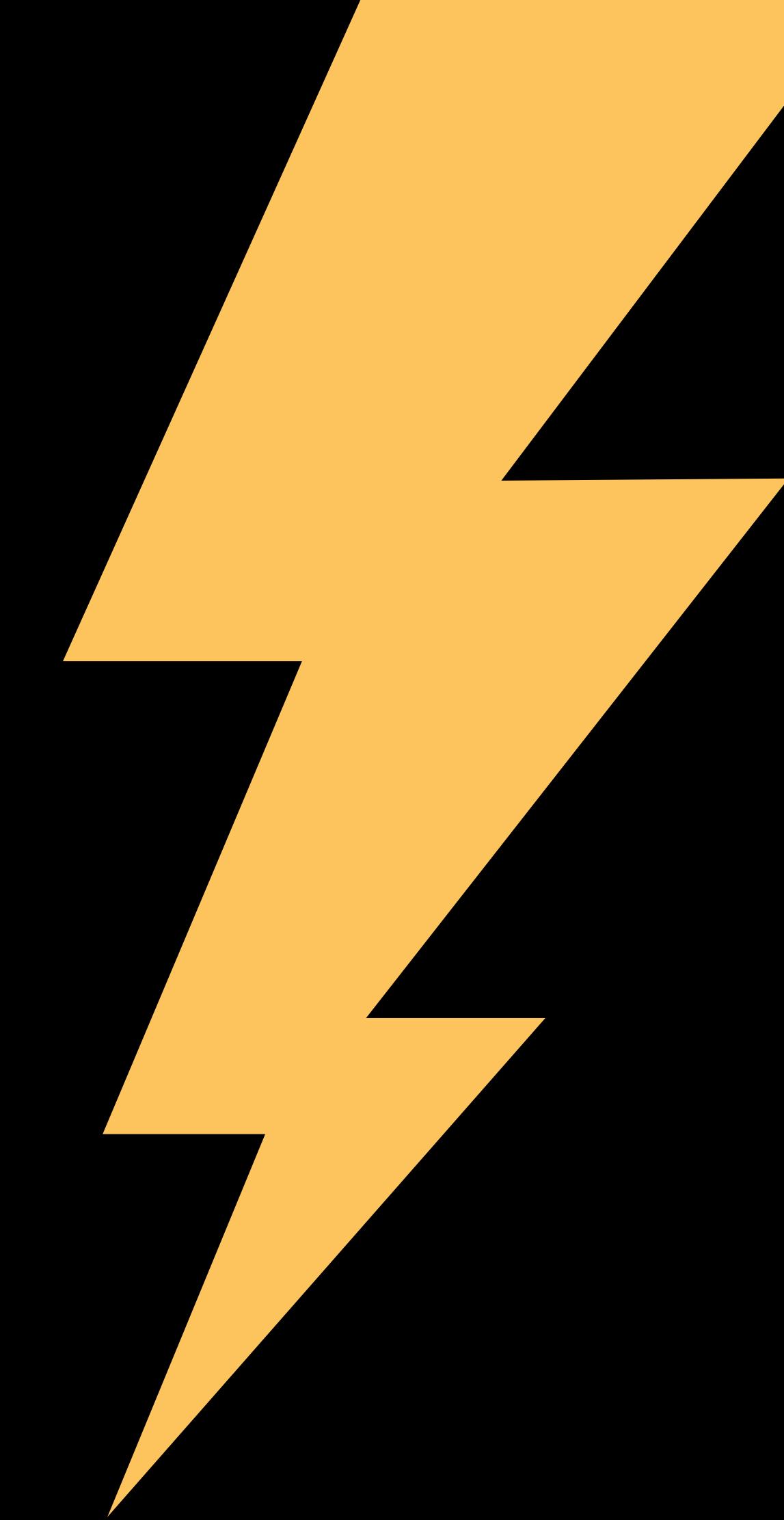


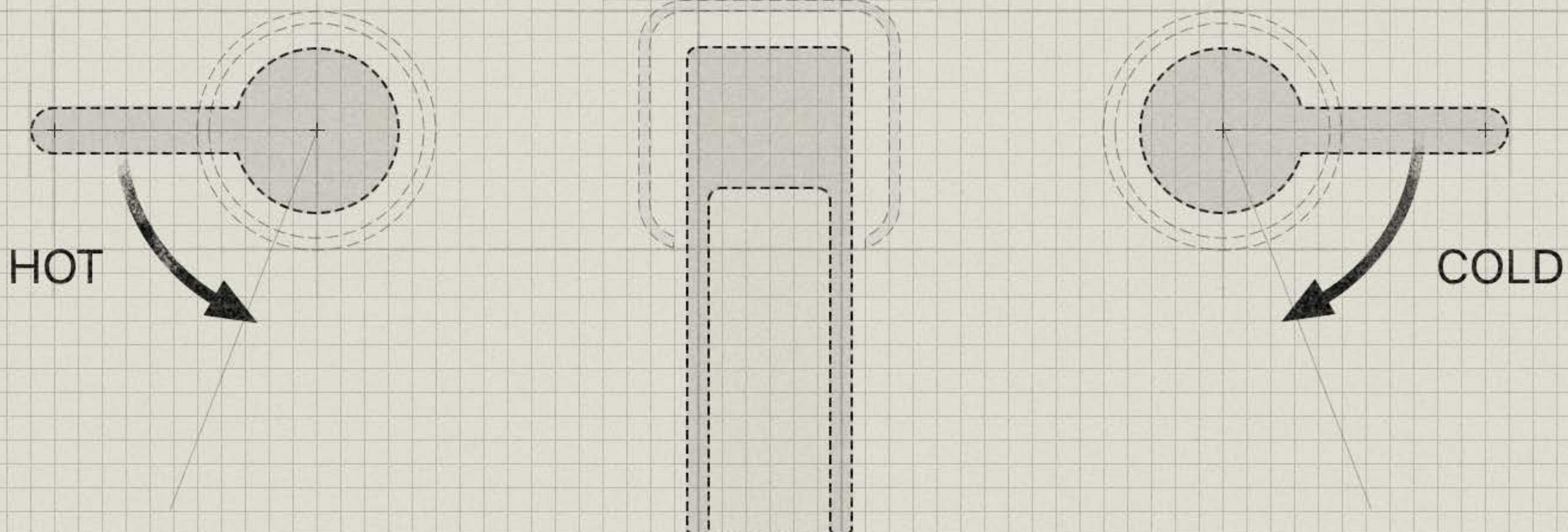
# Mental Model

# MORTIMER SPOUT

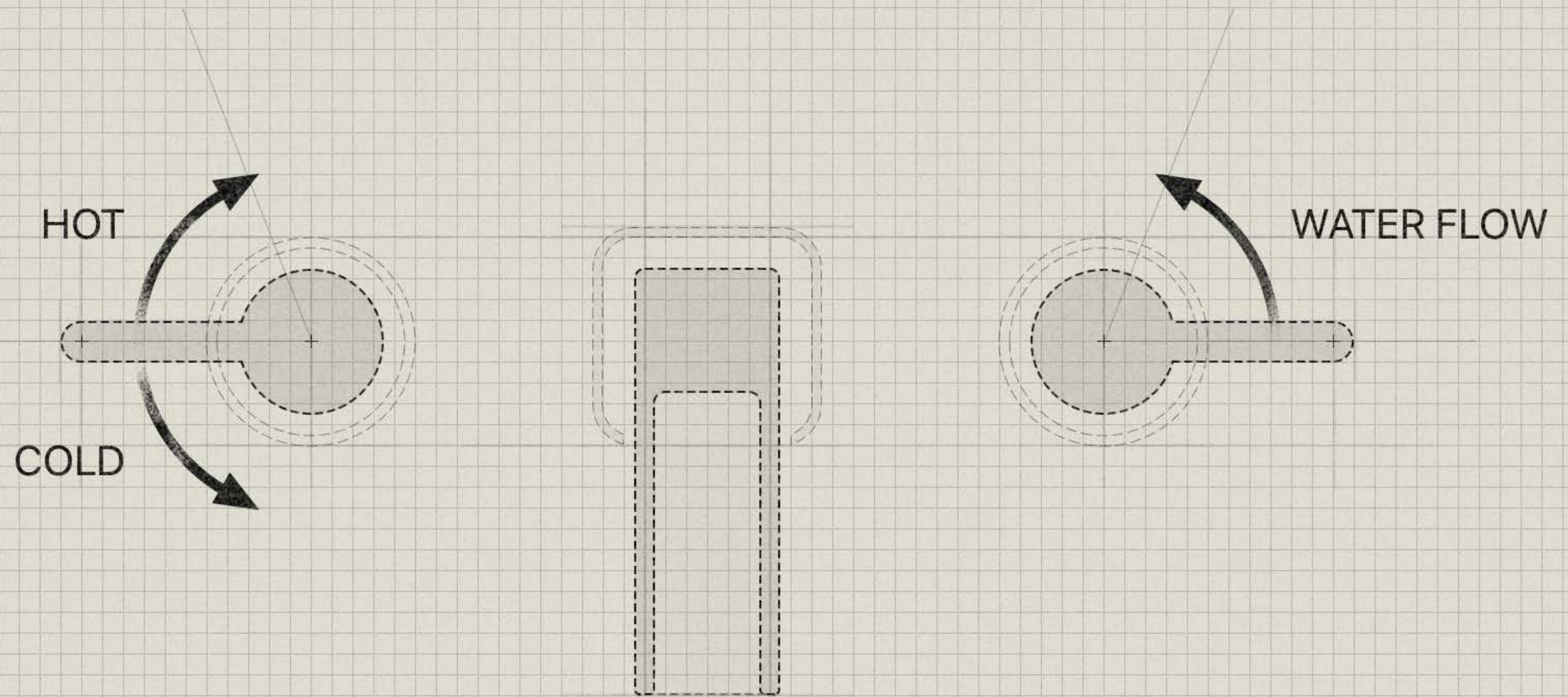
DESIGNER OF DELIGHTFUL FAUCET EXPERIENCES

408-555-0167

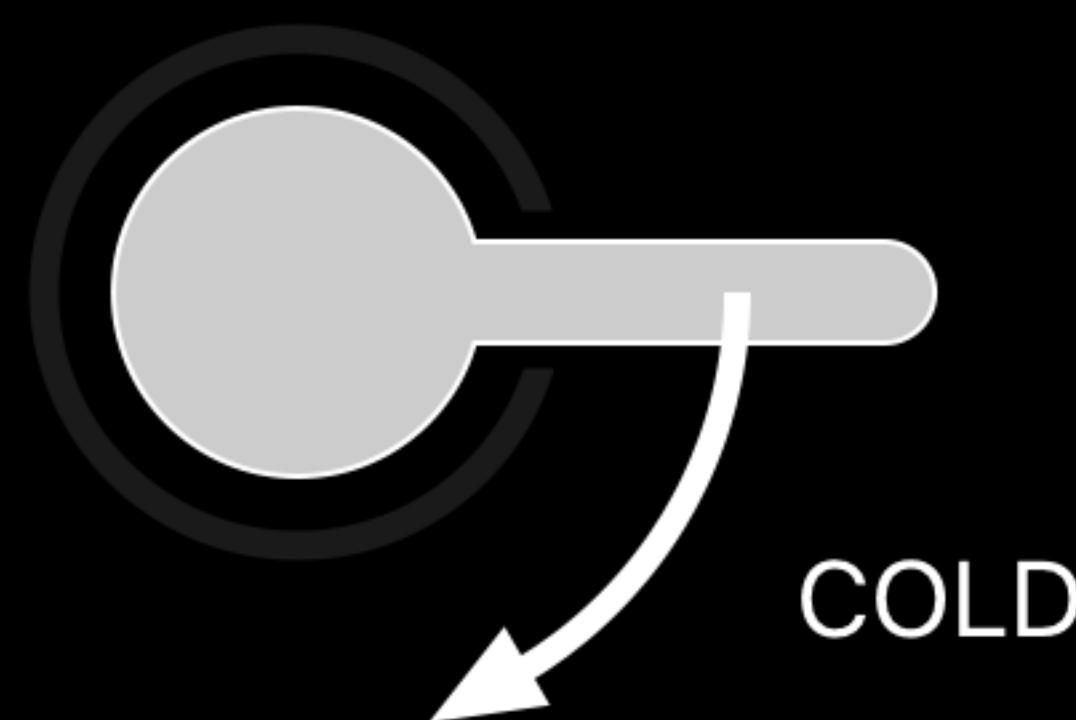
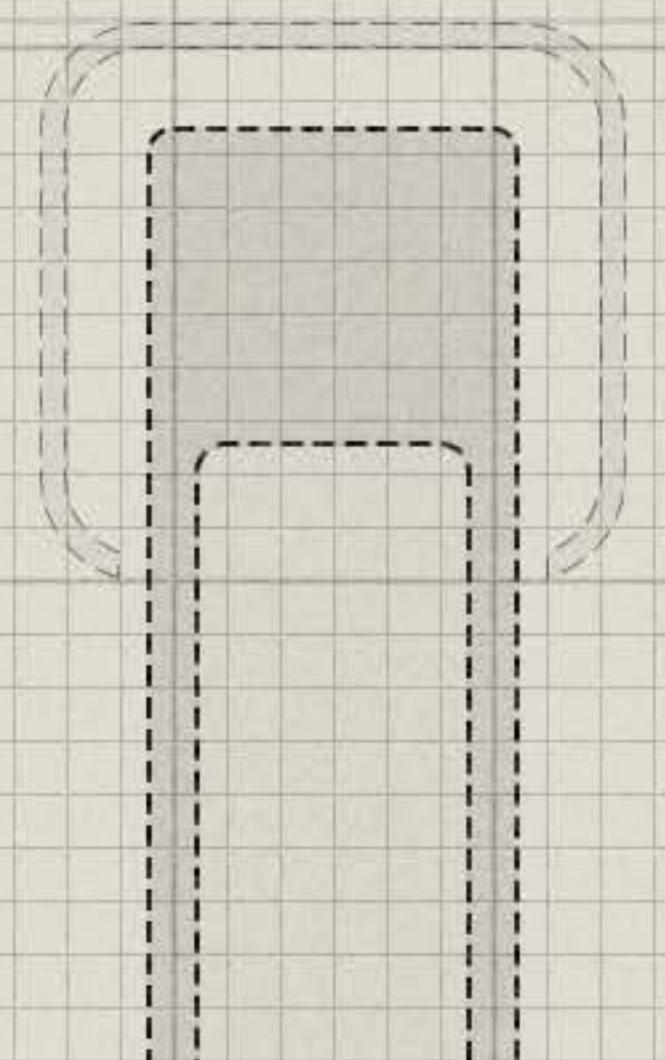
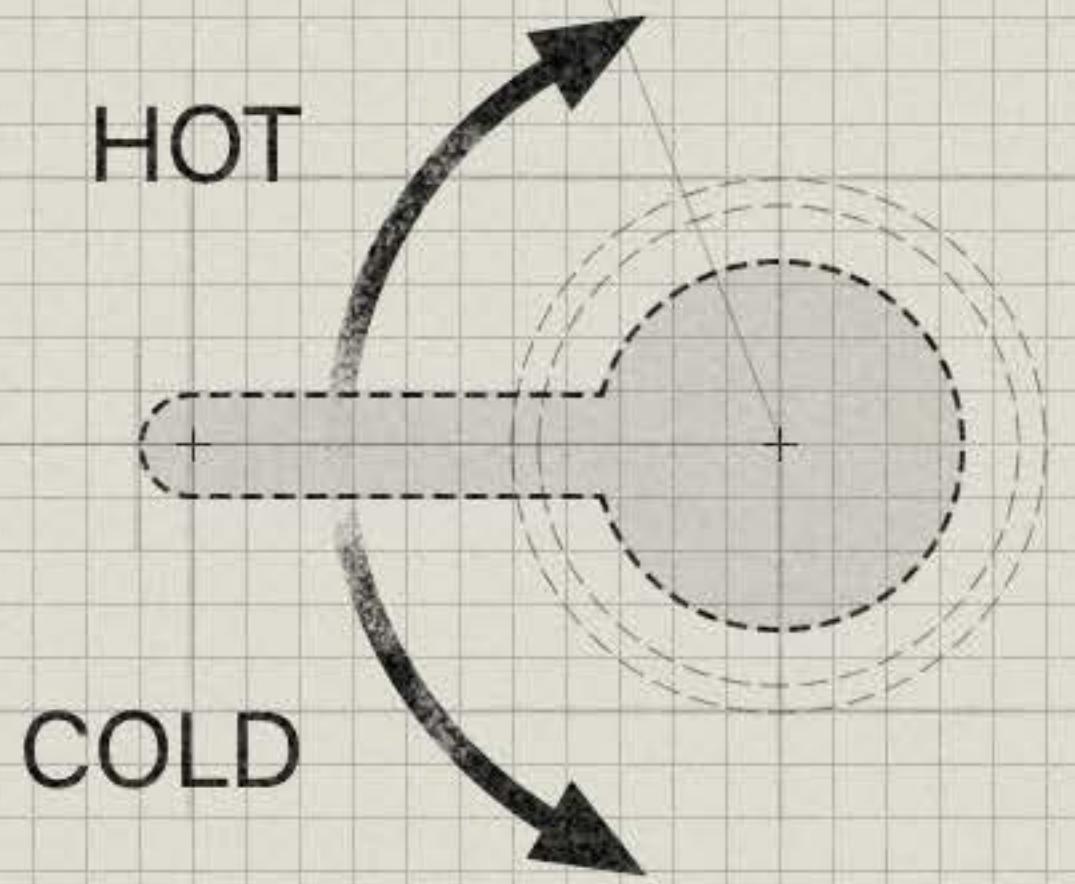


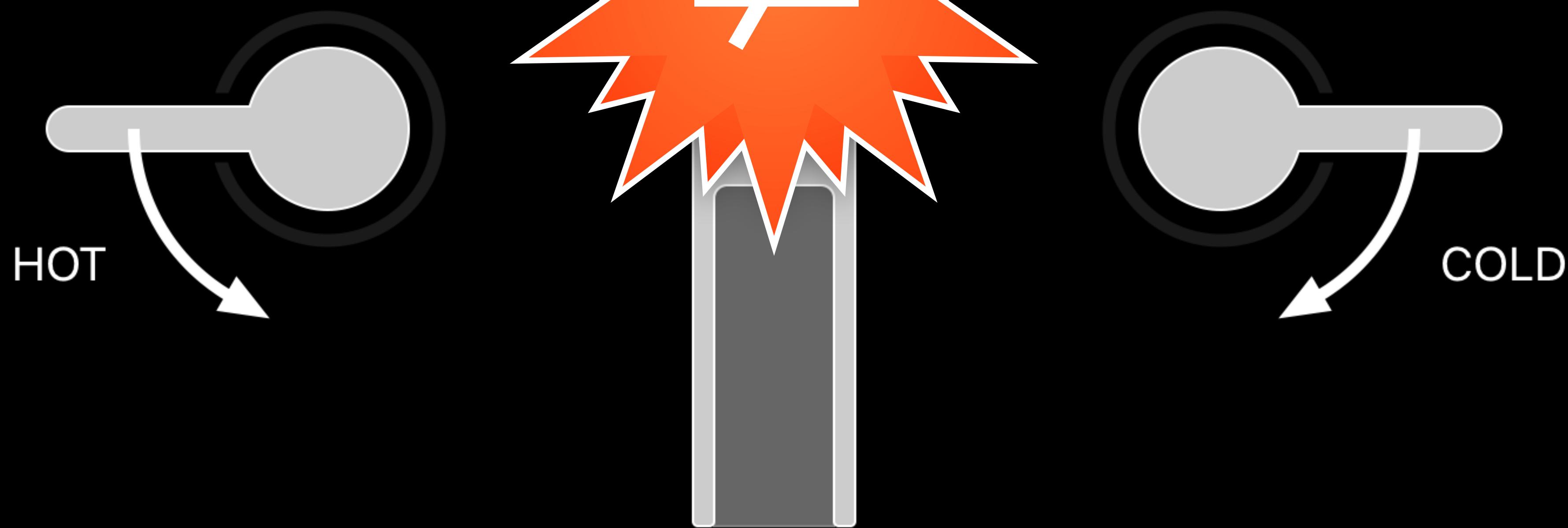
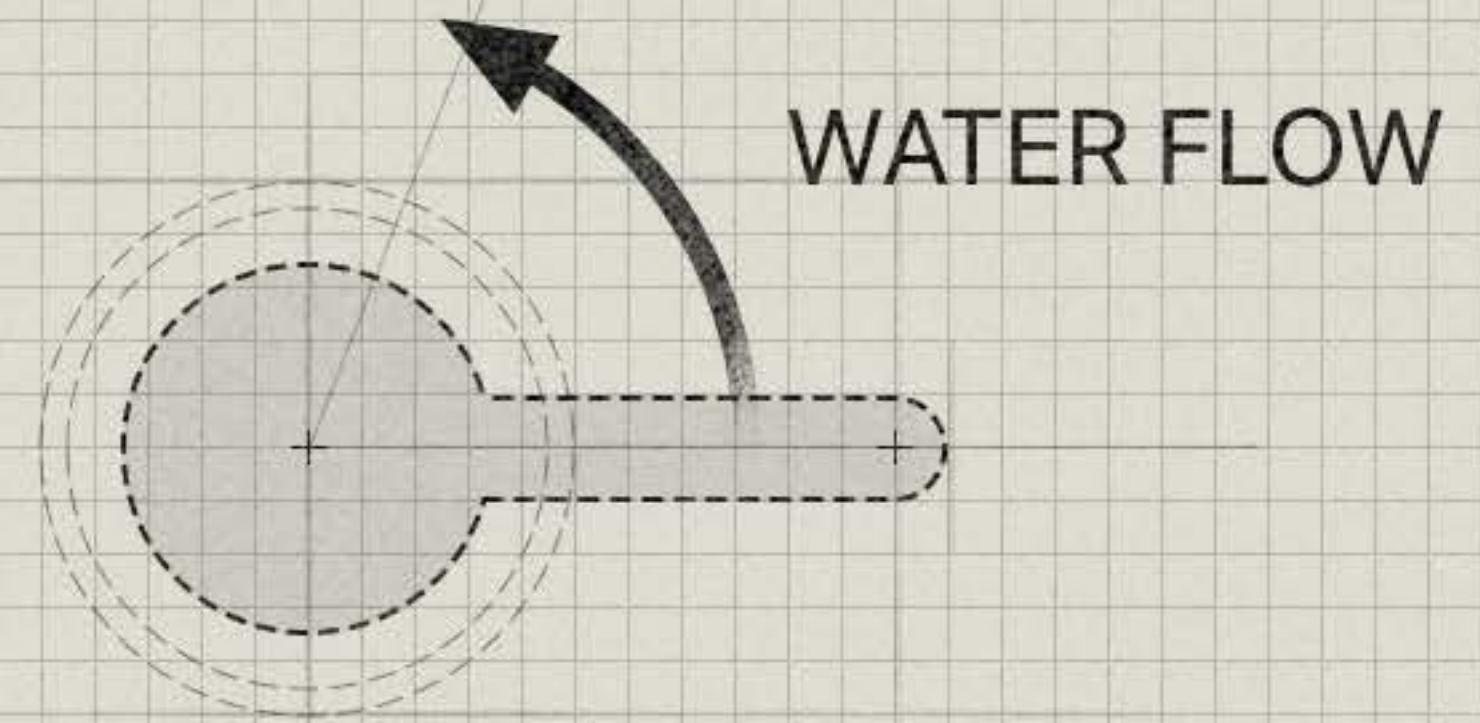
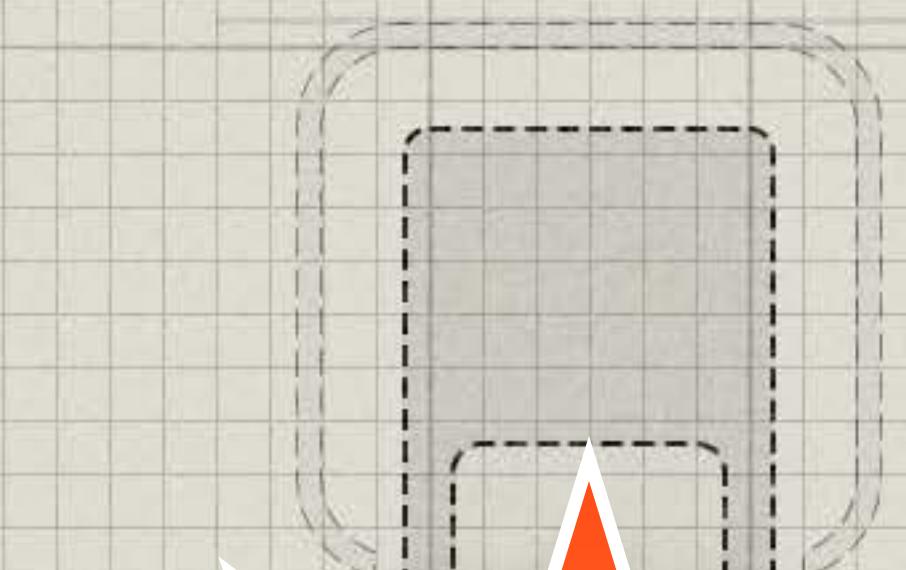
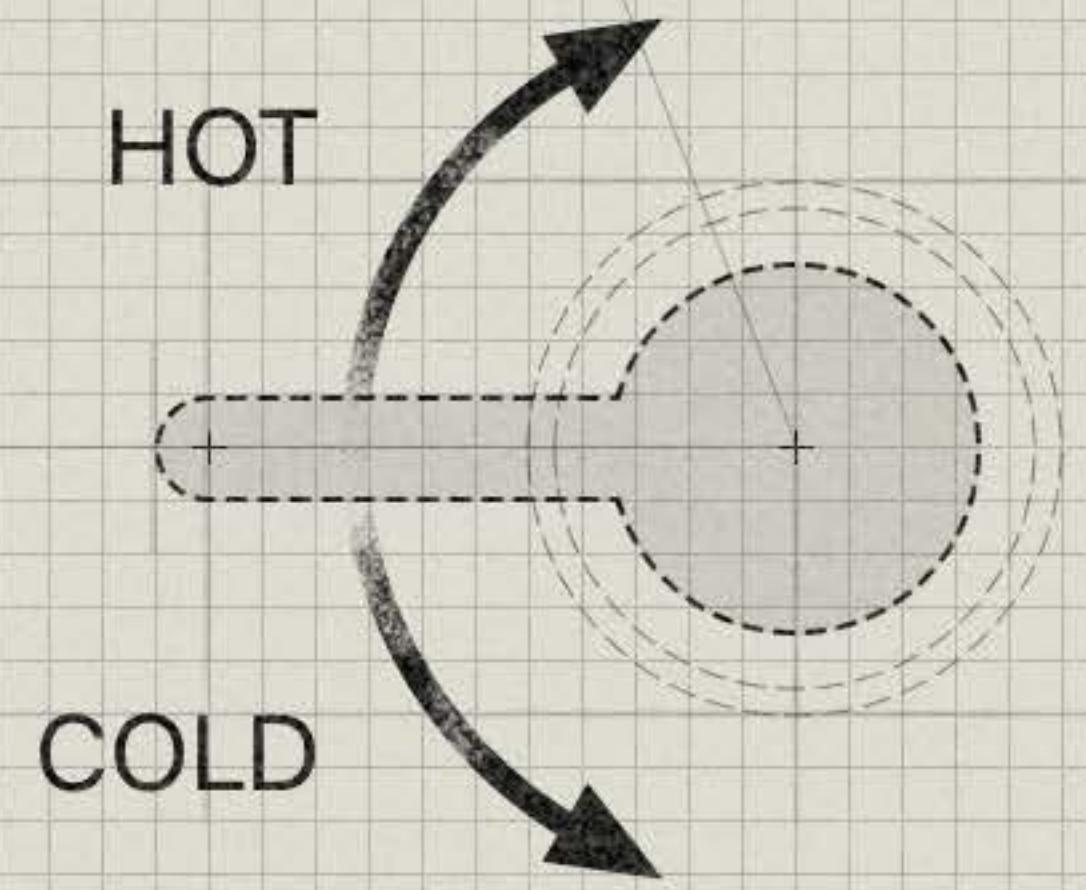


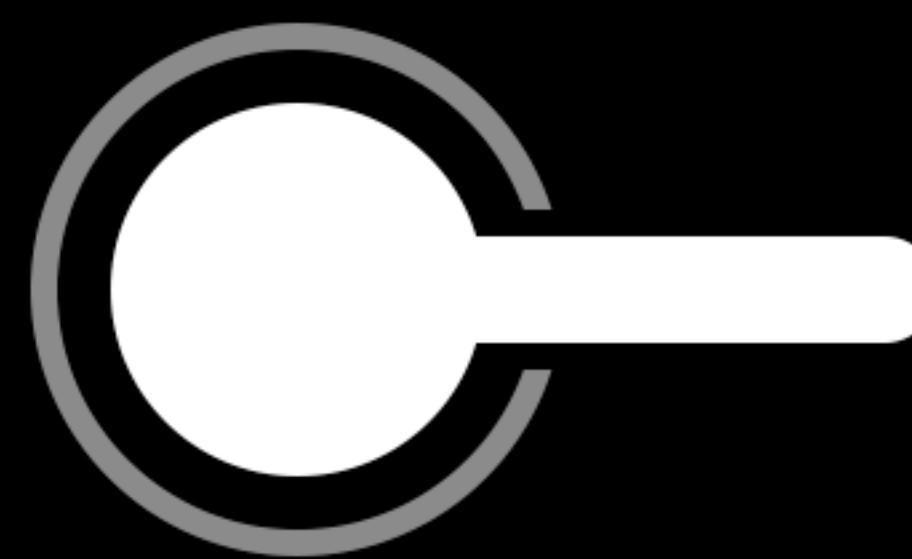
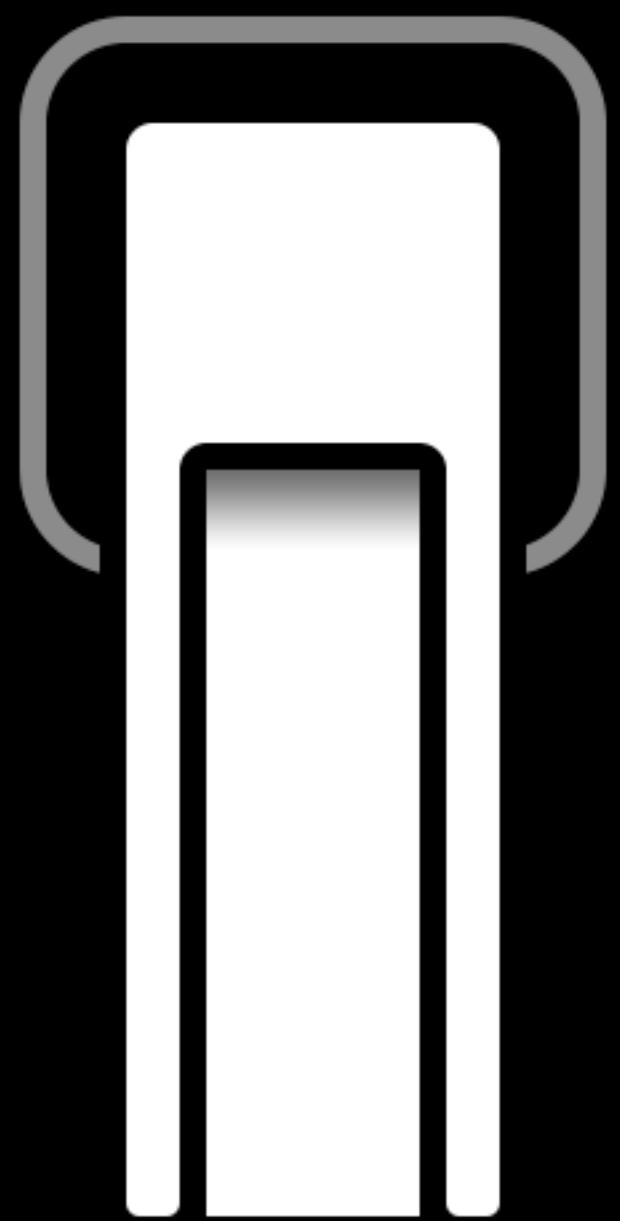
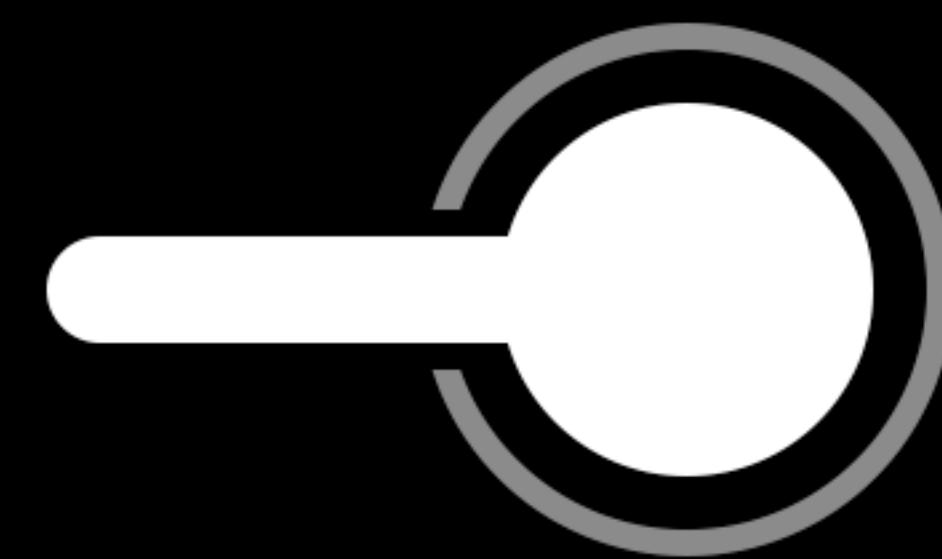
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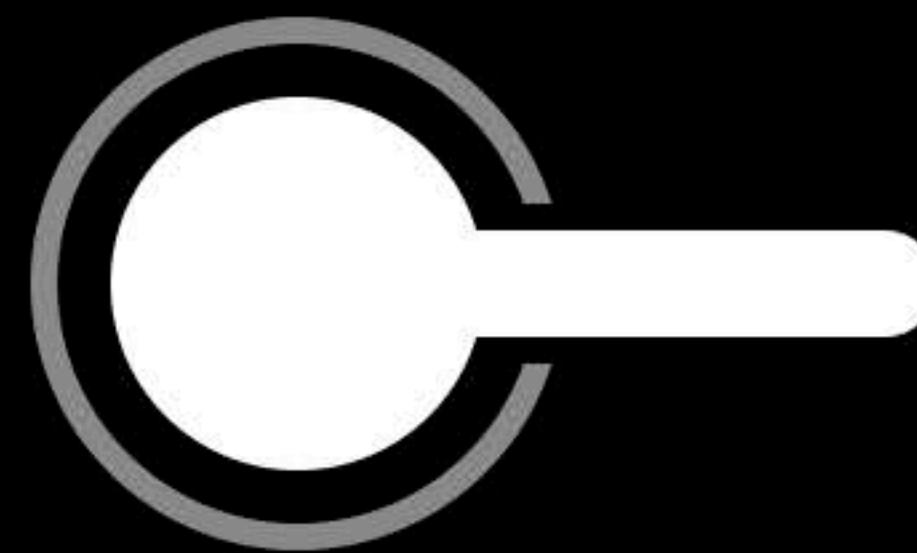
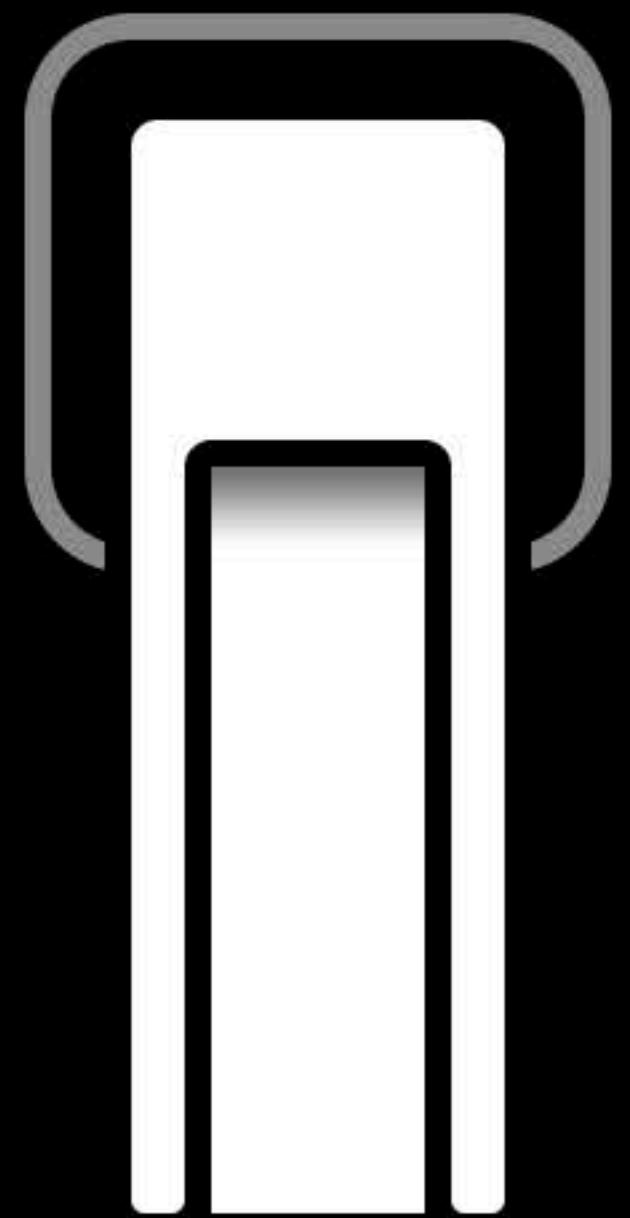


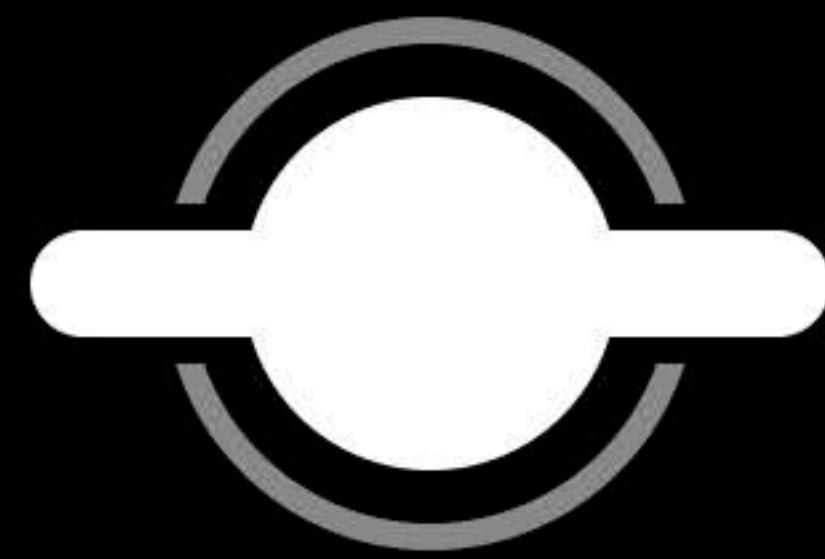
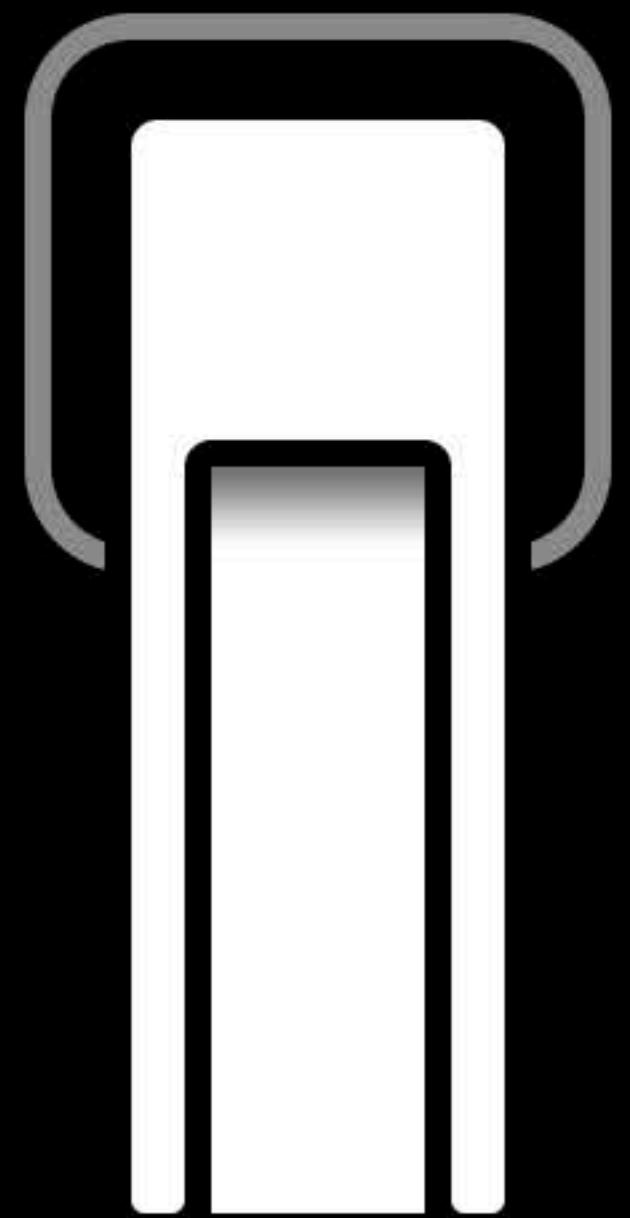
The Morty Faucet





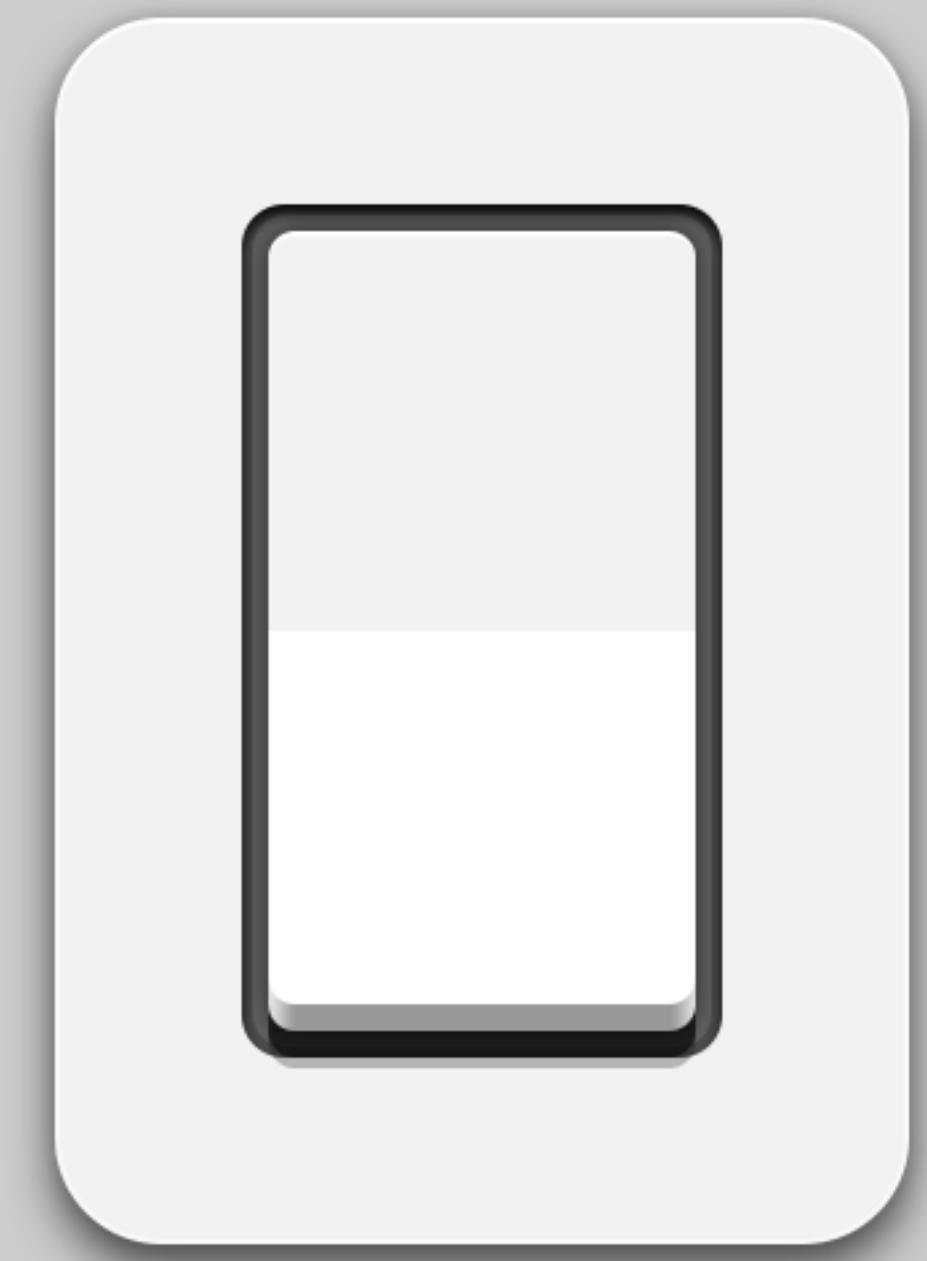




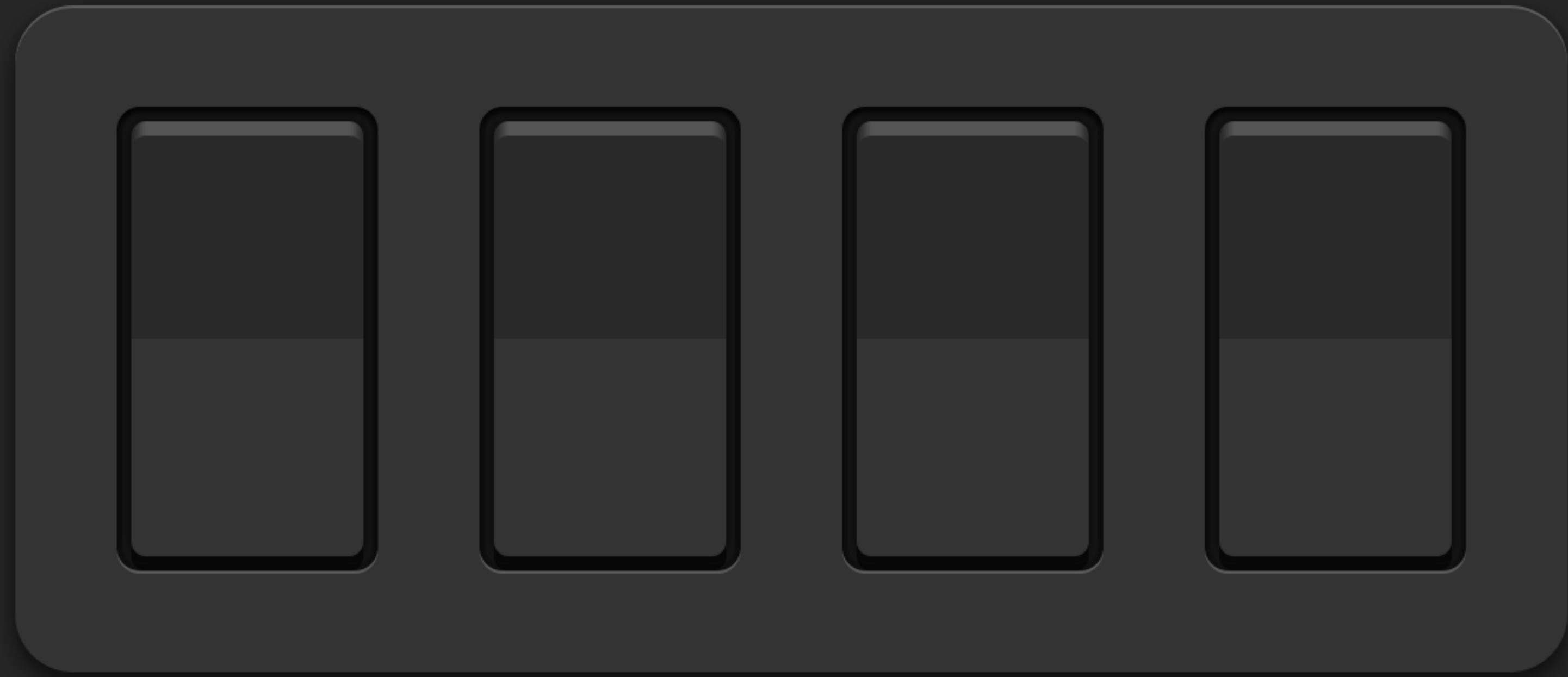


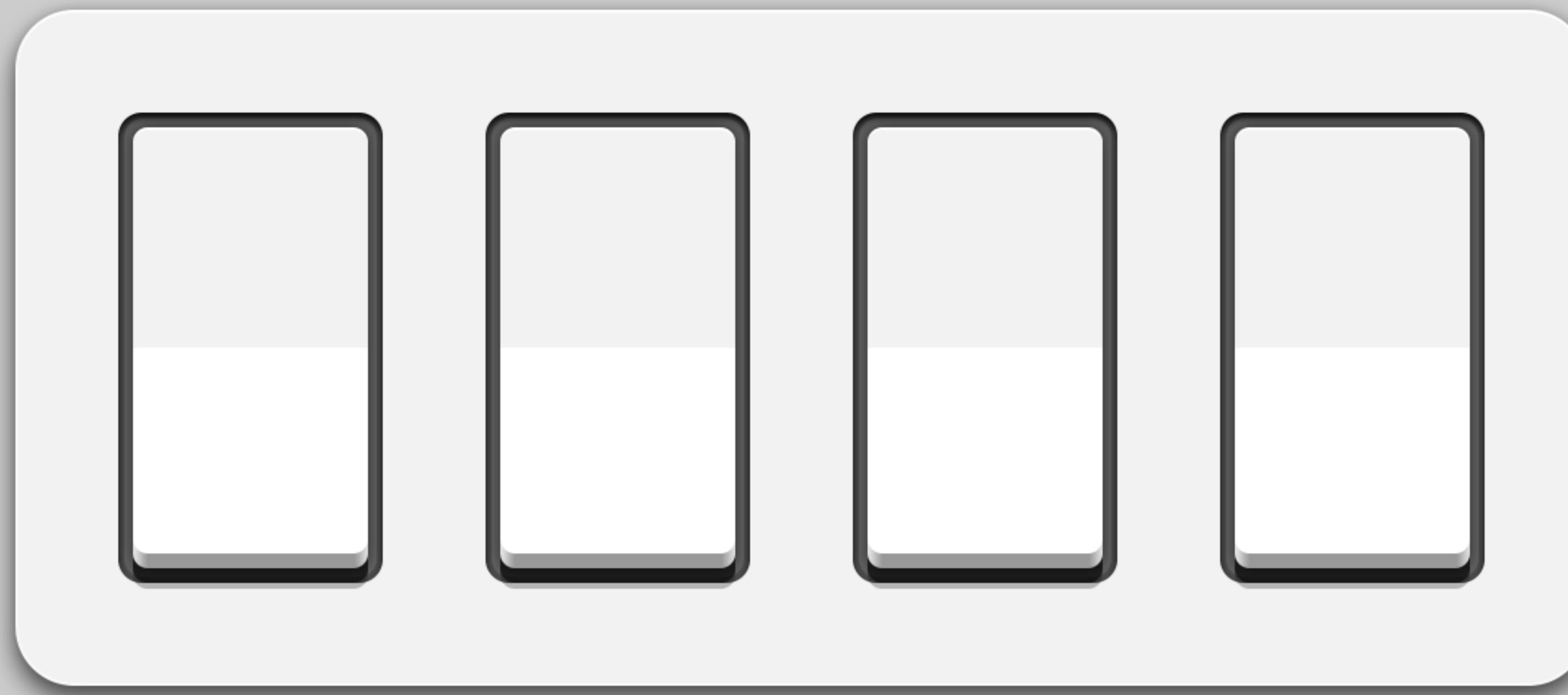




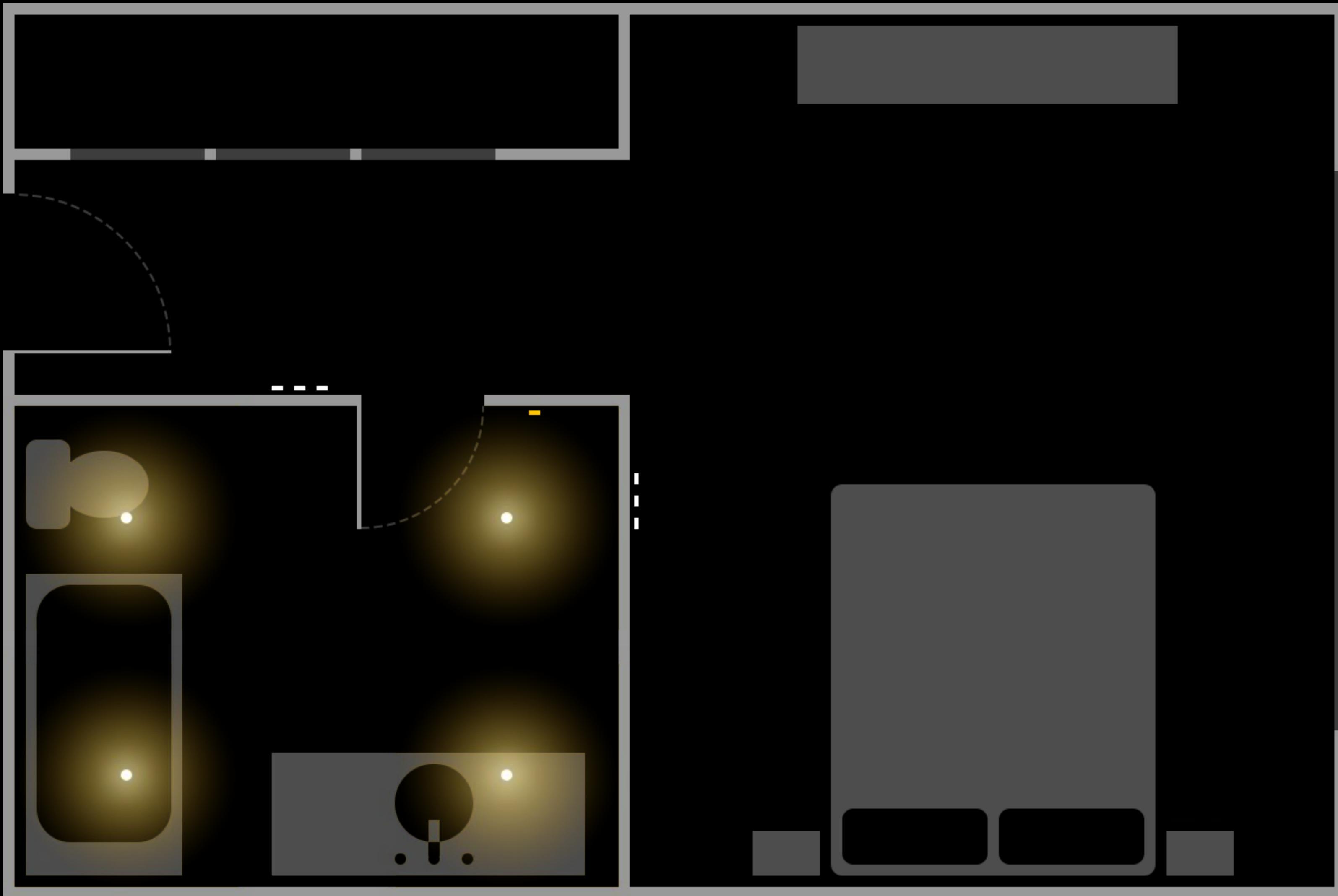




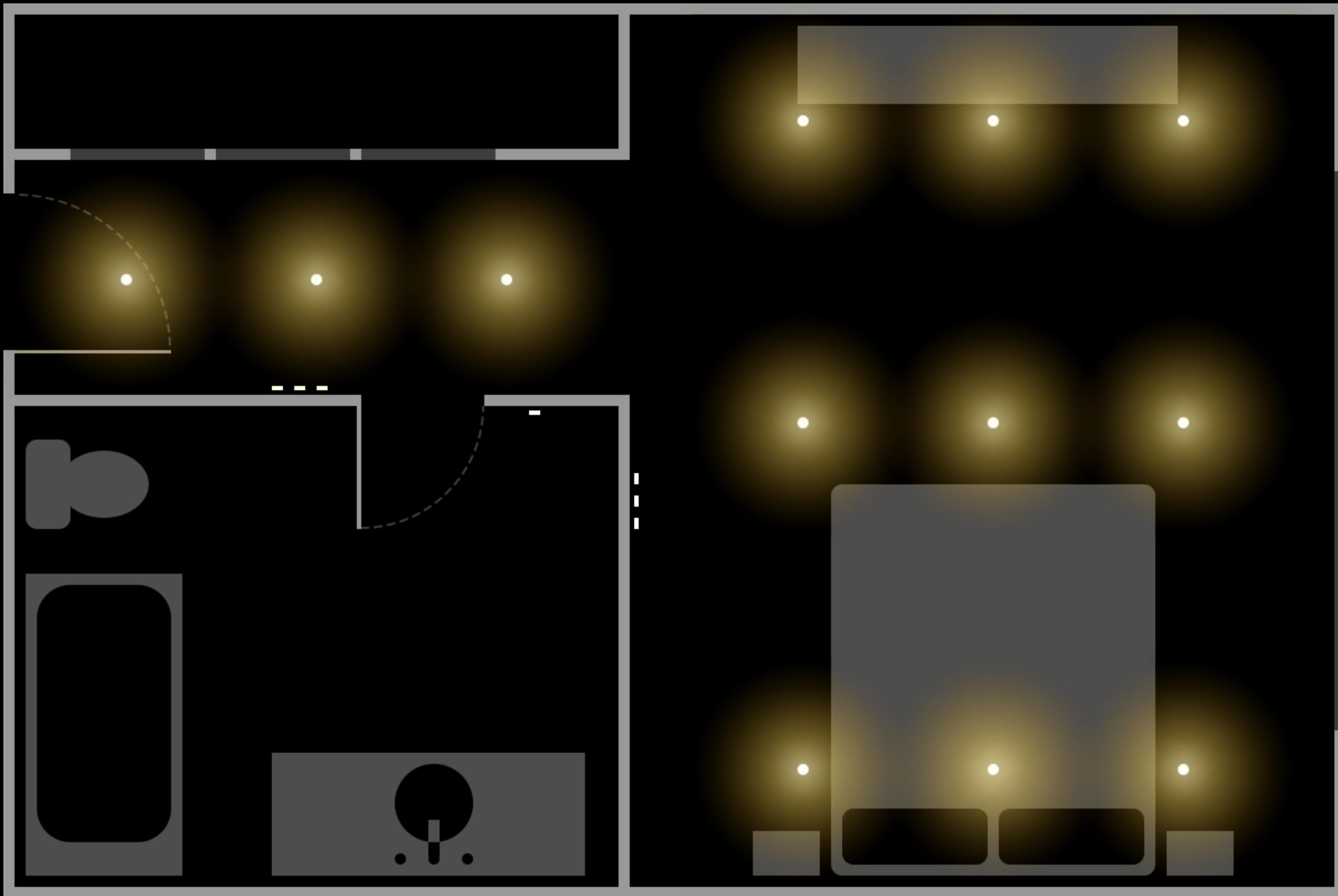


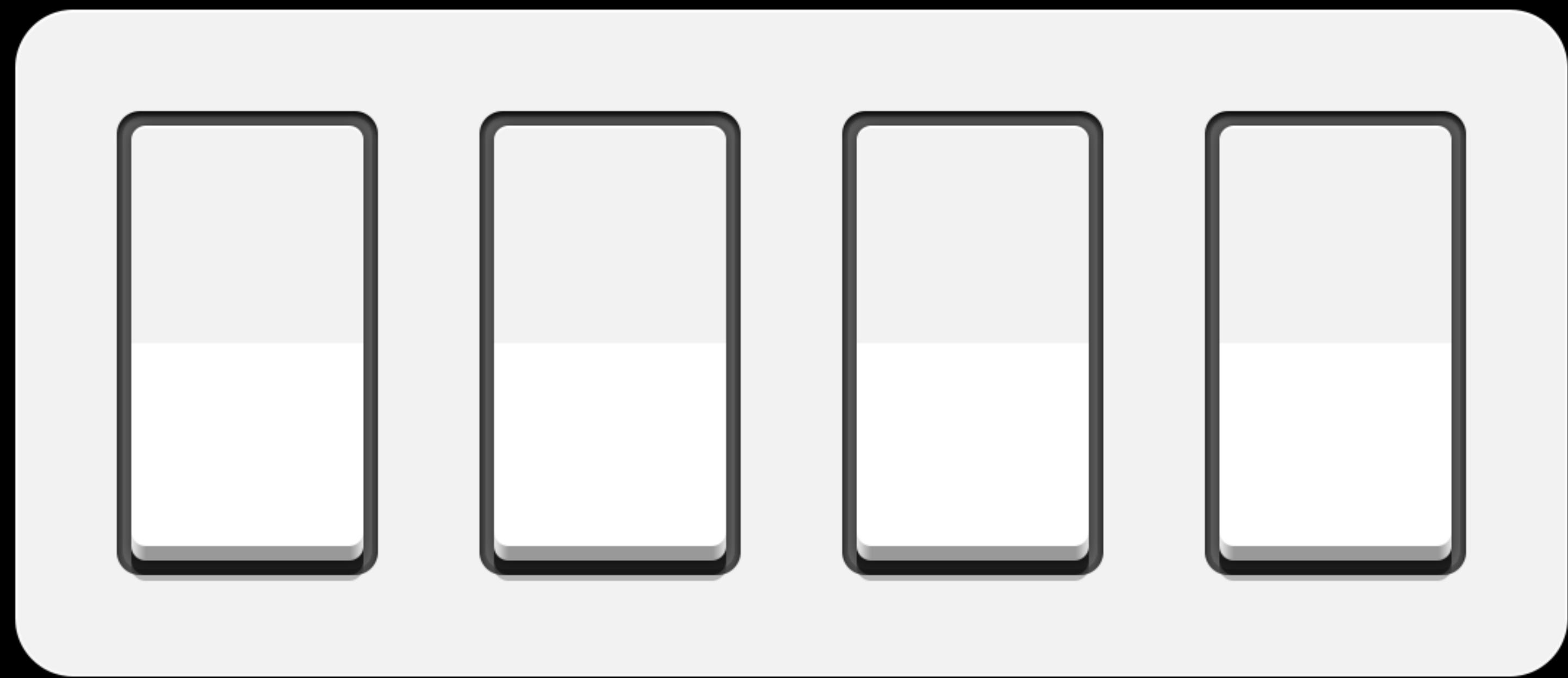


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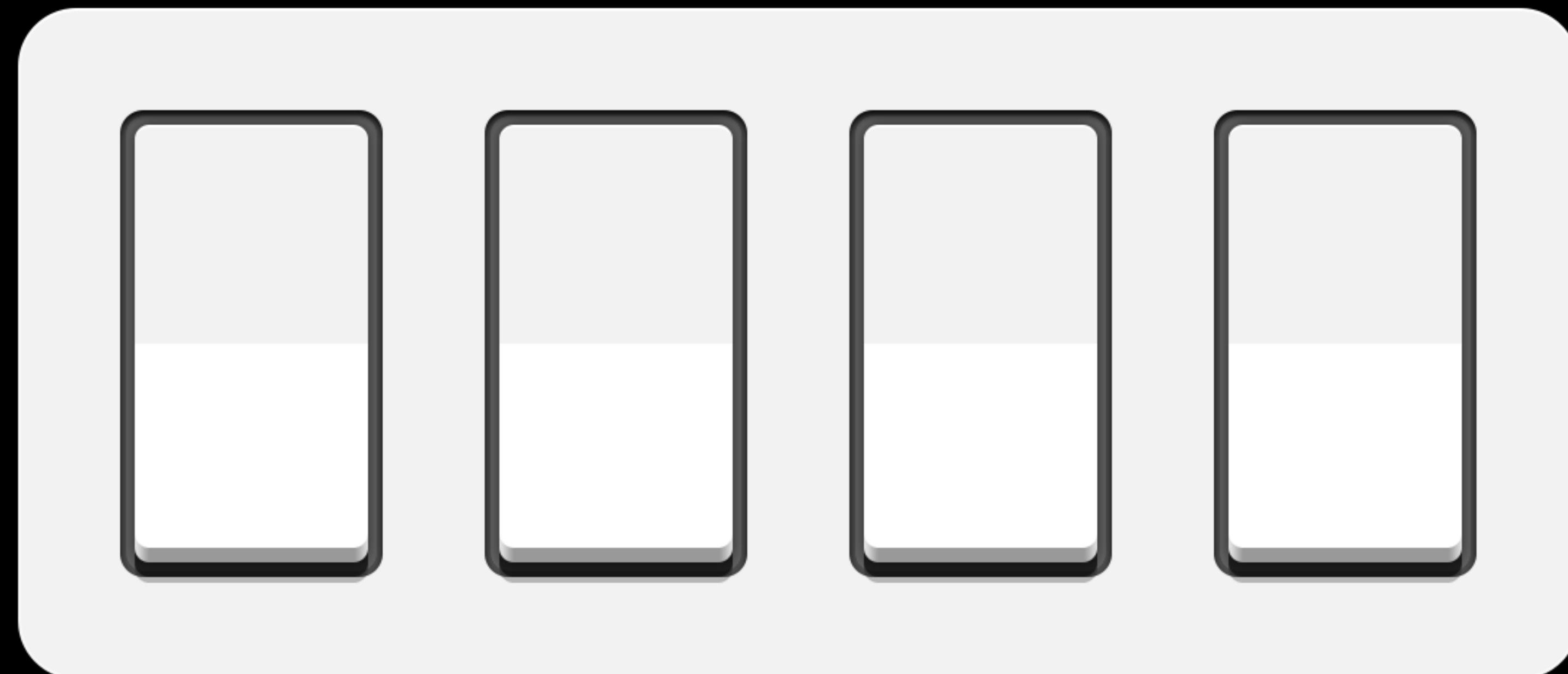






Light

|



Light

|



Light

|



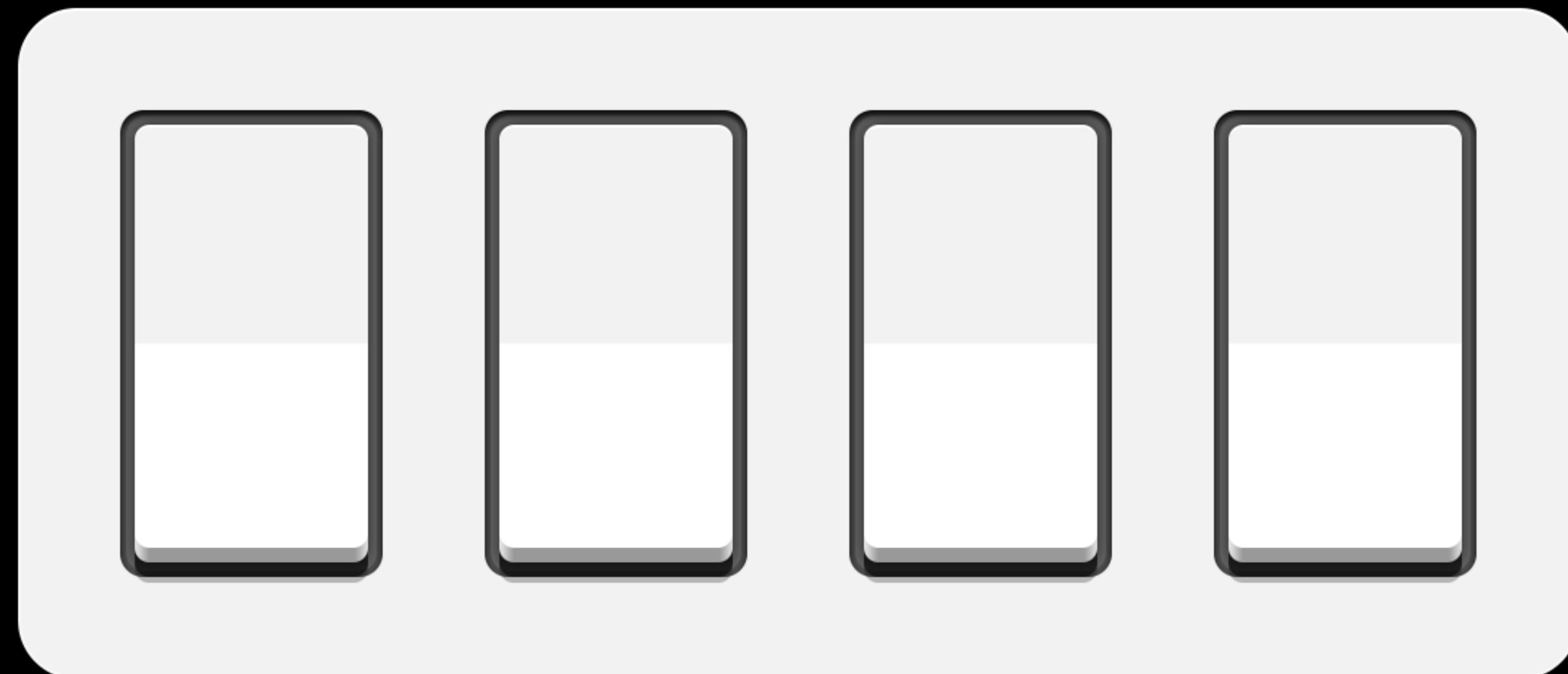
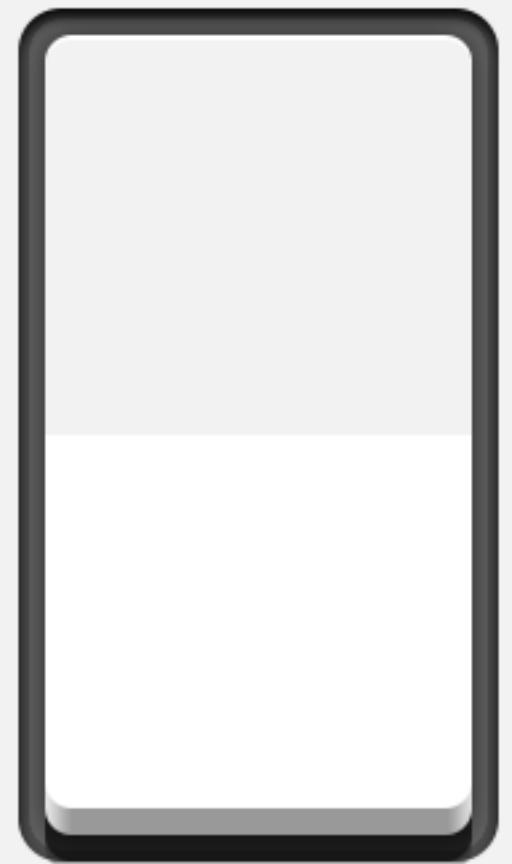
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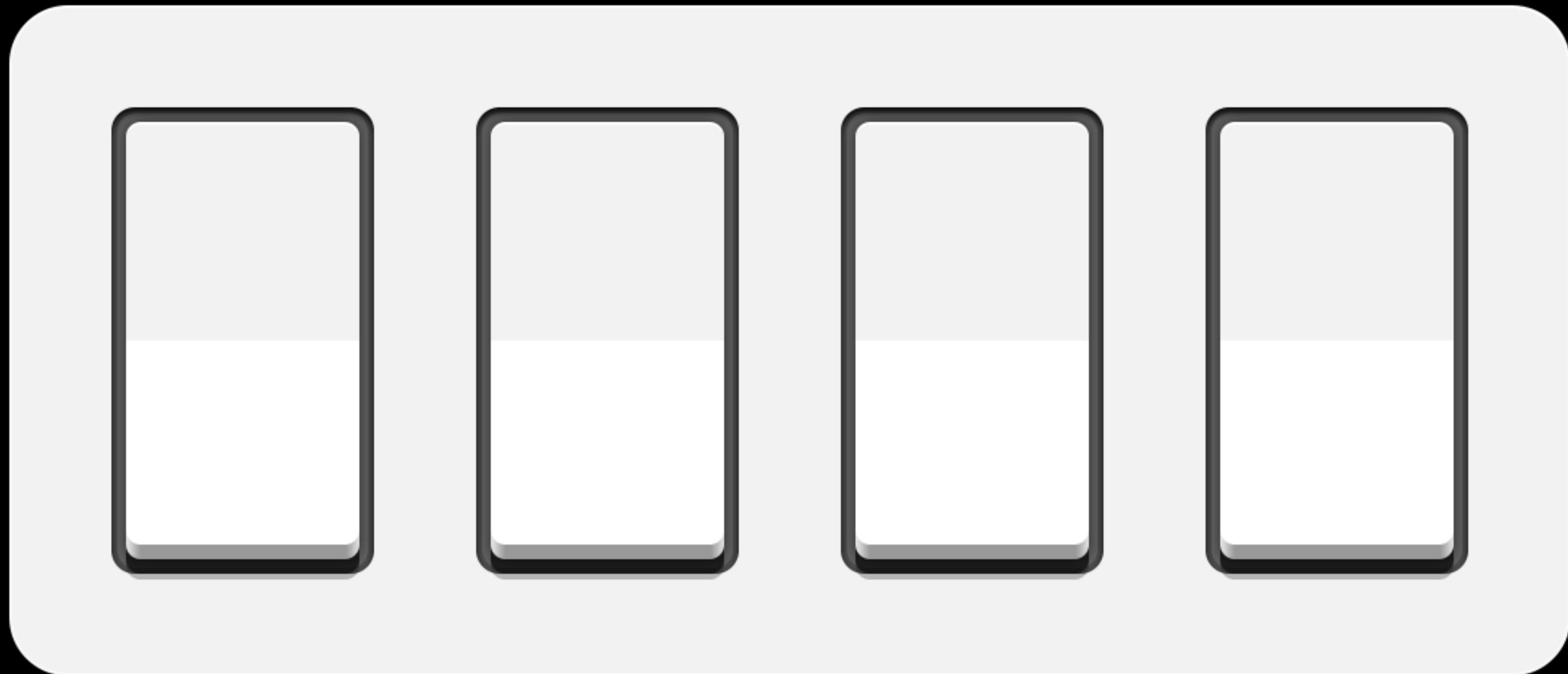
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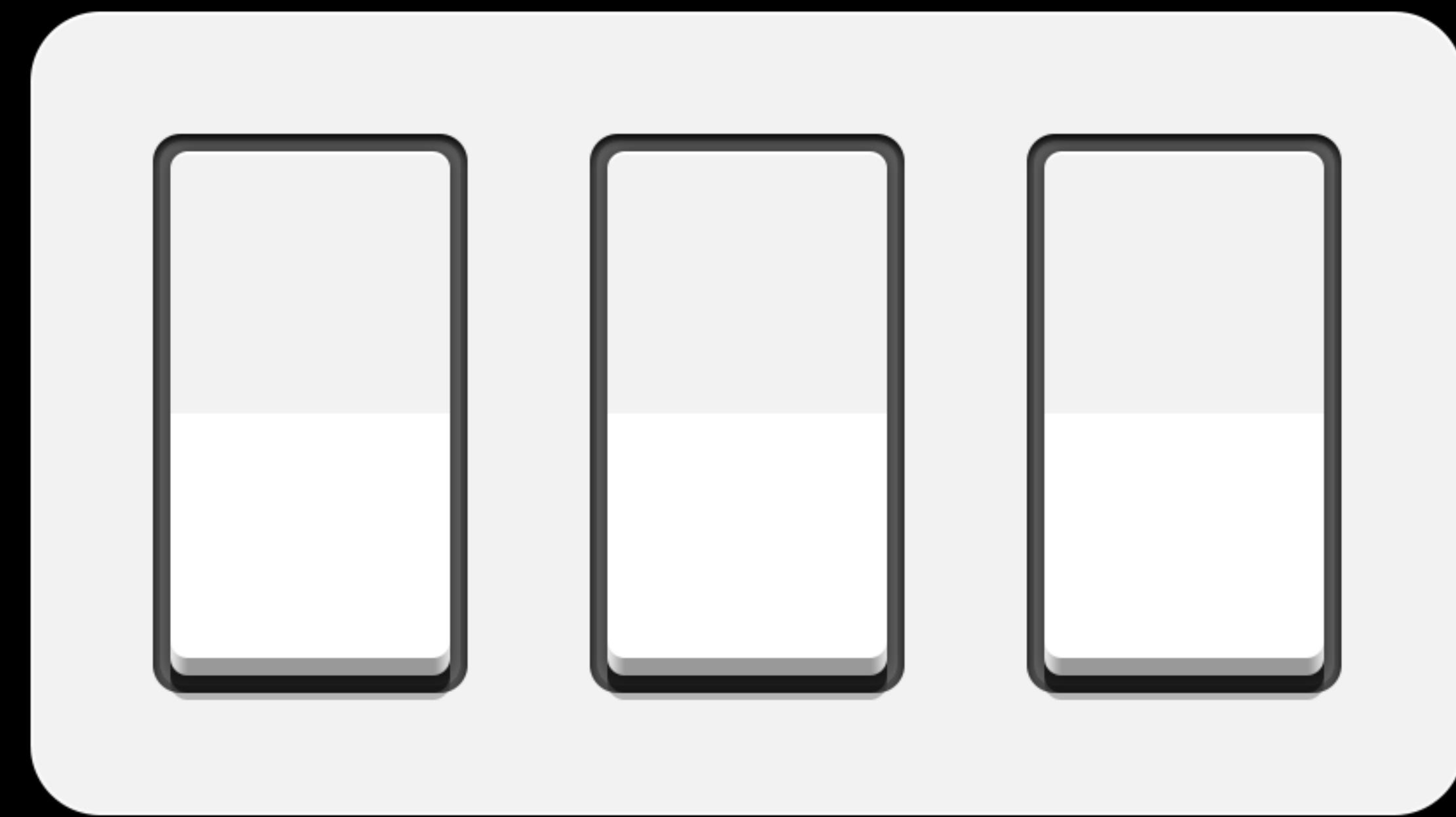
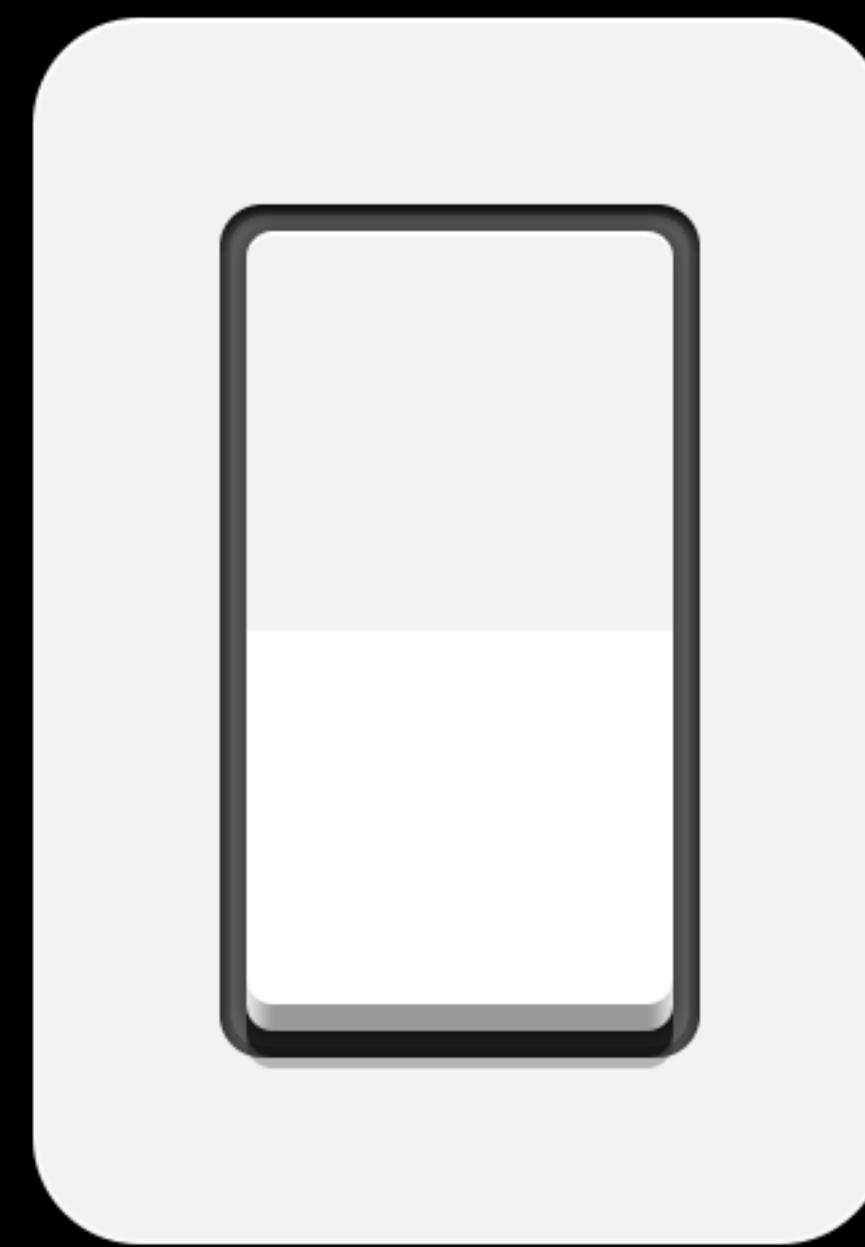
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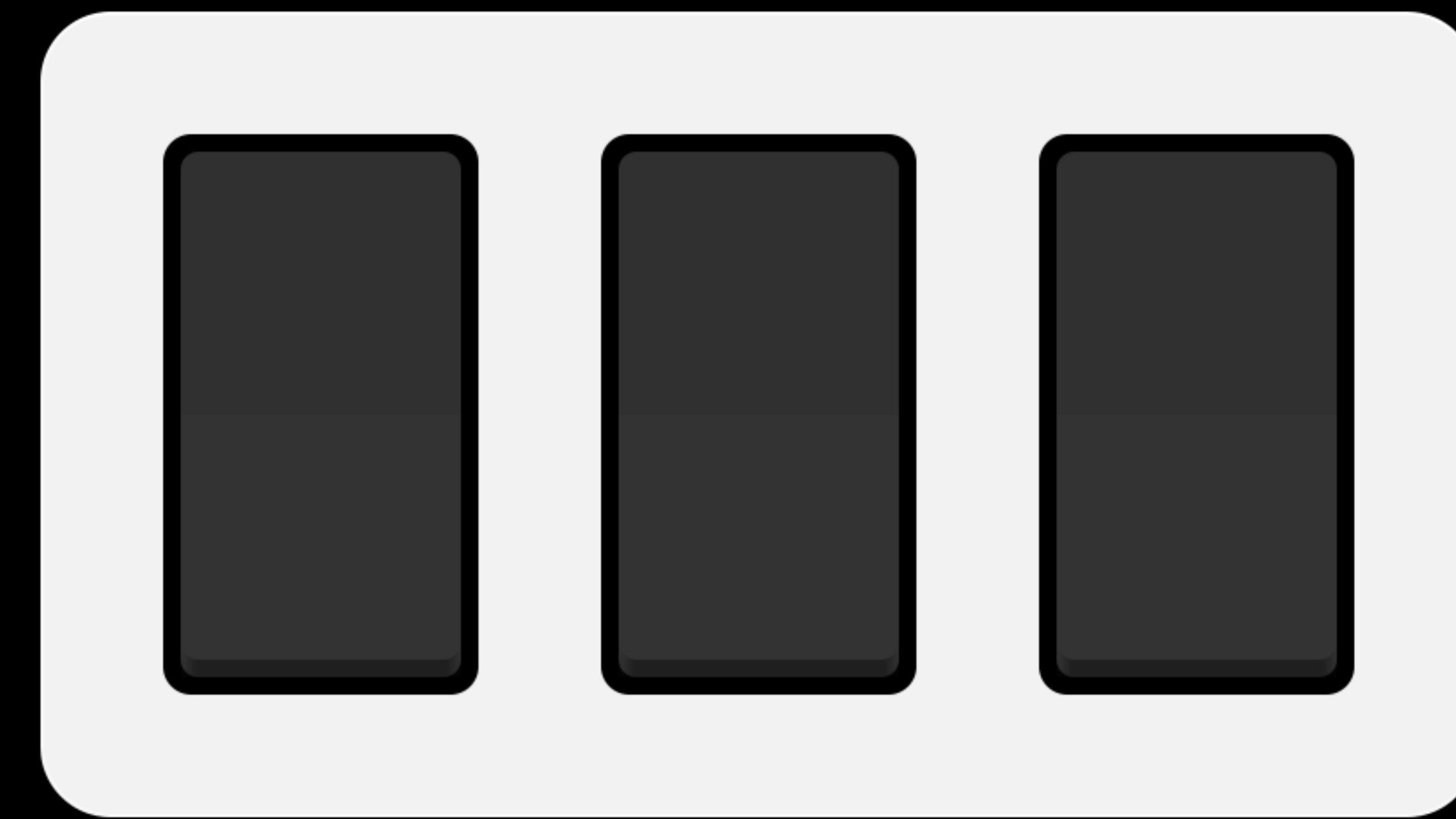
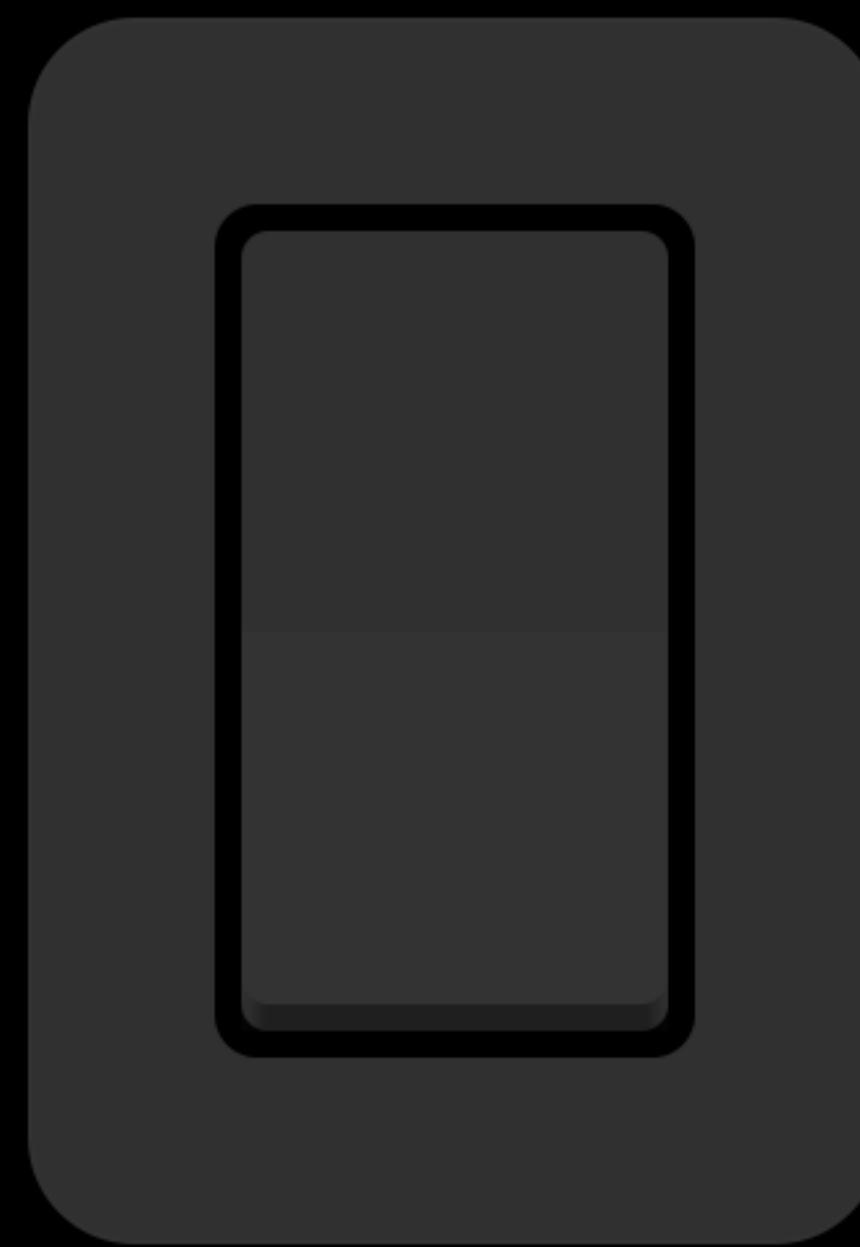


Shade

|







# Grouping

170528-EssentialDesignPrinciples

View Zoom Add Slide Play Keynote Live Table Chart Text Shape Media Comment Collaborate

Style Text Arrange

Title 1

Style Layout

Font SF Hello Semibold 96 pt B I U Character Styles None

Alignment

Spacing Lines Before Paragraph After Paragraph

Bullets & Lists Bullets Text Bullets Indent: 0 pt Bullet: Text Bullet: Size 1% Align

Design #WWDC17

# Essential Design Principles

Session 000

Mike Stern, Design Evangelism Manager

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1

The image shows a Keynote presentation window titled "170528-EssentialDesignPrinciples". The main slide content includes the following text:

- Design #WWDC17
- # Essential Design Principles
- Session 000
- Mike Stern, Design Evangelism Manager
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- 1

The sidebar on the left lists 269 slides, with the first few visible:

- 1: Essential Design Principles
- 19: Design Principles
- 23: [Image showing a globe icon]
- 27: [Image showing three circular icons]
- 52: [Image showing three circular icons]
- 124: [Image showing three circular icons]
- 198: [Image showing three circular icons]
- 242: [Image showing three circular icons]
- 268: [Image showing a QR code]
- 269: Design Principles

The right side of the interface features a "Text" tab in the toolbar, and the "Text" panel is open, showing settings for font (SF Hello, Semibold, 96 pt), alignment, spacing, and bullets. A large preview of the slide is displayed in the center, and a ruler is visible along the top and left edges of the slide area.

170528-EssentialDesignPrinciples

View Zoom Add Slide Play Keynote Live Table Chart Text Shape Media Comment Collaborate Style Text Arrange

0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000

1  
19  
23  
27  
52  
124  
198  
242  
268  
269

Design #WWDC17

# Essential Design Principles

Session 000

Mike Stern, Design Evangelism Manager

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1

Title 1

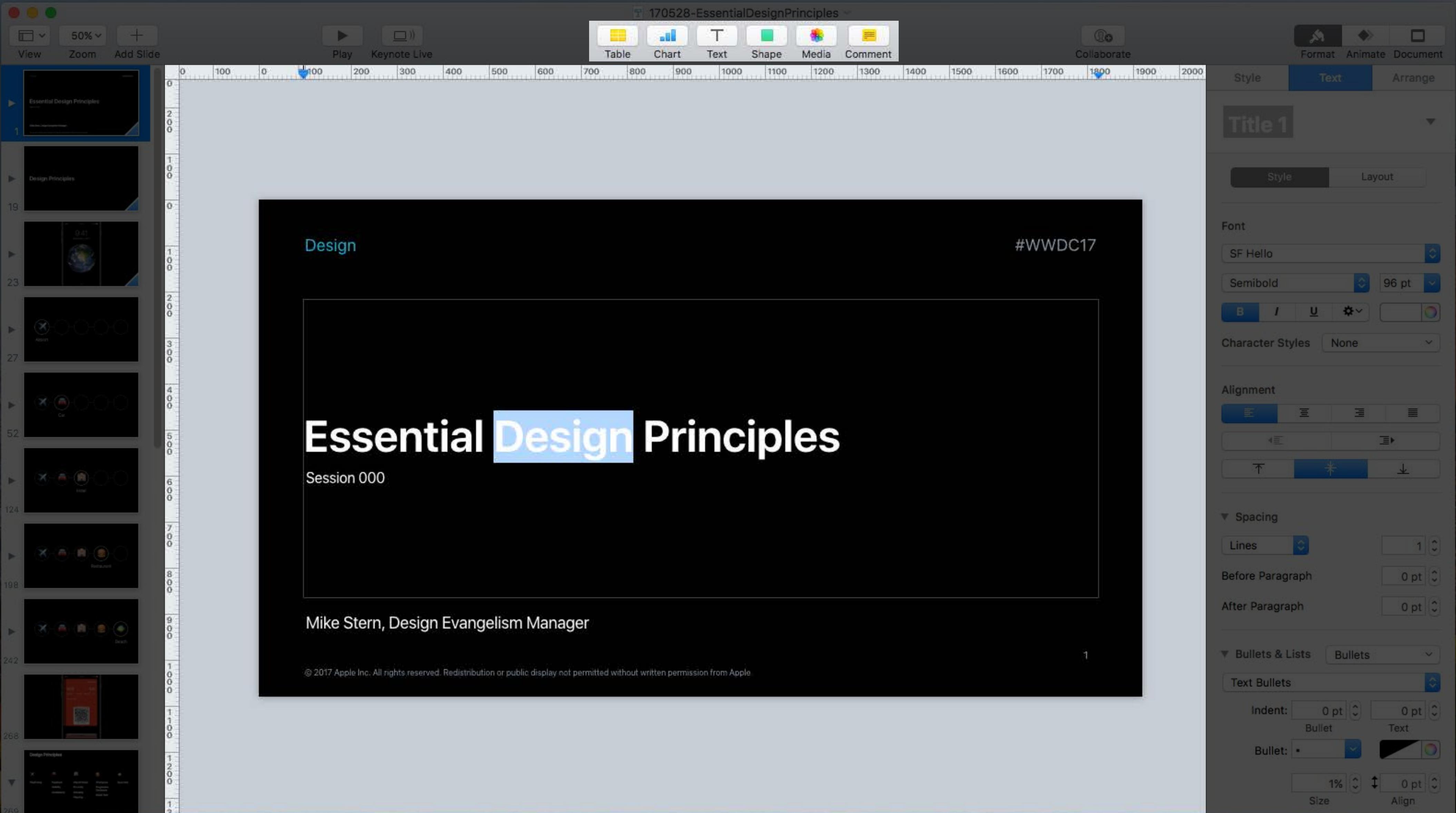
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Alignment

▼ Spacing Lines Before Paragraph After Paragraph

▼ Bullets & Lists Bullets Text Bullets Indent: 0 pt Bullet: Text Bullet: Size 1% Align



170528-EssentialDesignPrinciples

View Zoom Add Slide Play Keynote Live Table Chart Text Shape Media Comment Collaborate

Style Text Arrange

Title 1

Style Layout

Font SF Hello Semibold 96 pt B I U Character Styles None

Alignment

Spacing Lines 1 Before Paragraph 0 pt After Paragraph 0 pt

Bullets & Lists Bullets

Text Bullets Indent: 0 pt Bullet: Text Bullet: Size: 1% Align: 0 pt

Design #WWDC17

# Essential Design Principles

Session 000

Mike Stern, Design Evangelism Manager

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1

The screenshot shows a presentation slide titled "Essential Design Principles" in large, bold, white font. Below it is a subtitle "Session 000" and the name "Mike Stern, Design Evangelism Manager". At the bottom of the slide, there is a copyright notice: "© 2017 Apple Inc. All rights reserved. Redistribution or public display not permitted without written permission from Apple." The slide is set against a dark background featuring a landscape scene with mountains and trees. The Keynote interface is visible, including the toolbar at the top with icons for View, Zoom, Add Slide, Play, Keynote Live, Table, Chart, Text, Shape, Media, Comment, Collaborate, and the three main tabs: Style, Text (which is selected), and Arrange. On the left, a sidebar shows a list of slides with thumbnails and numbers. On the right, a detailed "Text" panel is open, showing settings for font (SF Hello, Semibold, 96 pt), alignment, spacing (Lines 1, Before Paragraph 0 pt, After Paragraph 0 pt), and bullets & lists (Bullets, Text Bullets, Indent 0 pt, Bullet text, Bullet style, Size 1%, Align 0 pt).

UIElements+AppTemplates+Guides.sketch — Edited

Pages +

Guide - Colors  
Guide - Fonts  
**UI Elements**  
Template - Tabbed App  
Template - Parent and...  
Template - Modal Sheet  
Template - Sticker Pac...  
Symbols

UI Elements

UI Elements - Bars  
UI Elements - Con...  
UI Elements - Vie...  
UI Elements - Sys...  
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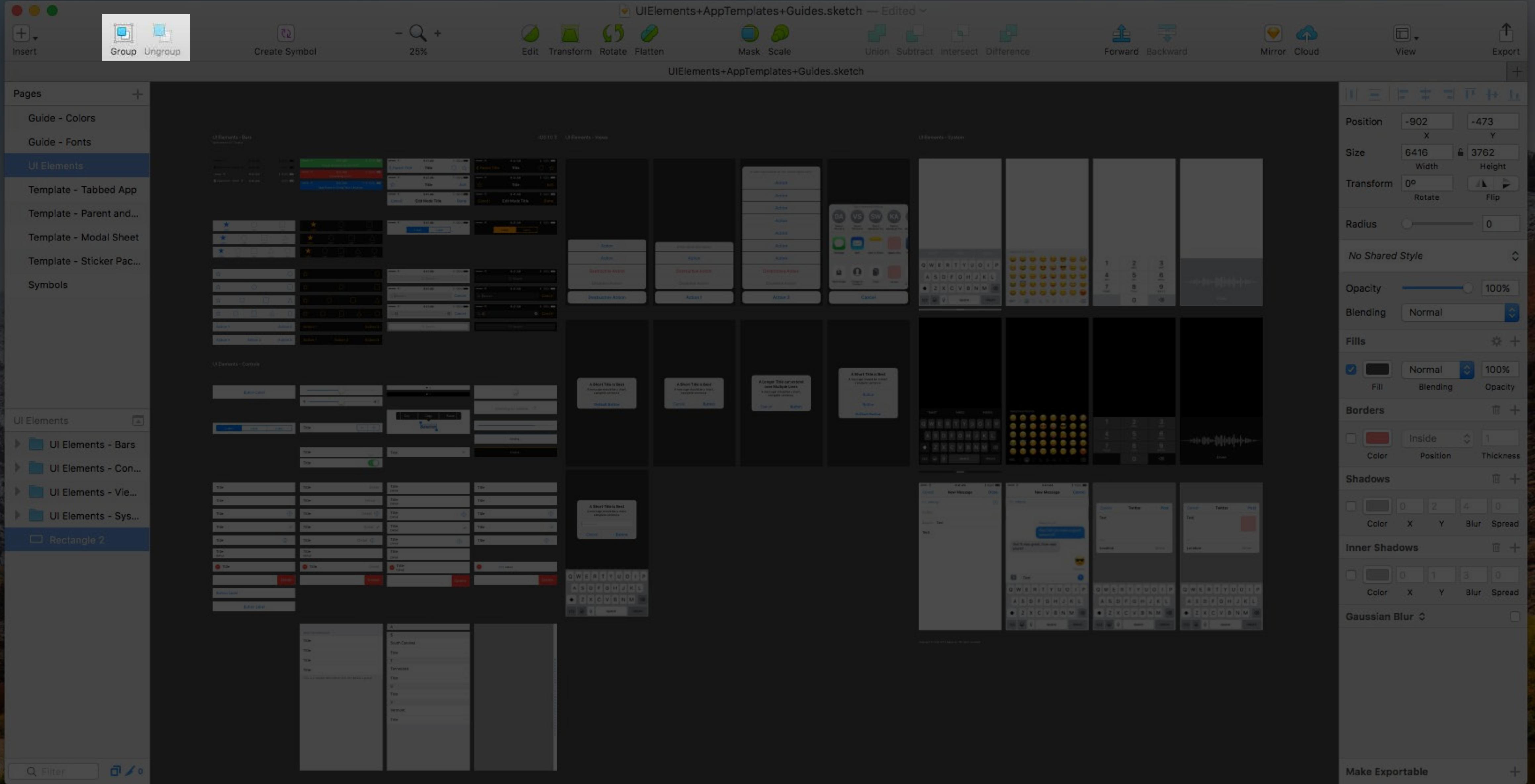
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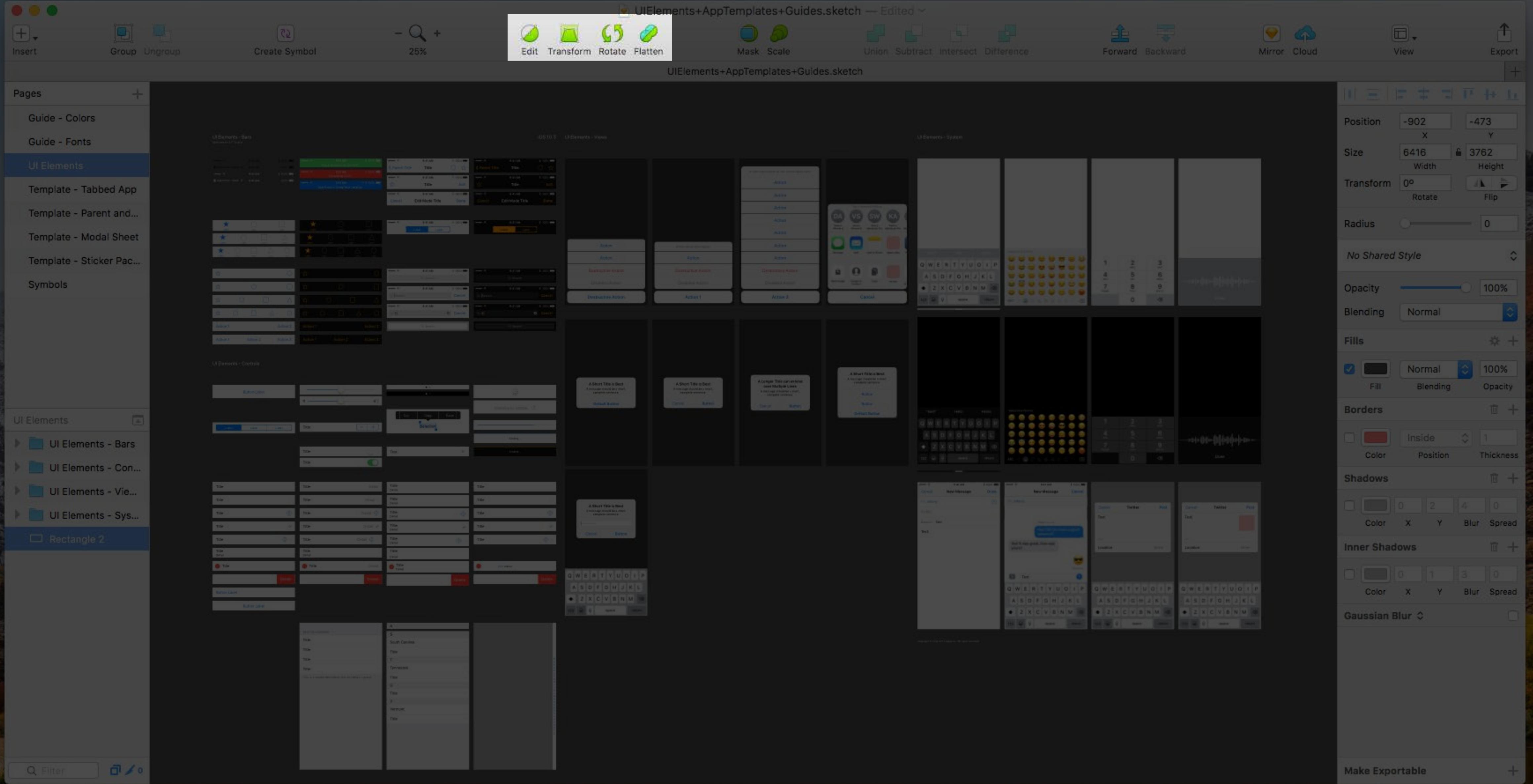
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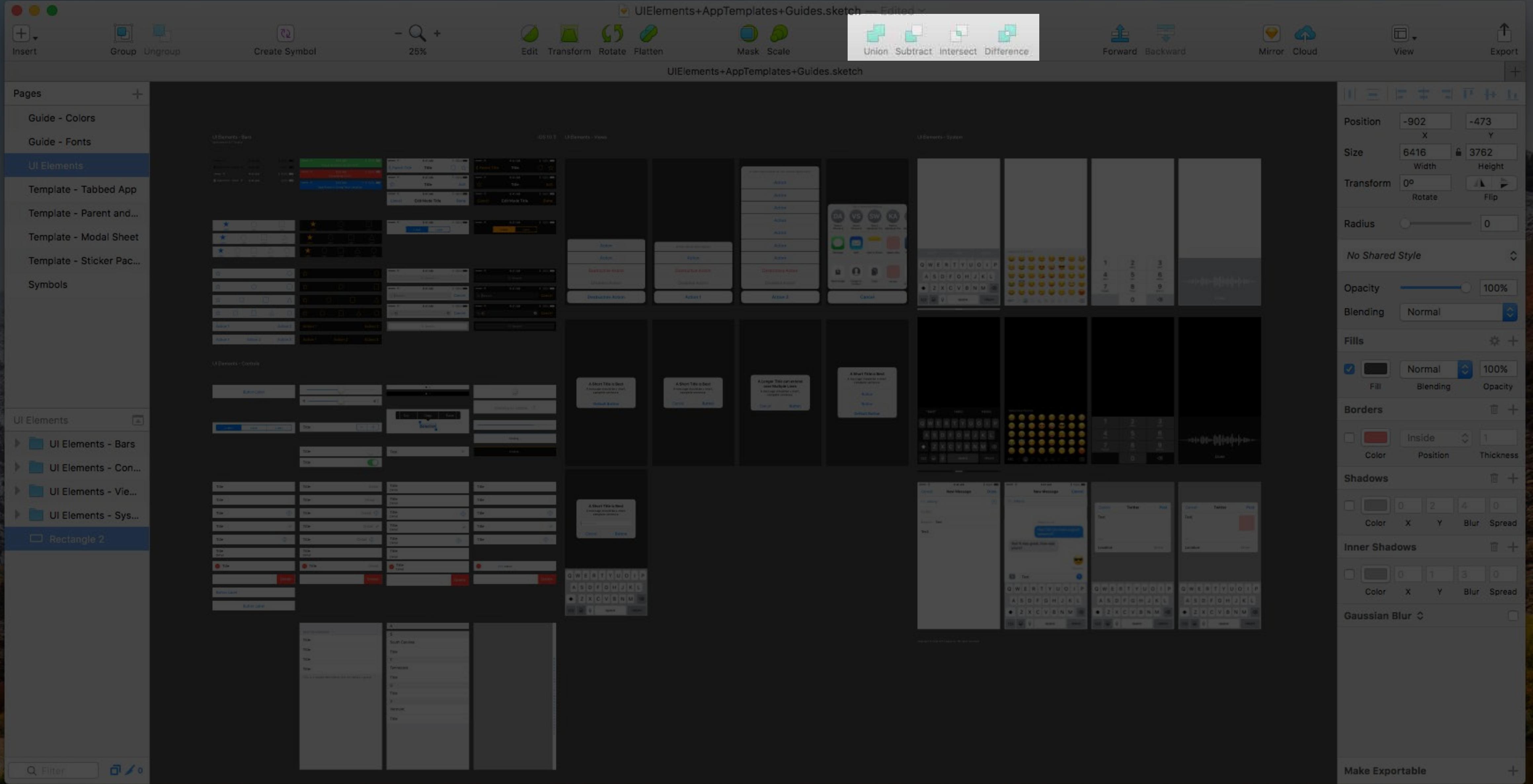
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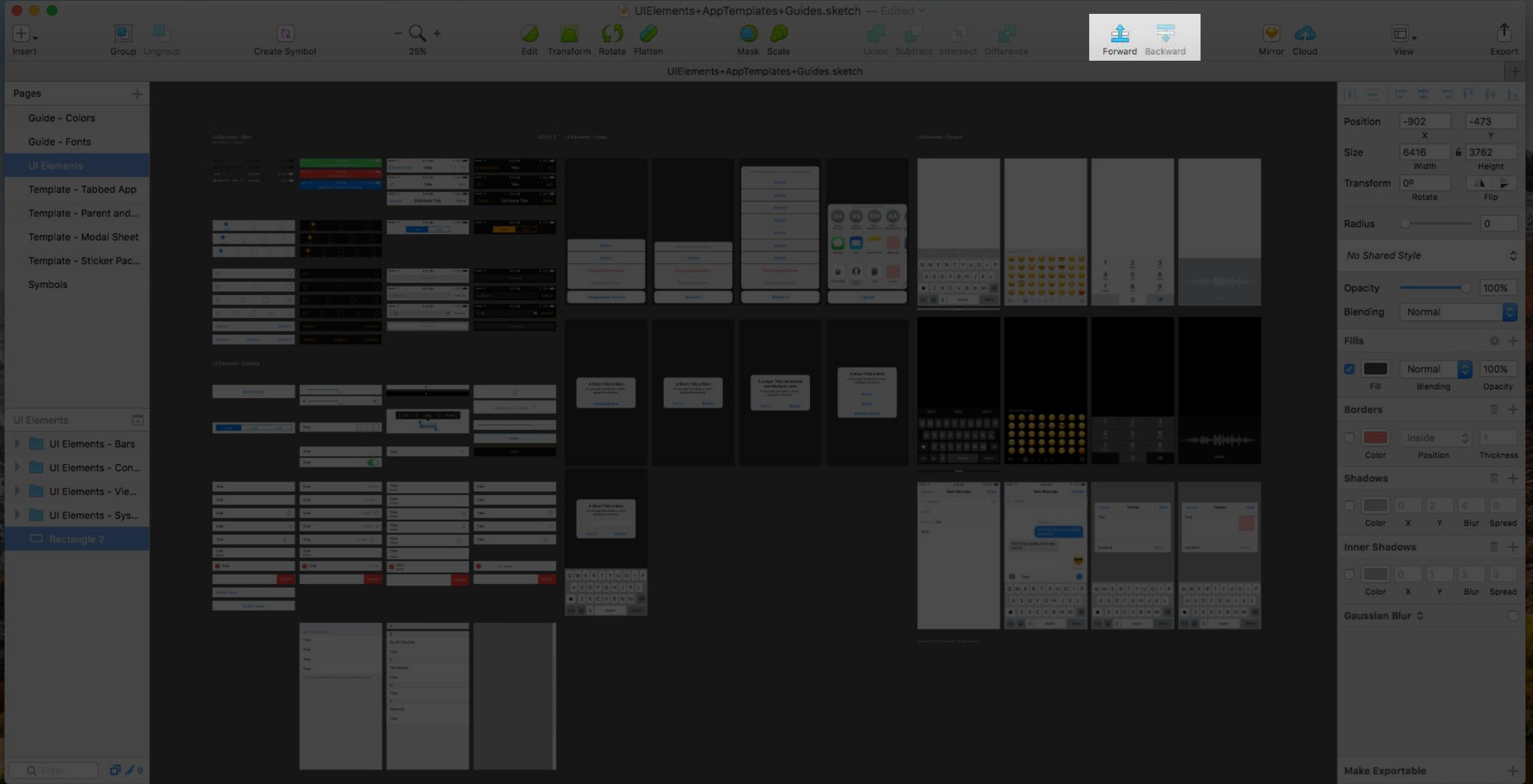
Make Exportable +

UIElements+AppTemplates+Guides.sketch









UIElements+AppTemplates+Guides.sketch — Edited

Pages +

Guide - Colors  
Guide - Fonts  
**UI Elements**  
Template - Tabbed App  
Template - Parent and...  
Template - Modal Sheet  
Template - Sticker Pac...  
Symbols

UI Elements

UI Elements - Bars  
UI Elements - Con...  
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UI Elements - Sys...  
**Rectangle 2**

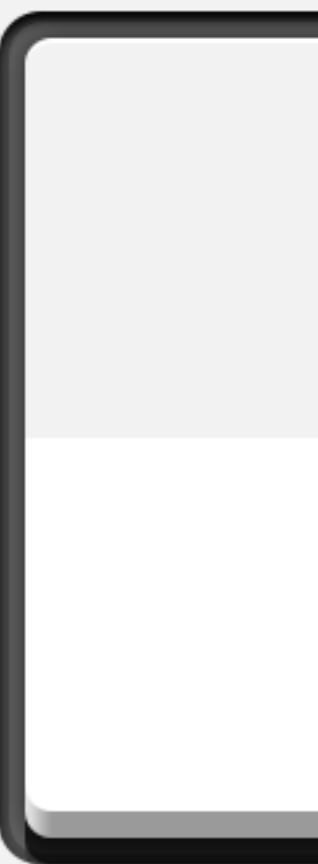
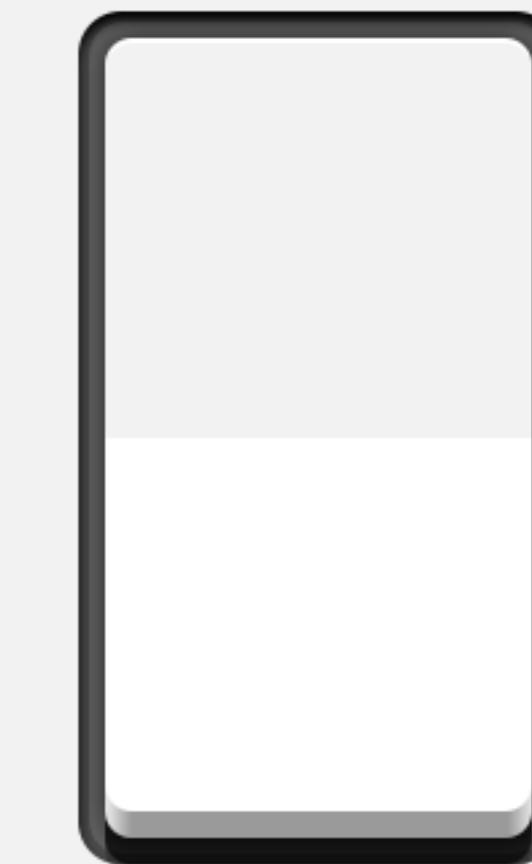
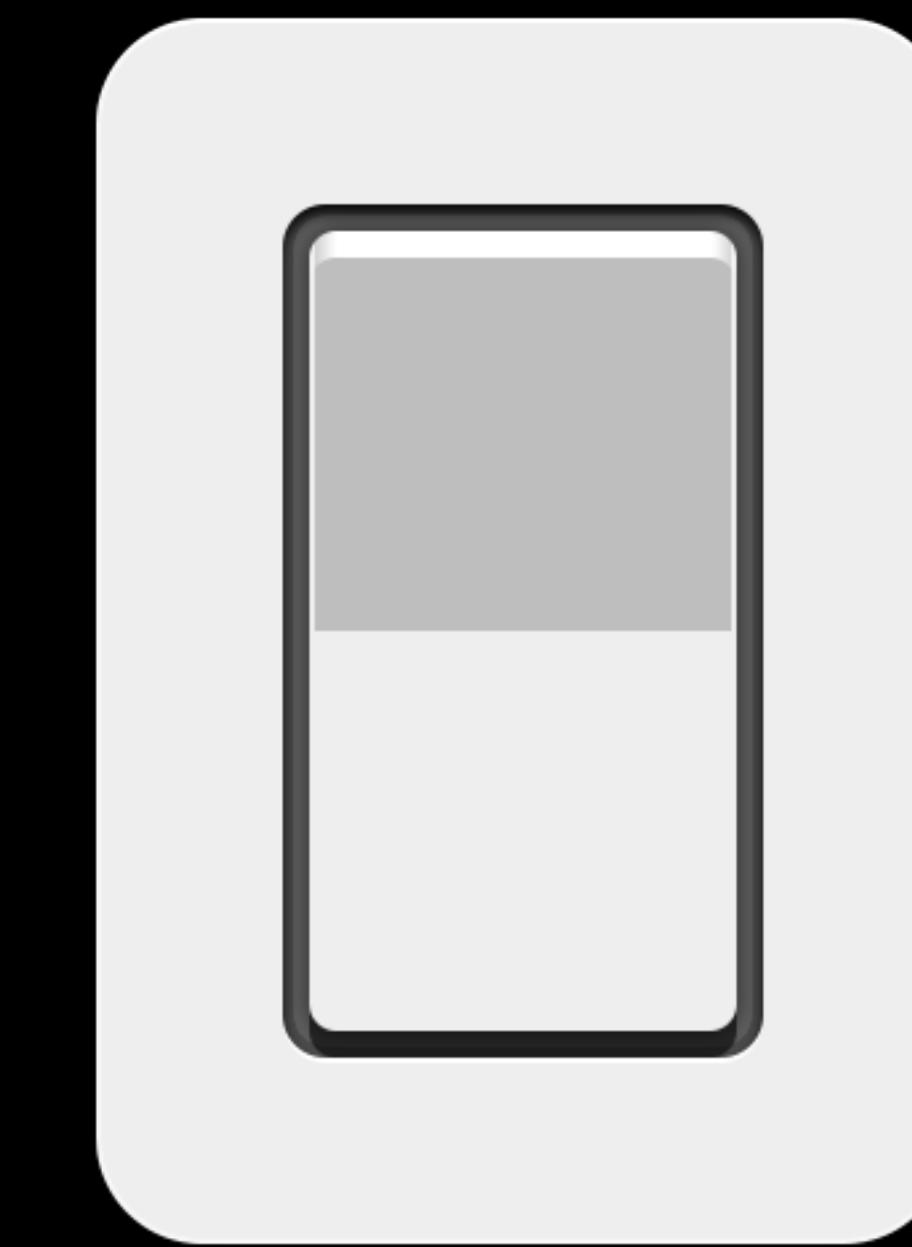
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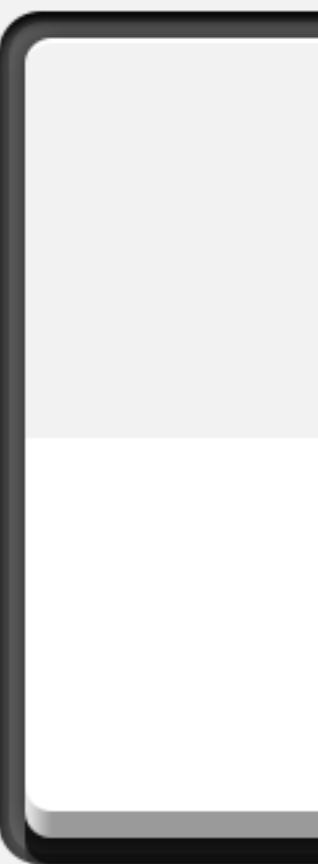
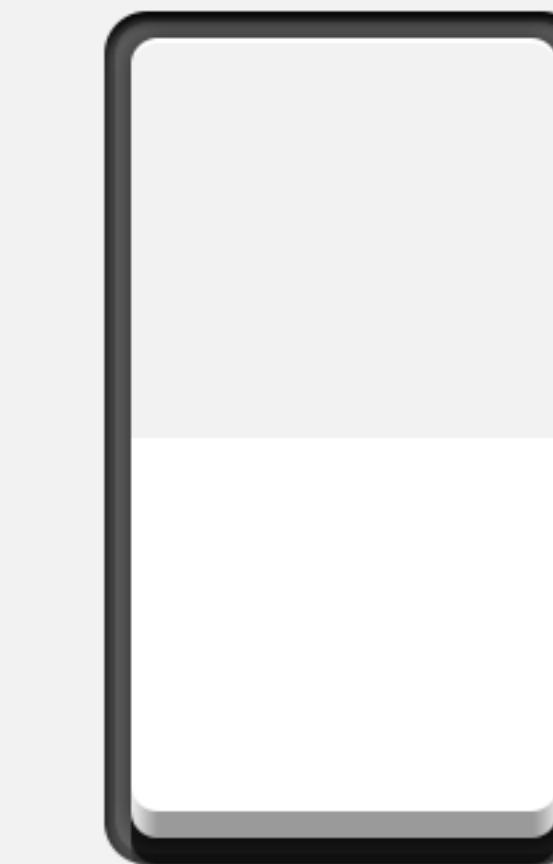
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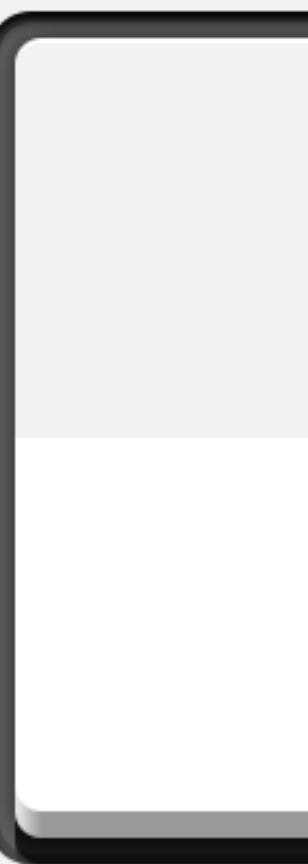
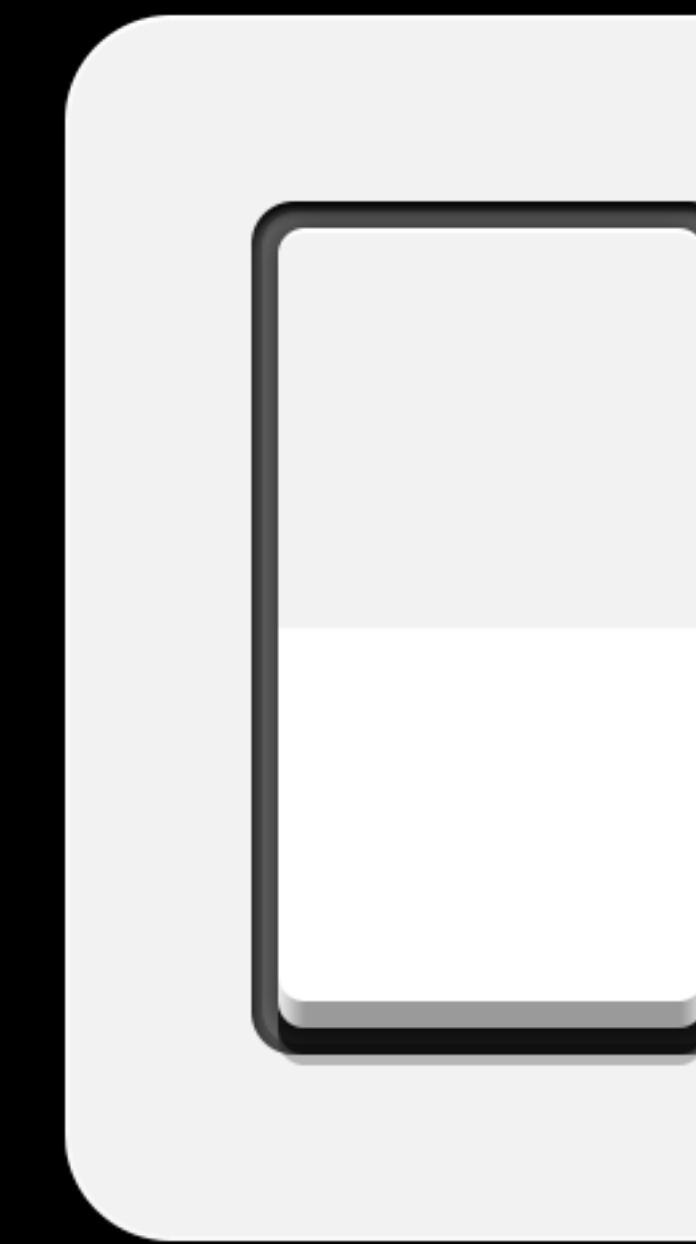
Make Exportable +

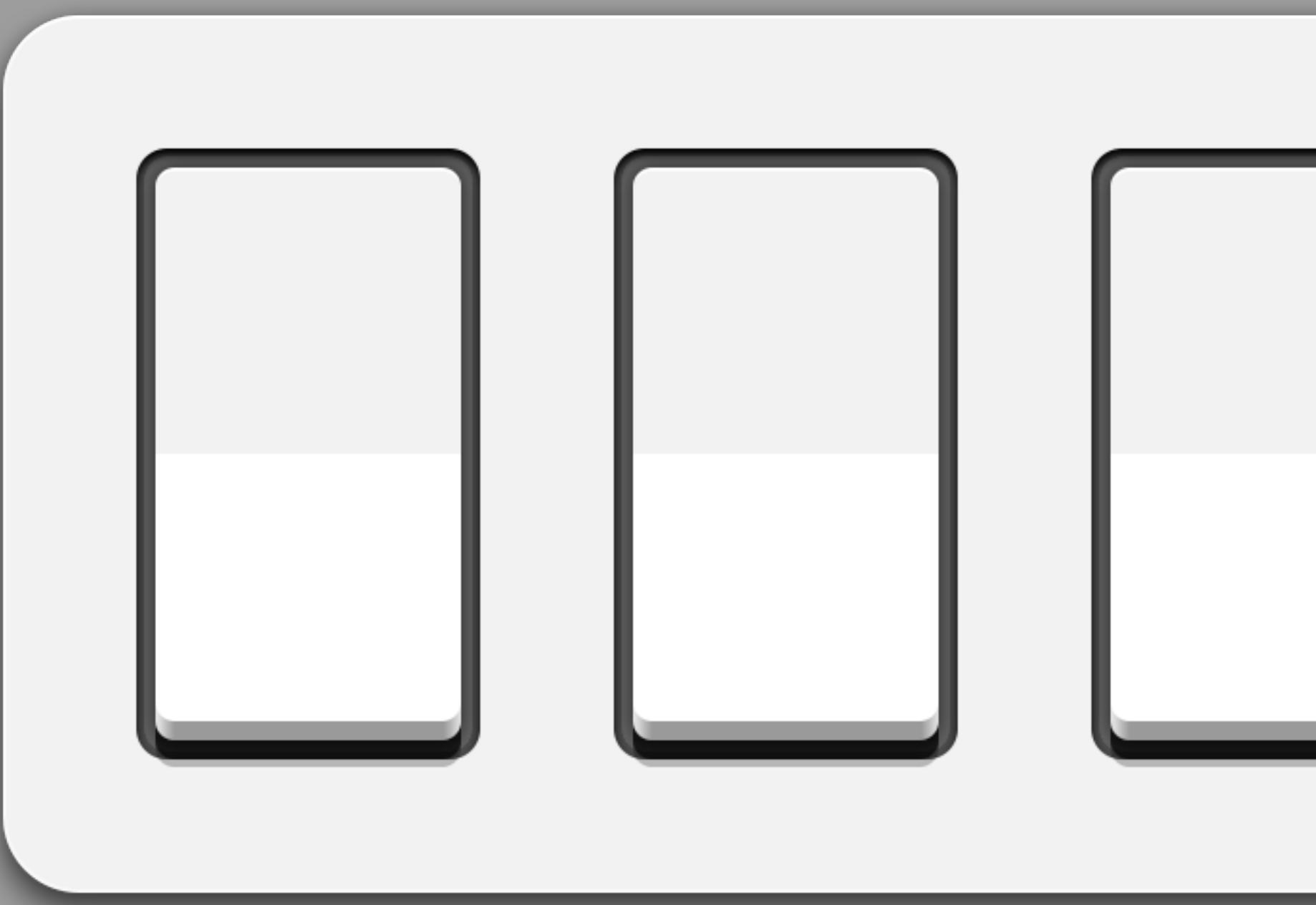
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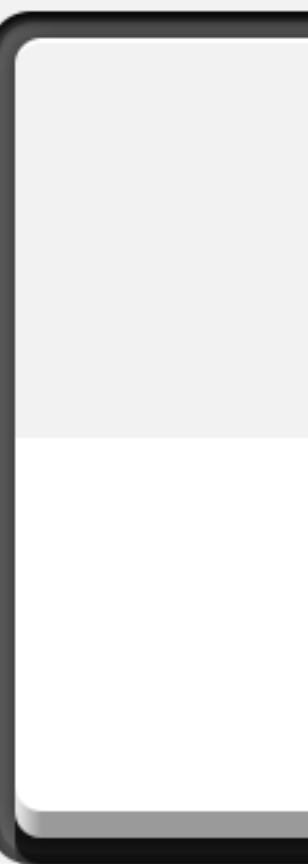
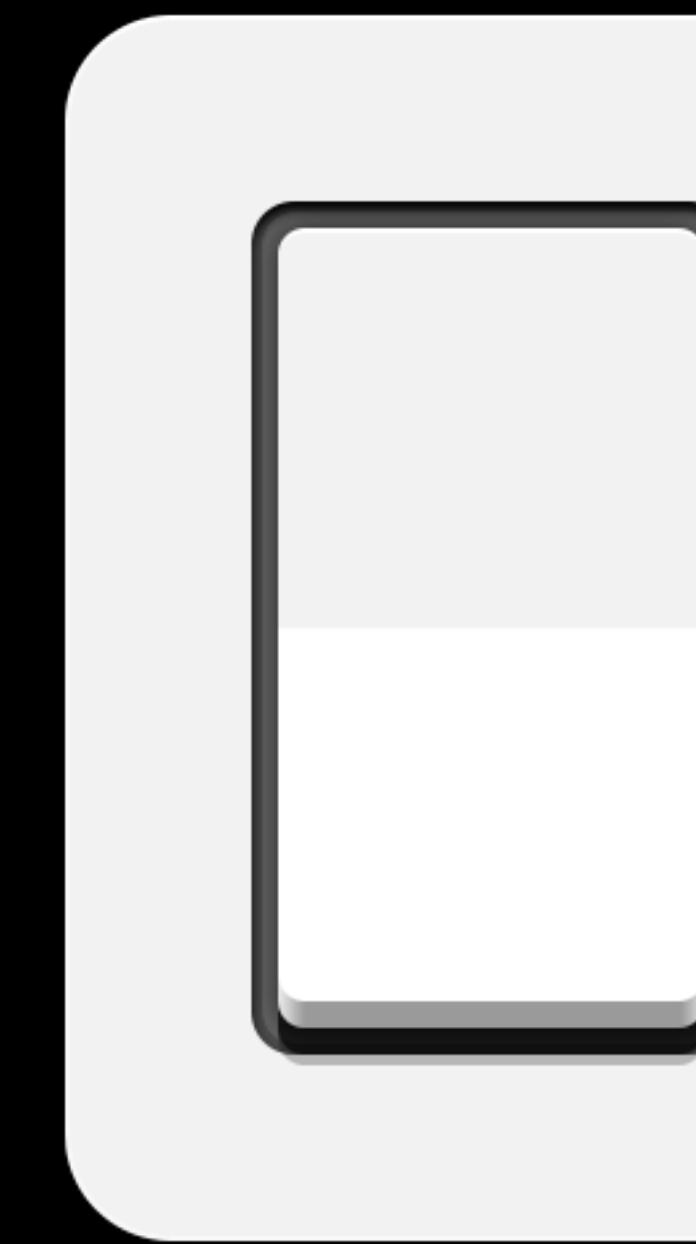


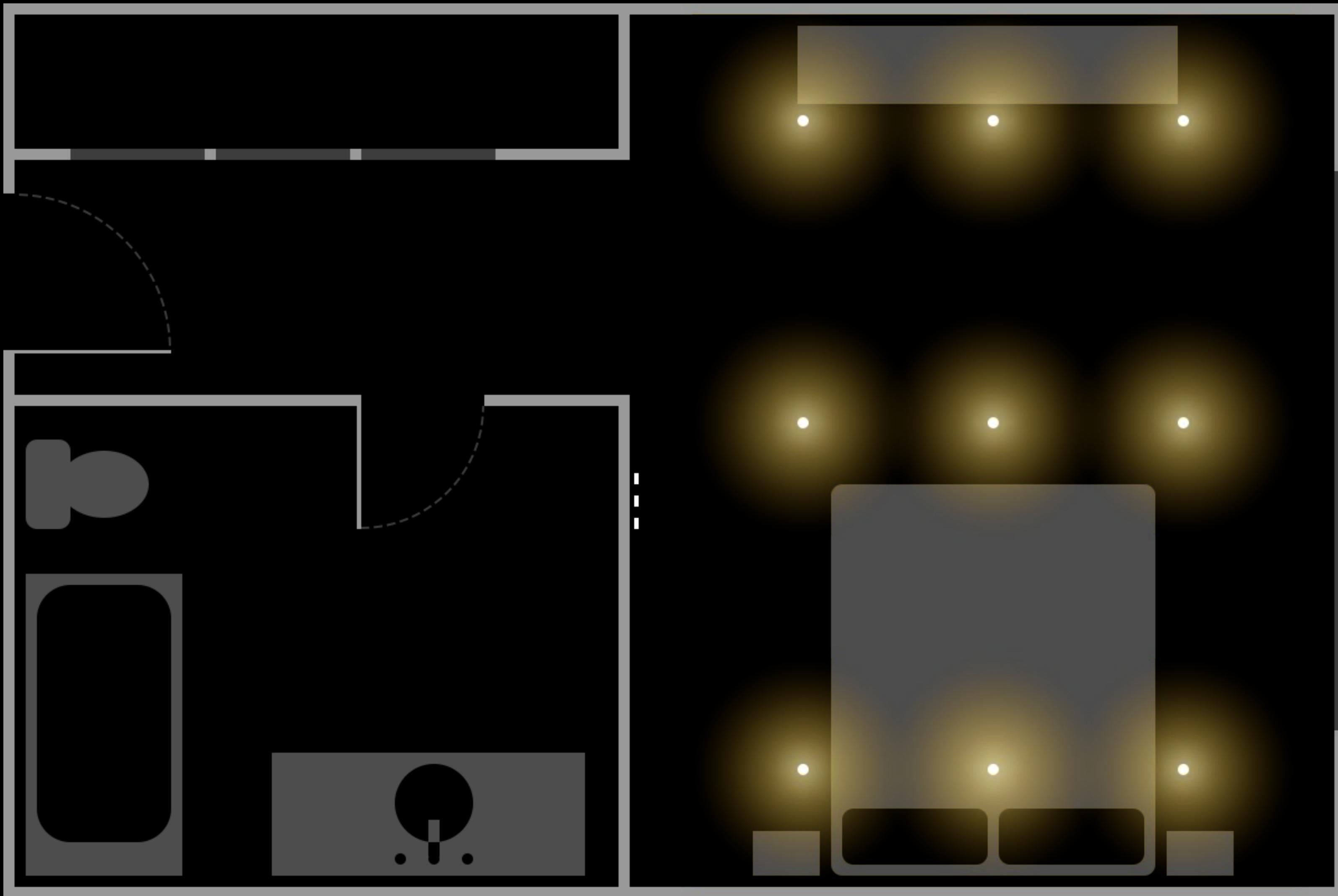


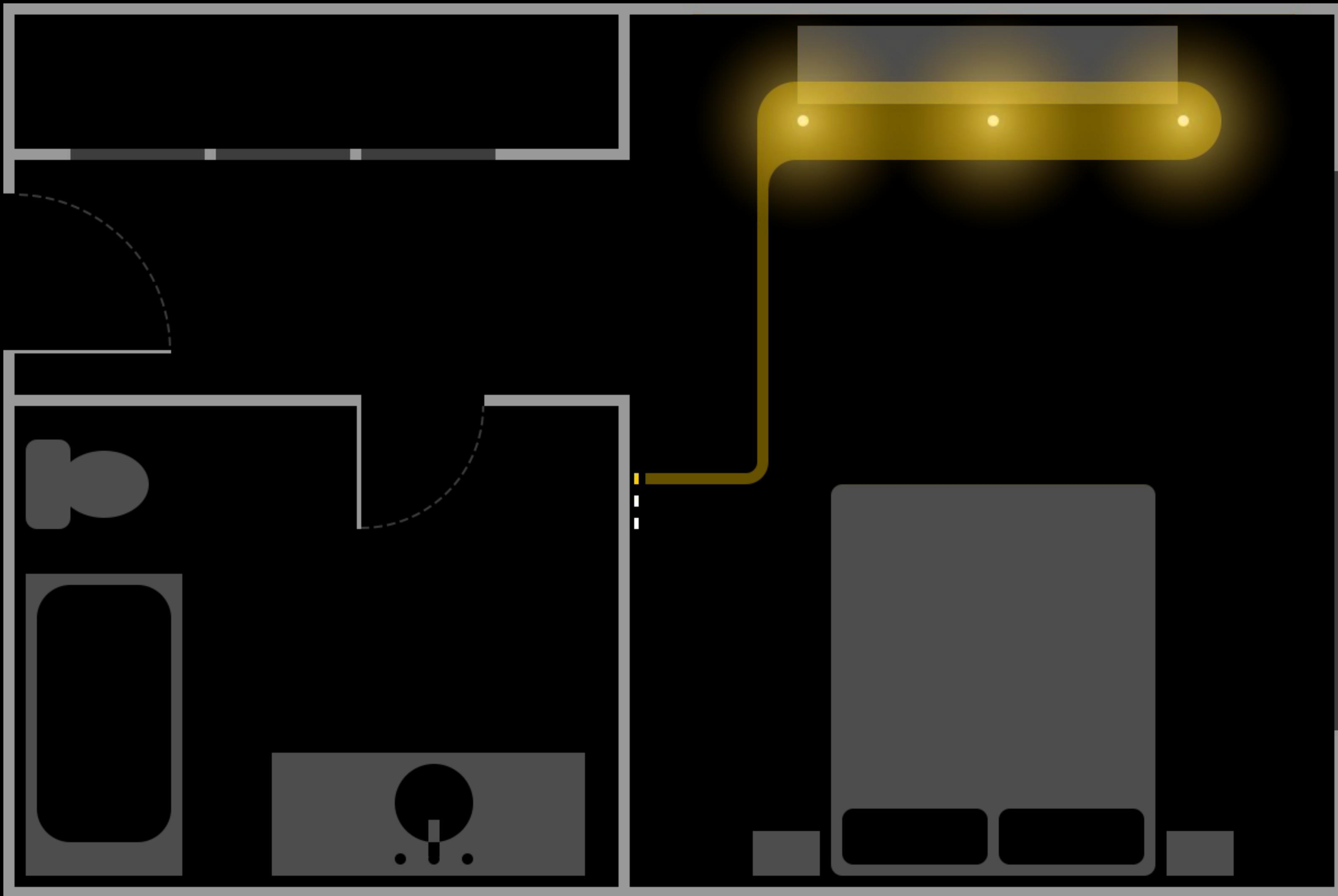
# Mapping

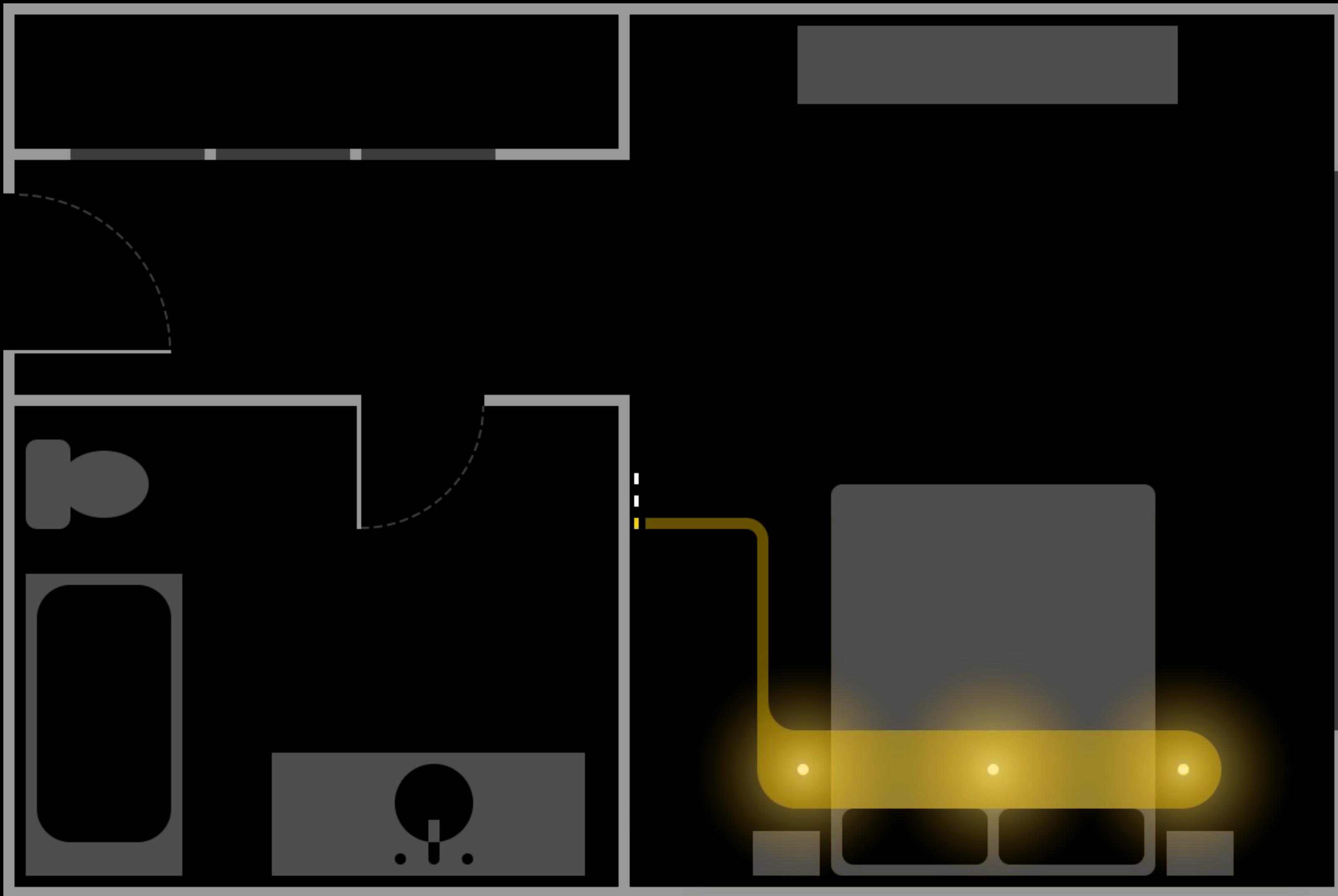


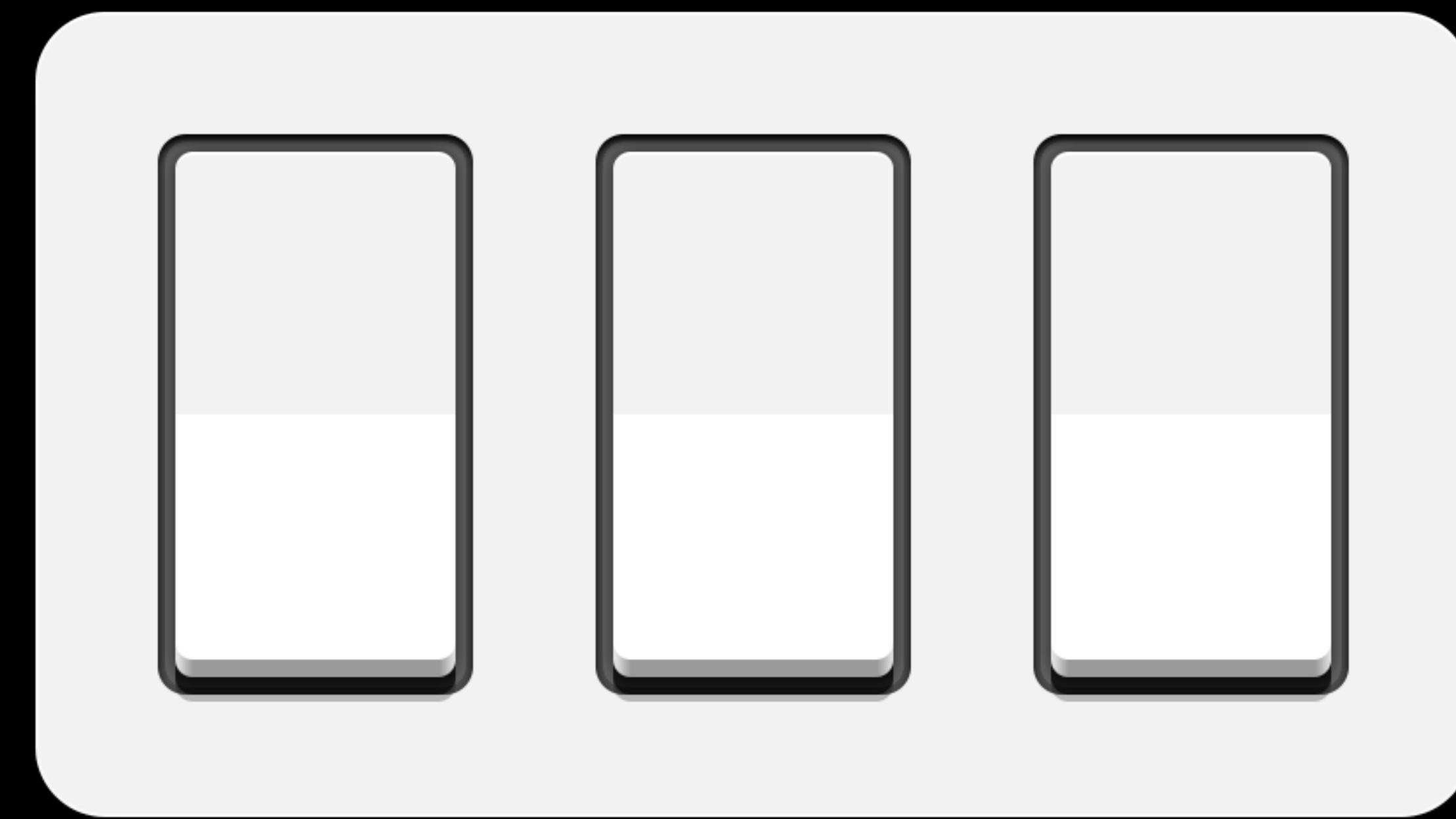


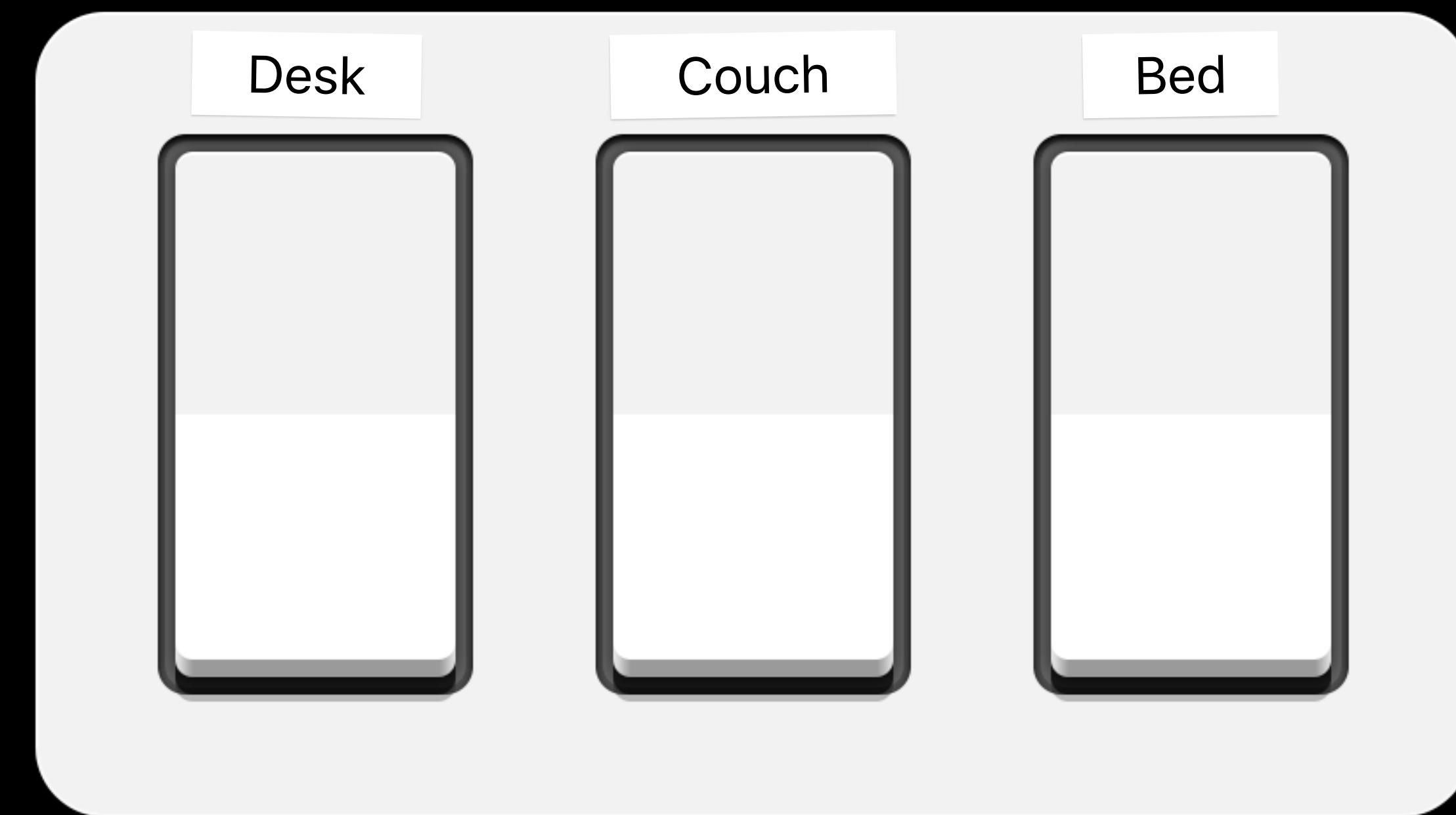












Desk

Couch

Bed

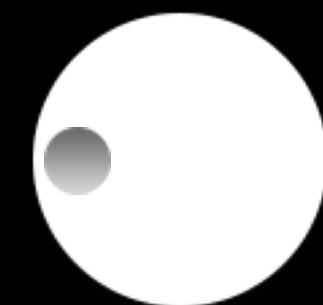
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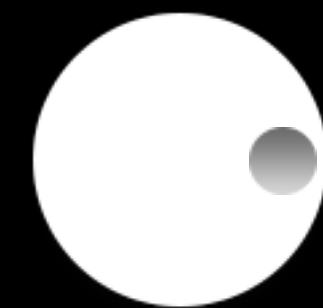
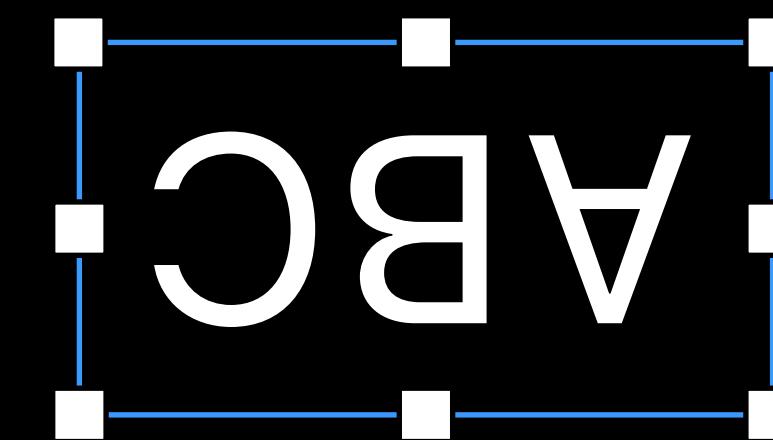


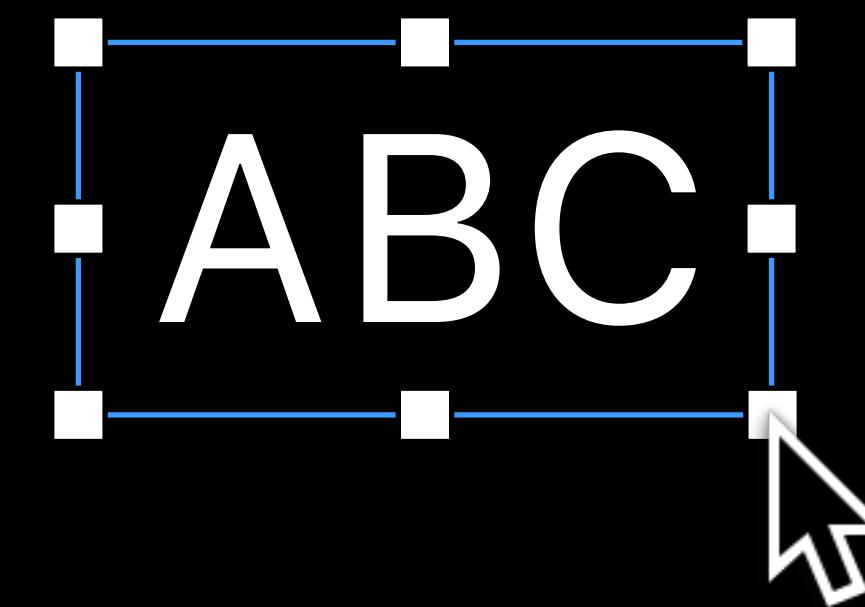
A B C

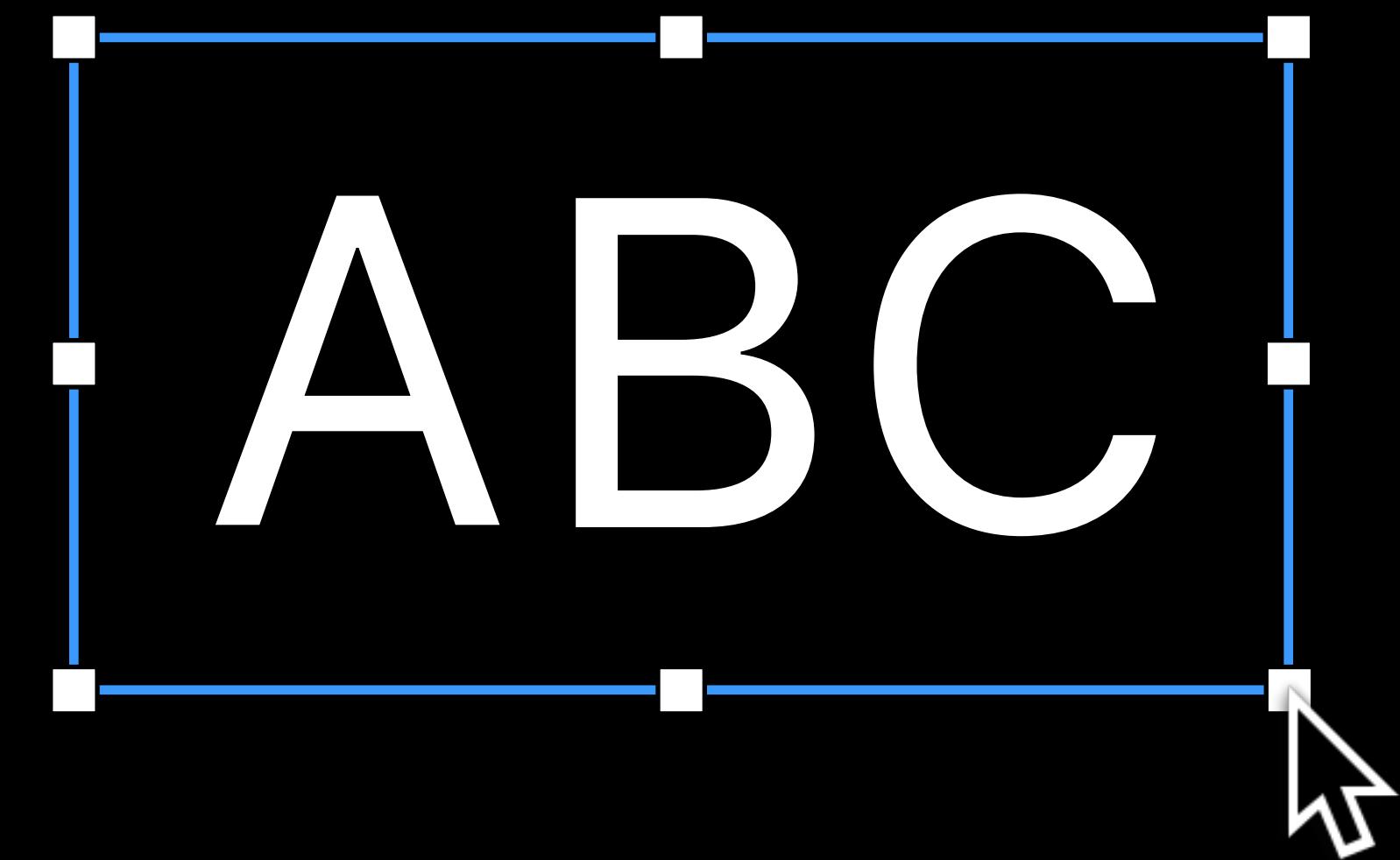


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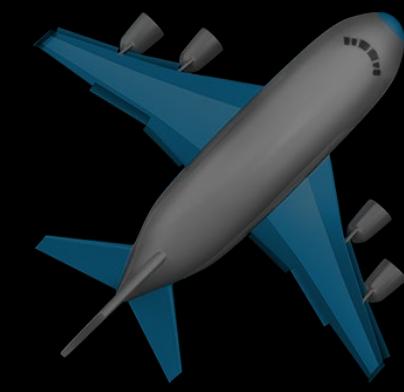






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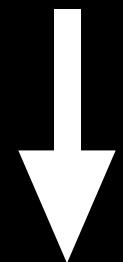
A  
B  
C



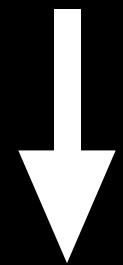
# Restaurant



Food



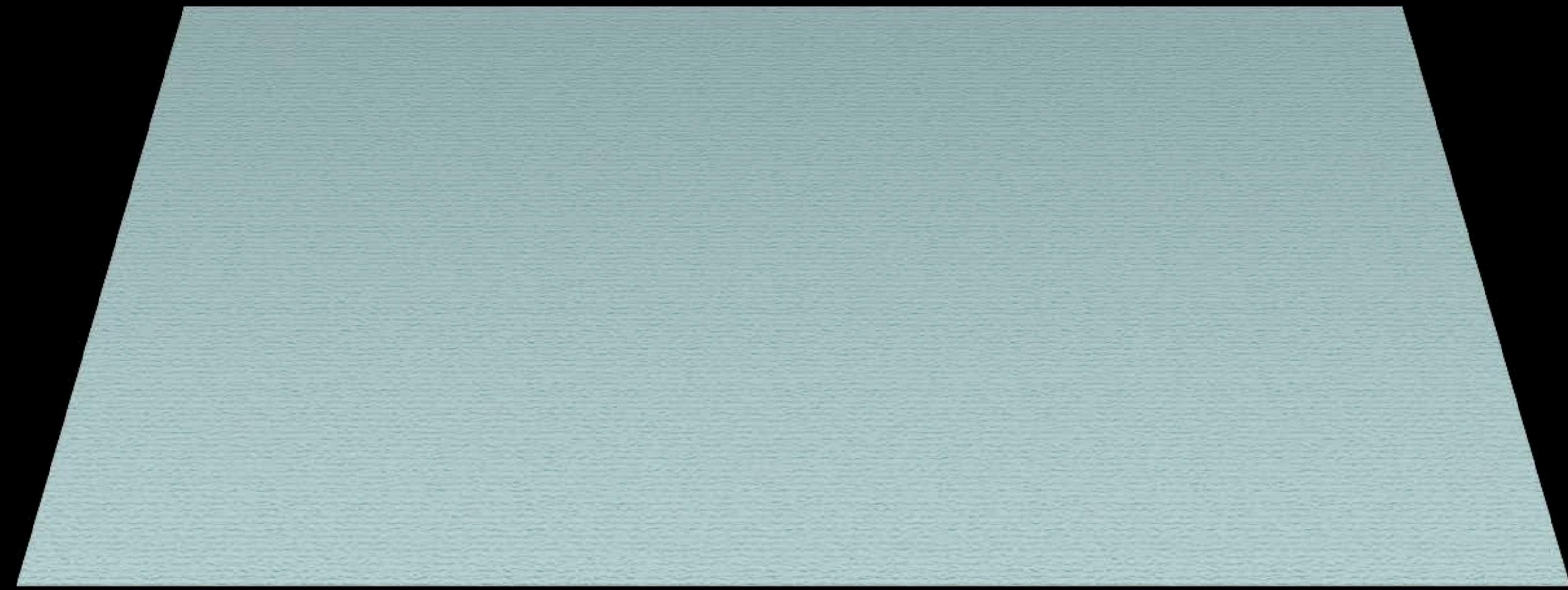
Food



#PutFoodOnIt



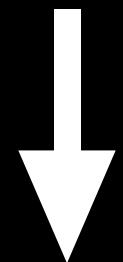




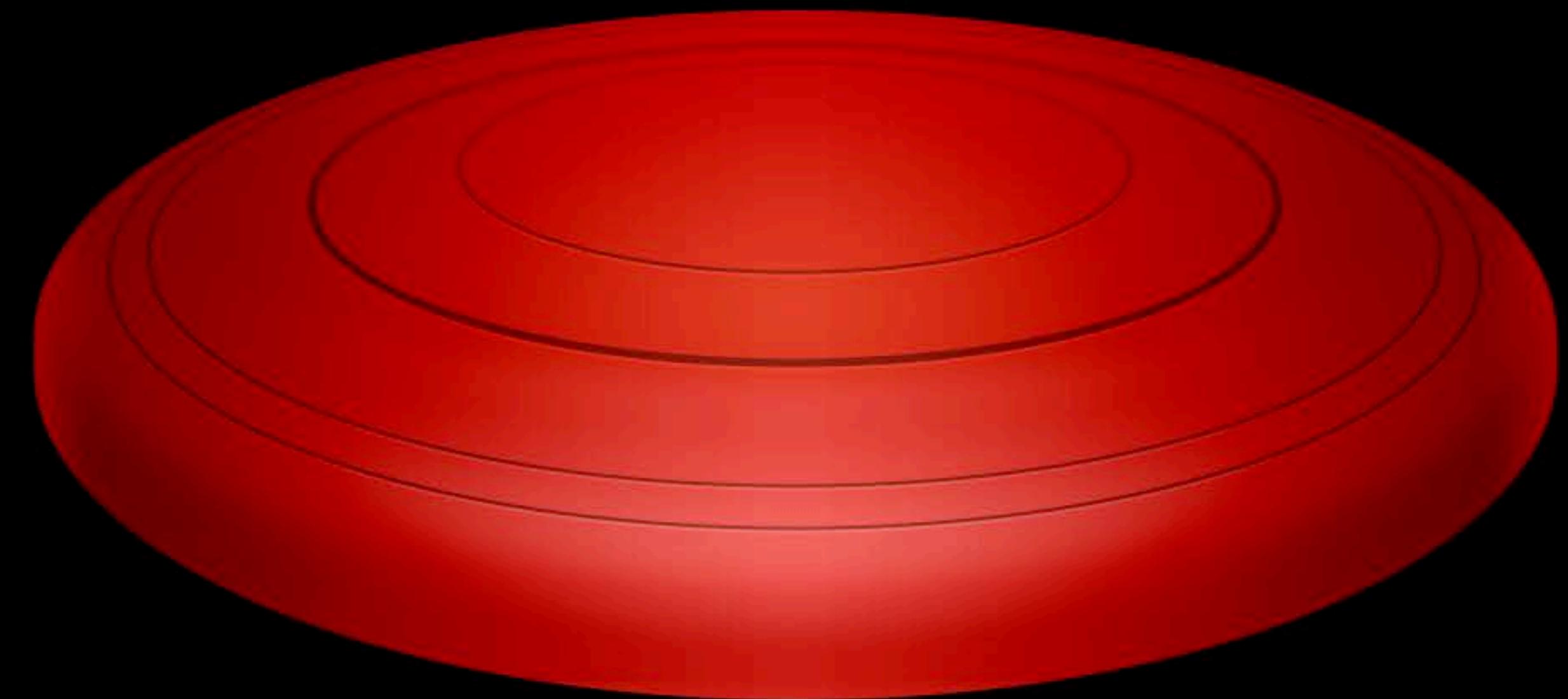
# Affordance



Food





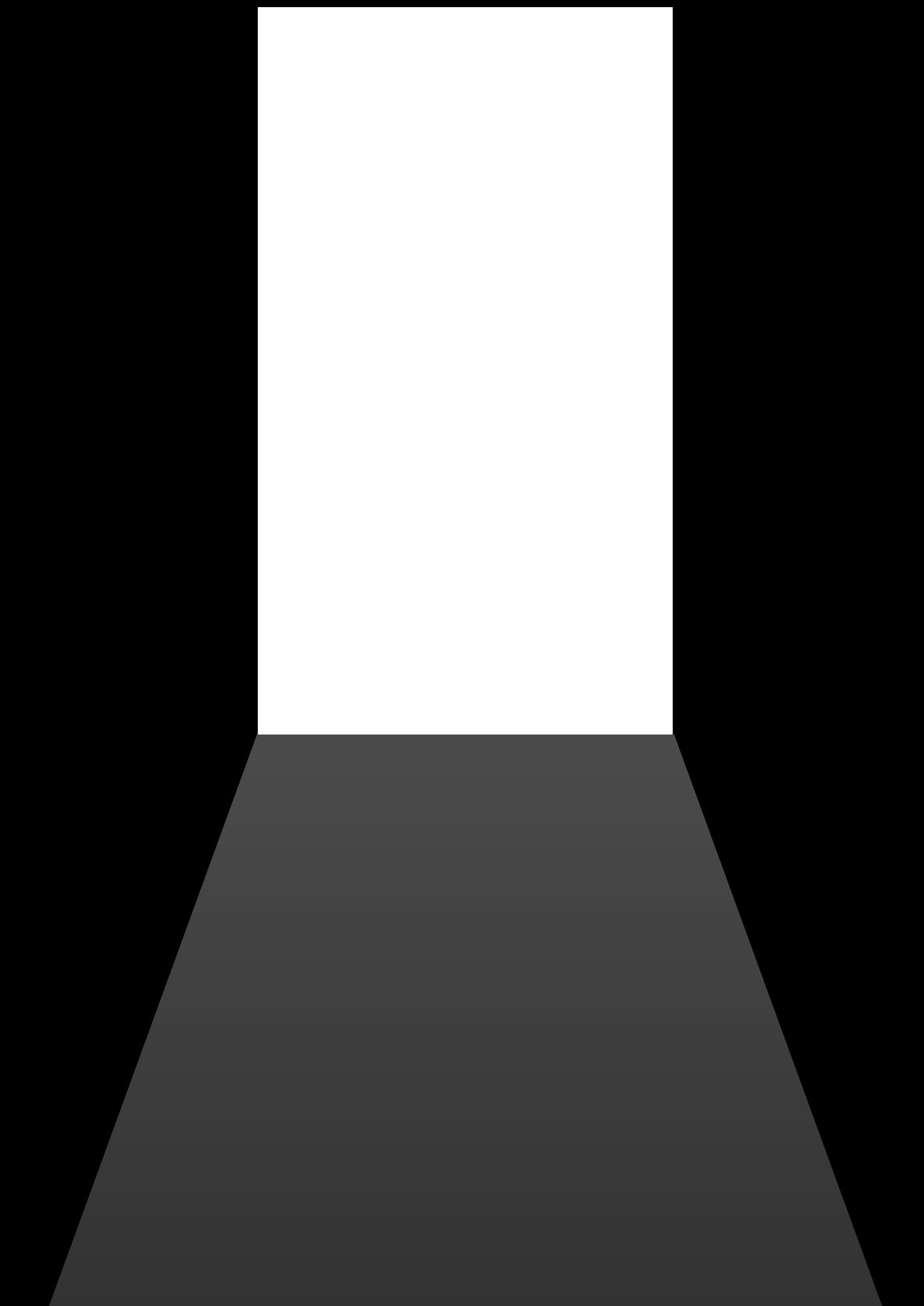


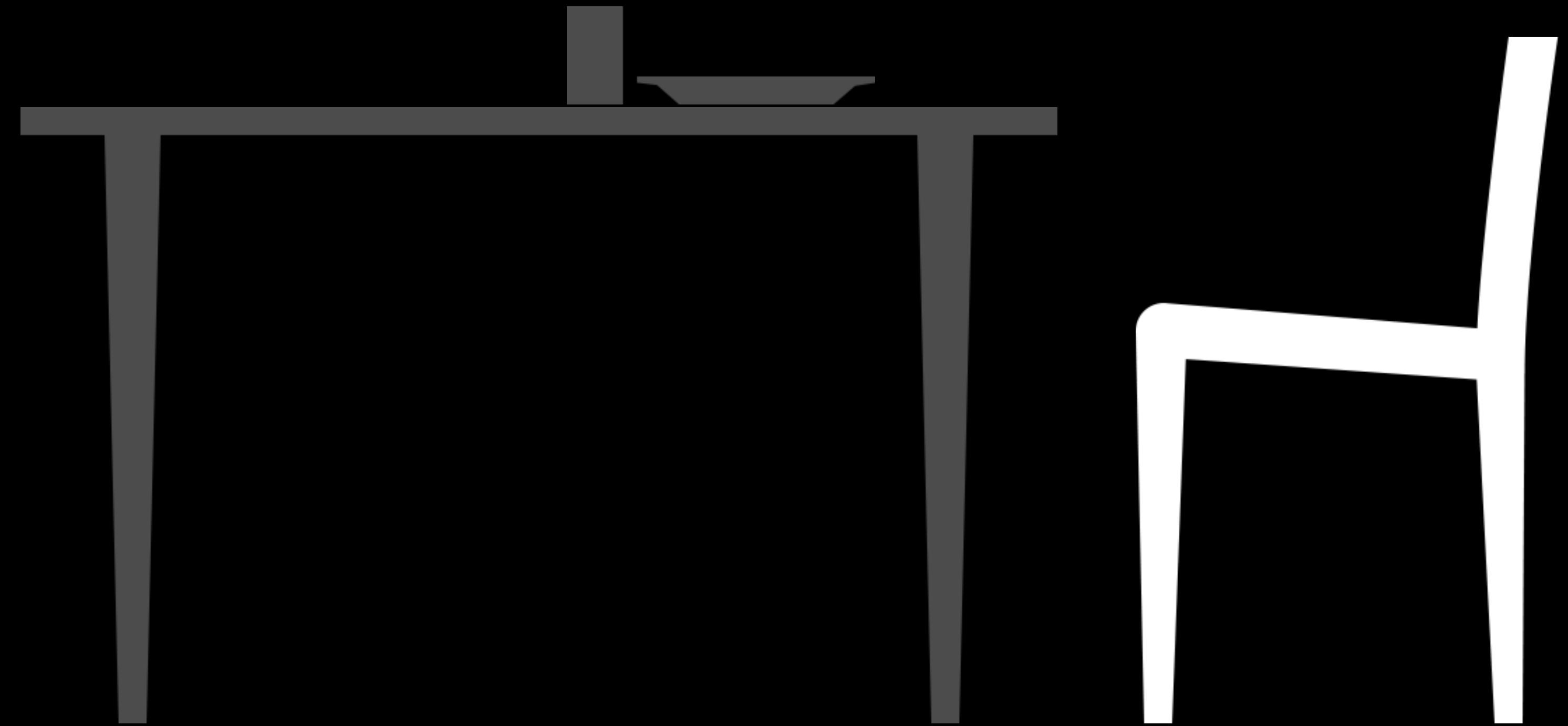
# Perceived Affordance

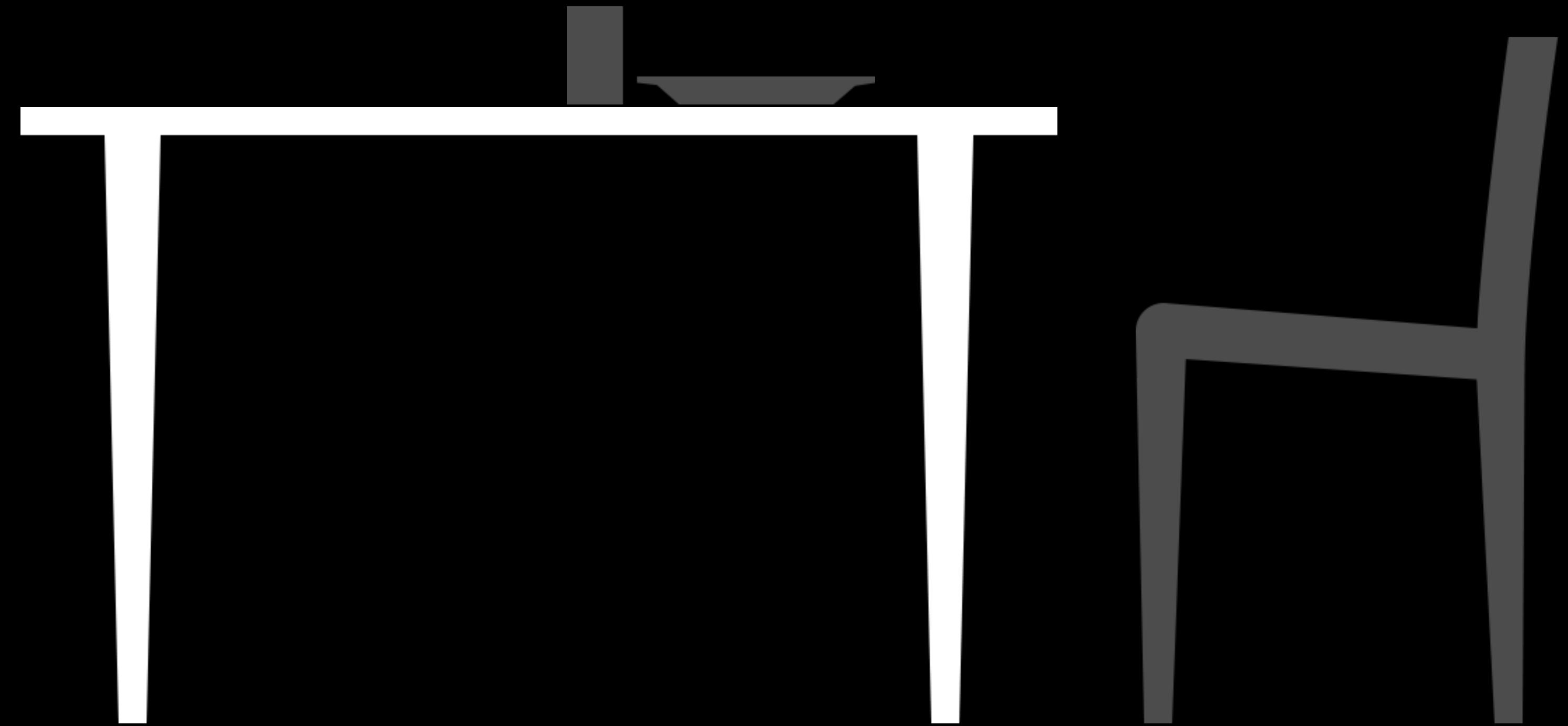


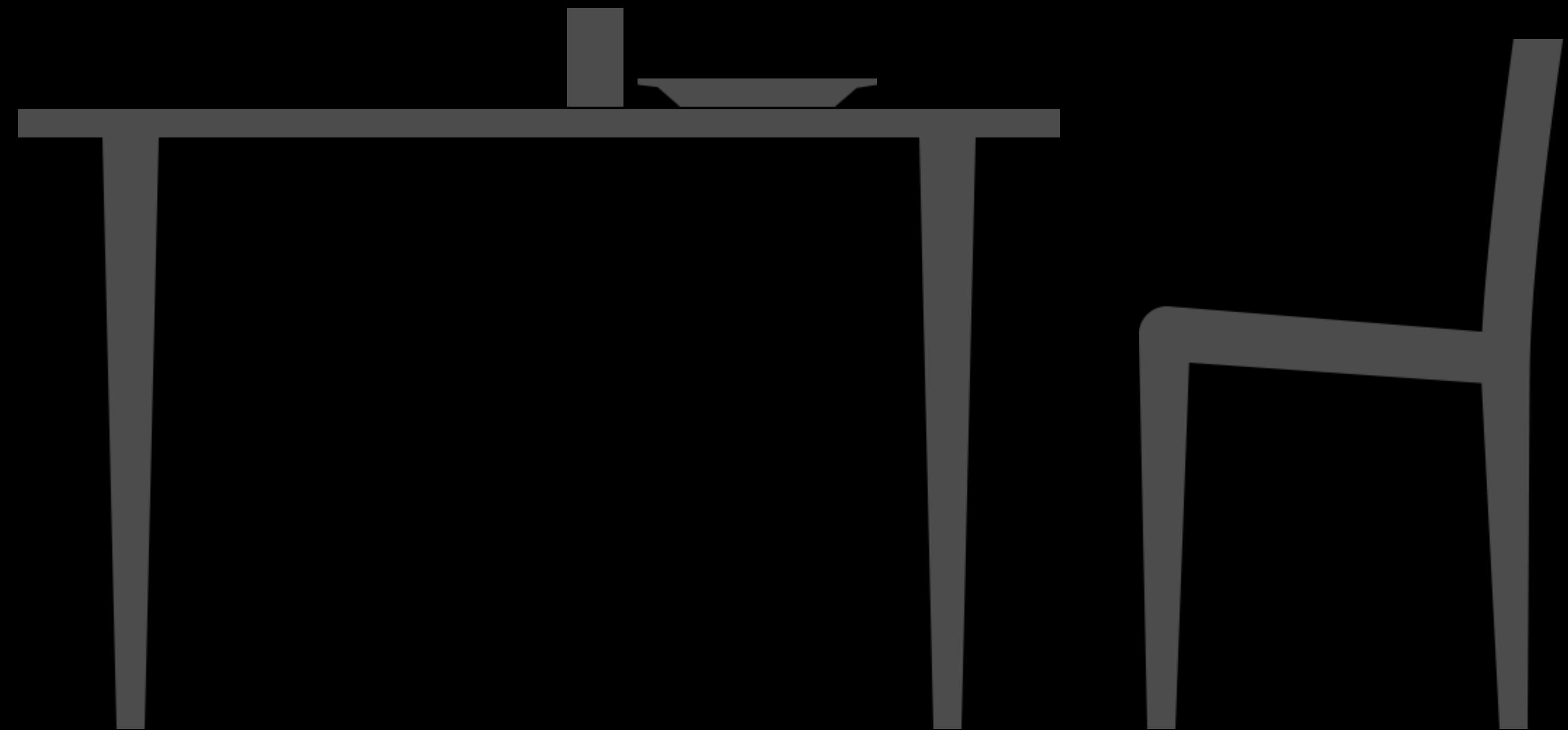


#PutFoodOnIt









fn

control

alt  
option

⌘  
command

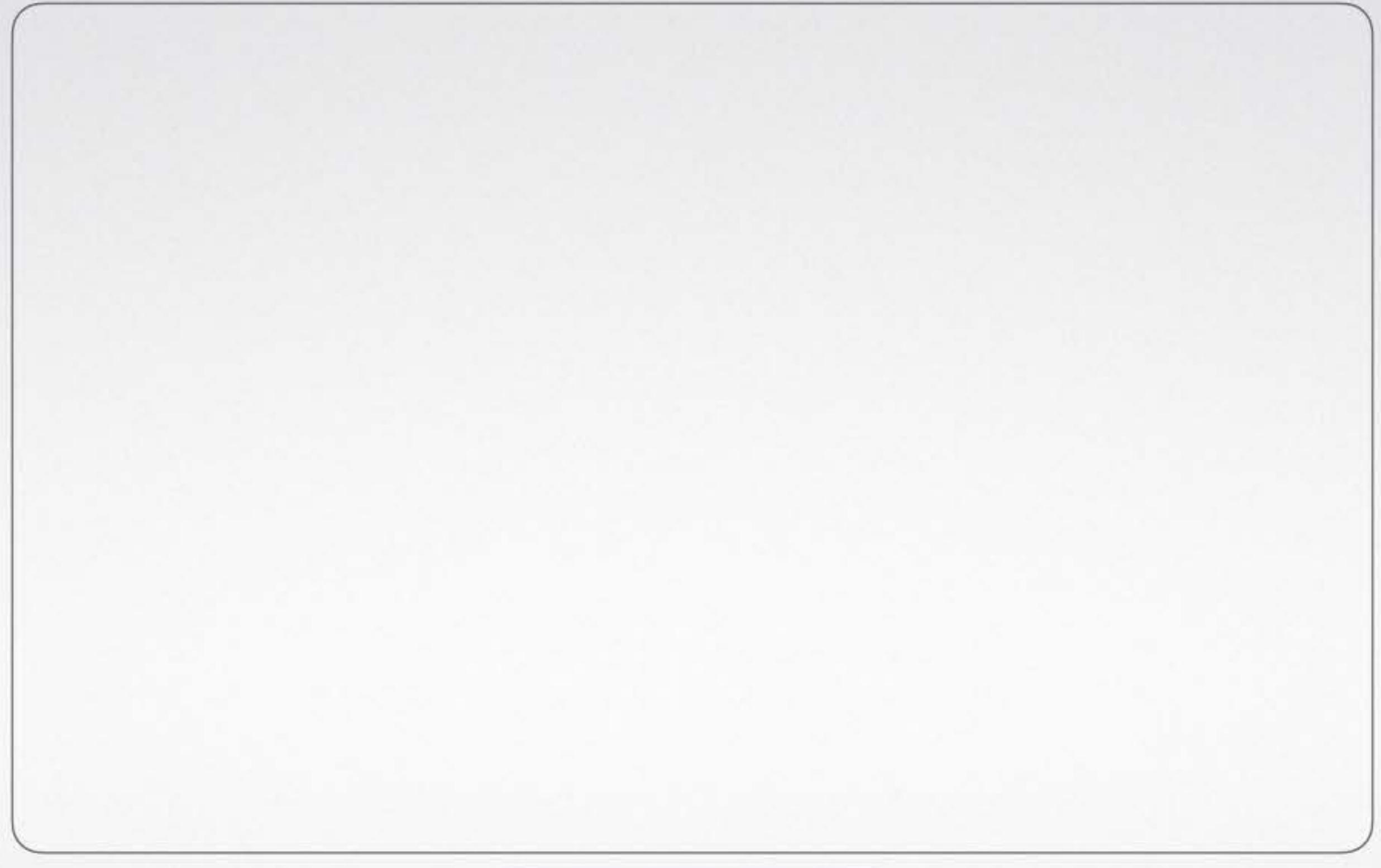
⌘  
command

alt  
option

◀

▲  
▼

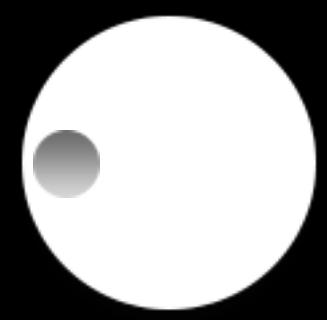
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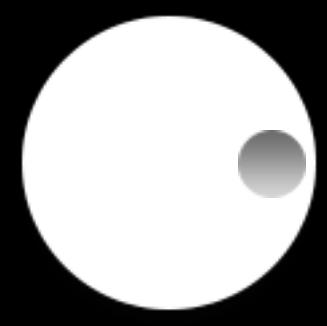


Put finger here to lift screen





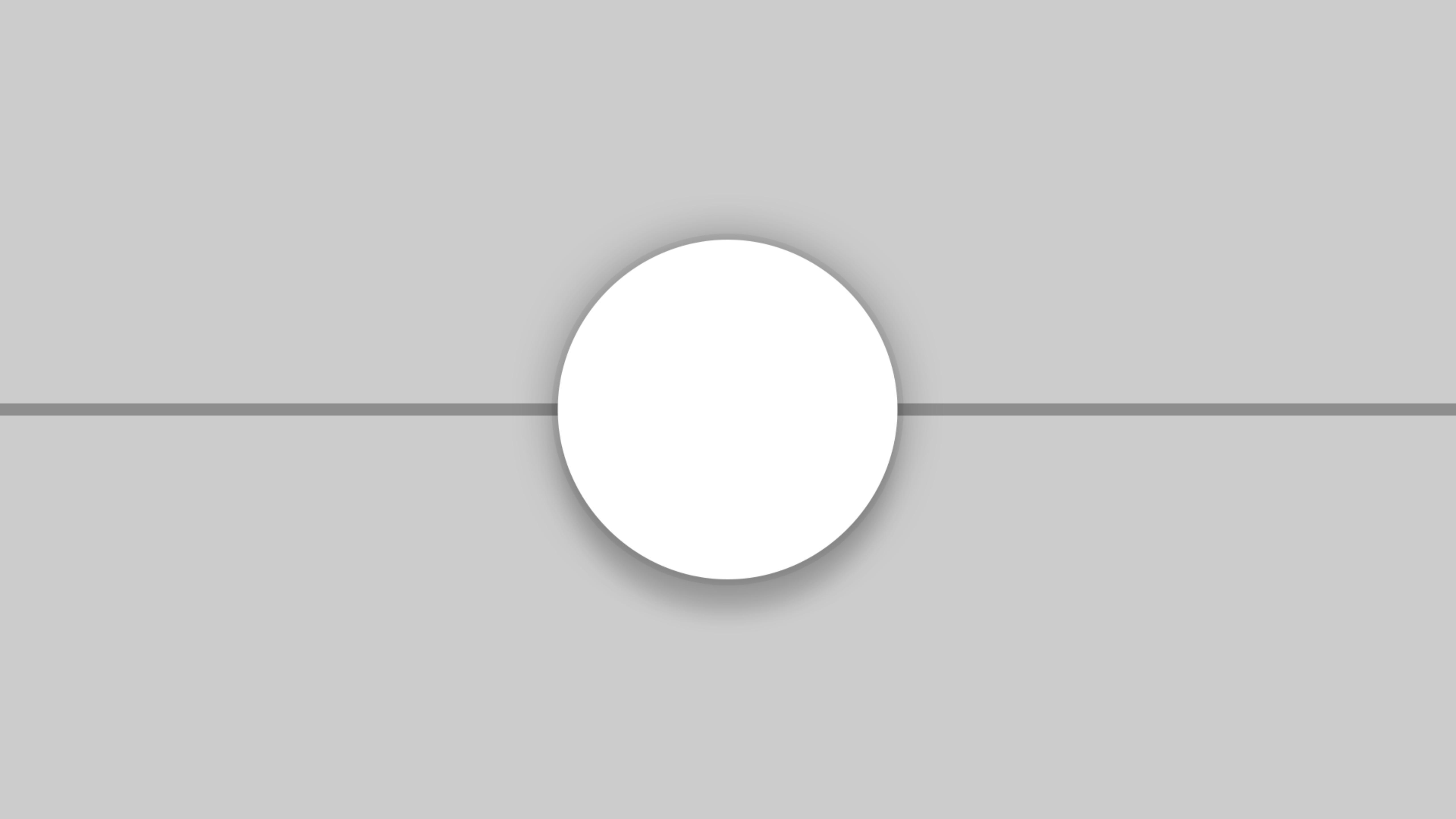


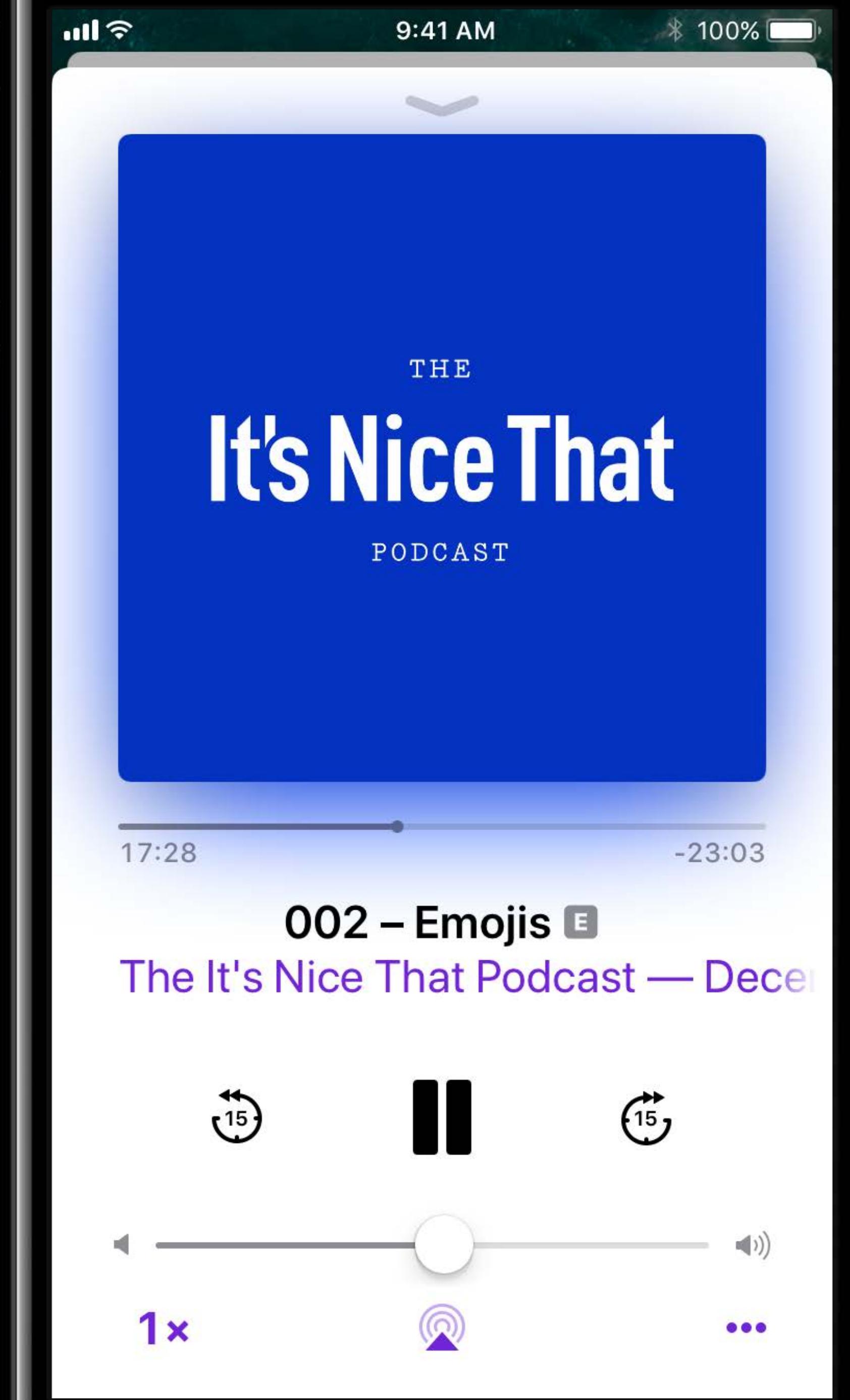


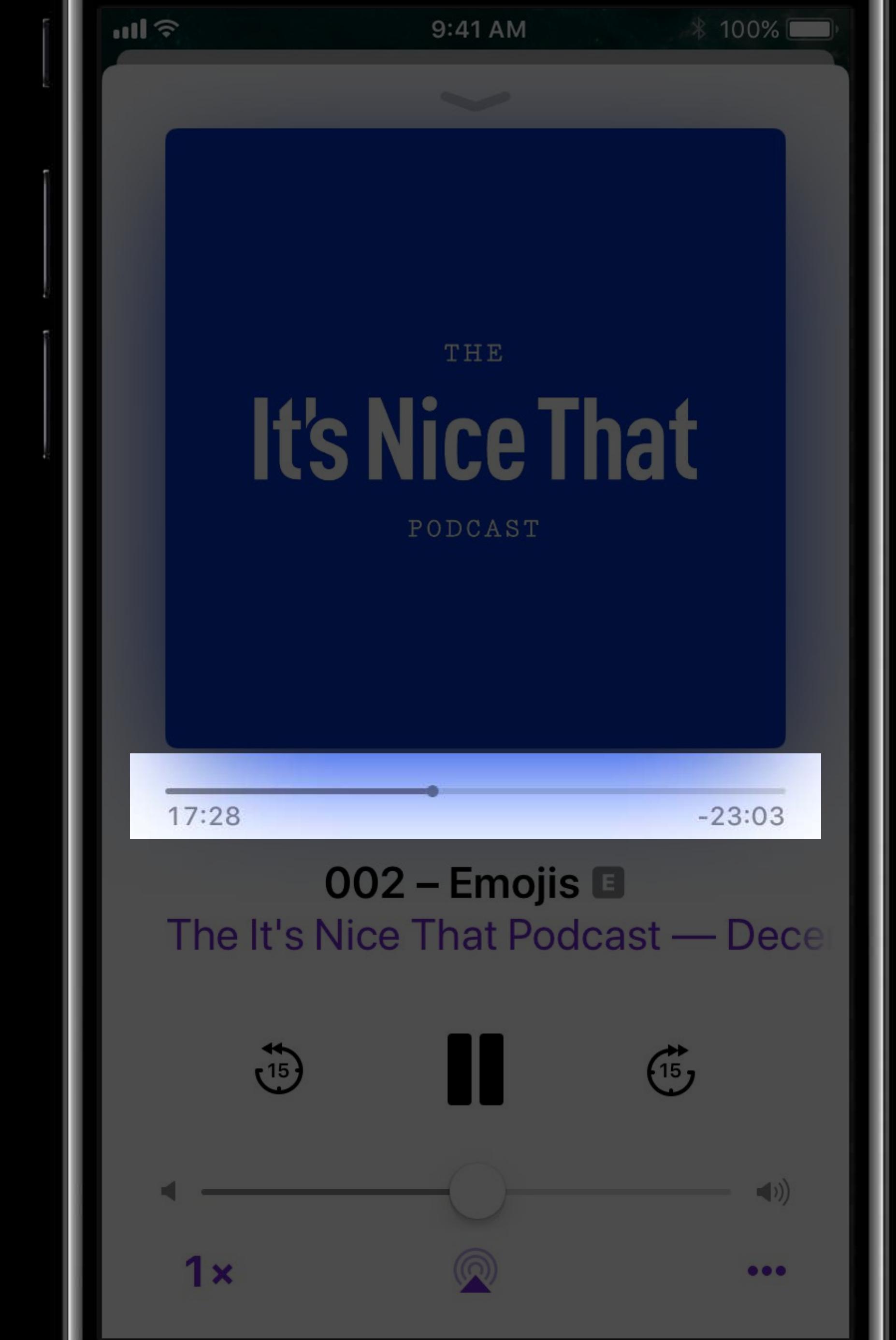
Button

Button





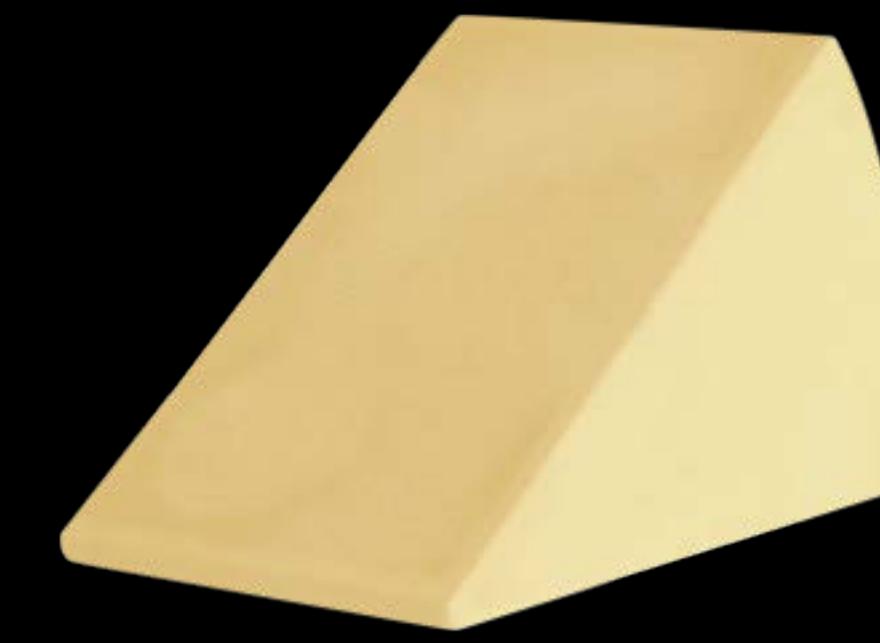
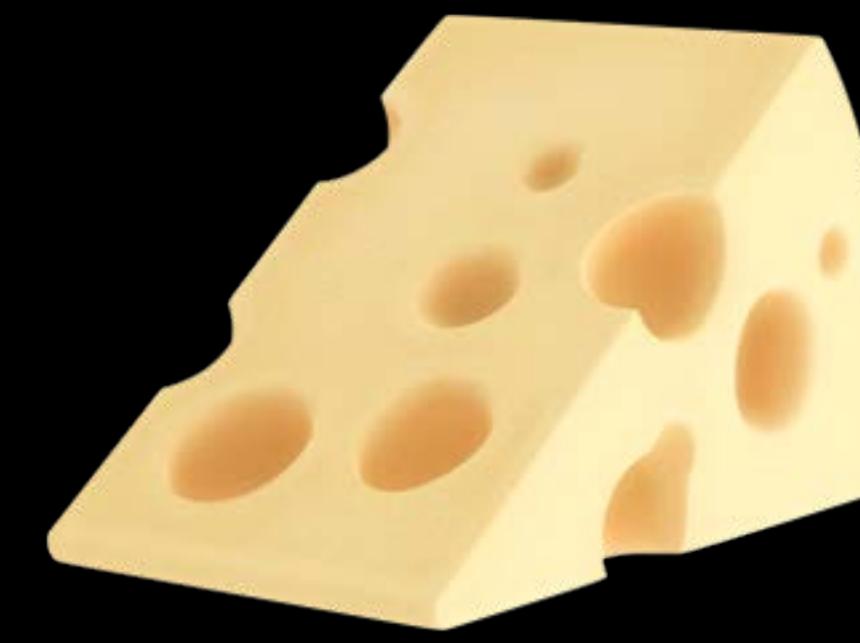


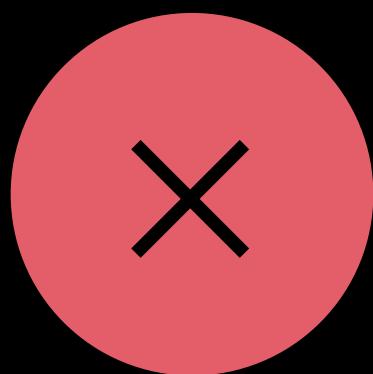
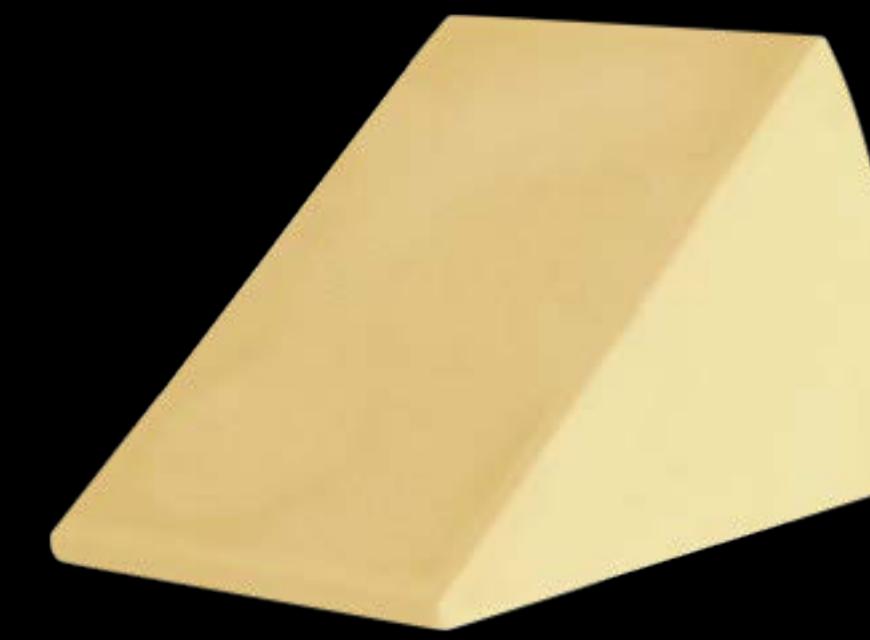
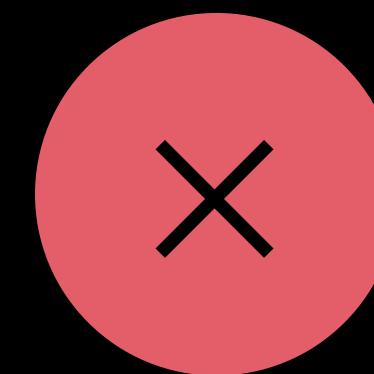
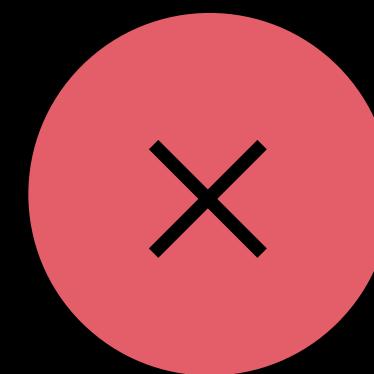
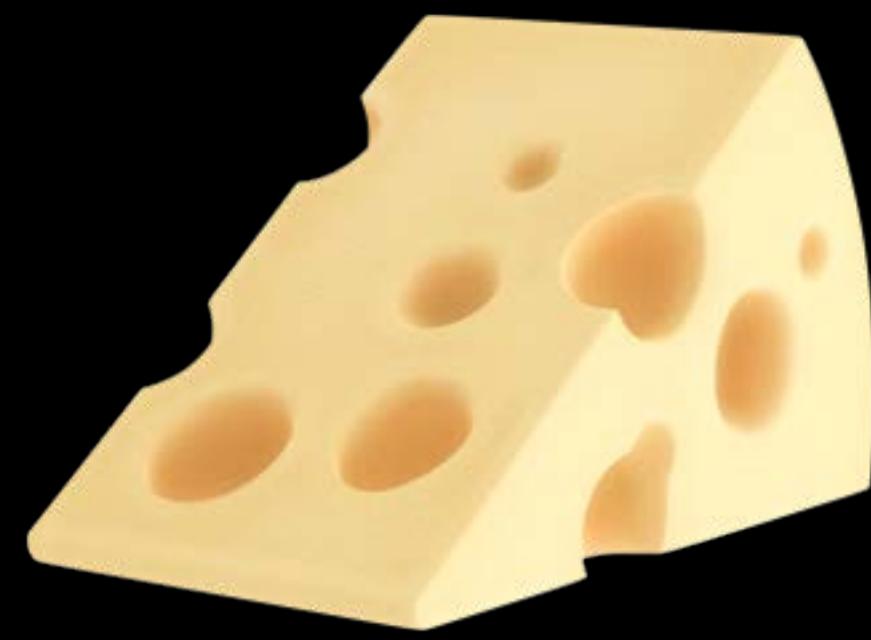




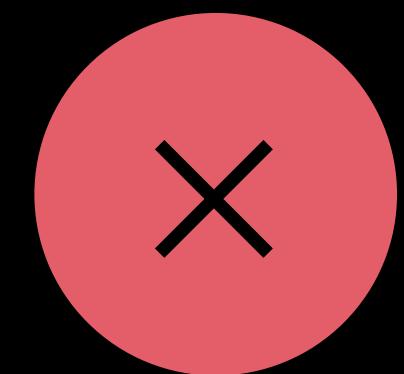
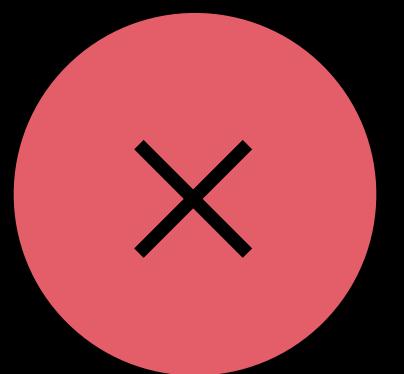
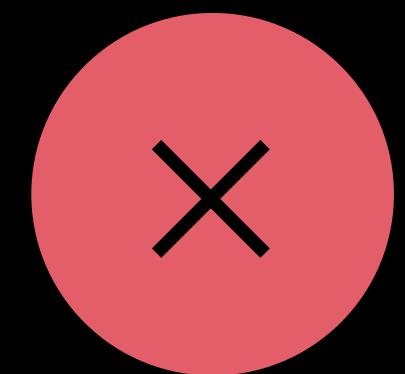
# Affordance



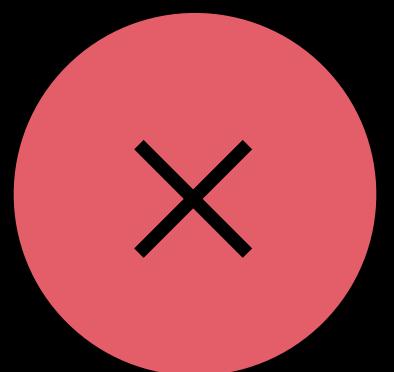
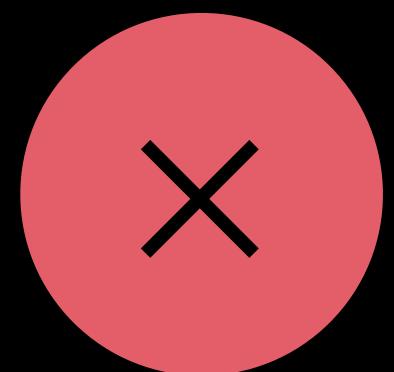












# Progressive Disclosure

Simple



Simple

Complex

Simple



Complex



Simple



Complex



## Doneness

Extra Rare

Rare

Medium Rare

Medium

Medium Well

Well Done

Overcooked

## Cheese

Cheddar

Swiss

Gruyere

Jack

Cottage

## Extras

Bacon

Egg

Avocado

## Sides

Salad

Fries

Onion Rings

Regular



Truffle



Garlic



Regular



Truffle



Garlic





# 80/20 Rule

80%      20%

Benefit      Actions

Reduce clutter

Simplify decision-making

170525c-EssentialDesignPrinciples

Printer: No Printer Selected

Copies: 1

Pages: All

Segue

Change Master

Slide Layout

Appearance

Title

Body

Slide Number

Background

Color Fill

Edit Master Slide

Essential Design Principles

Steve Jobs

Max Stern, Design Evangelism Manager

1 of 277

?

PDF

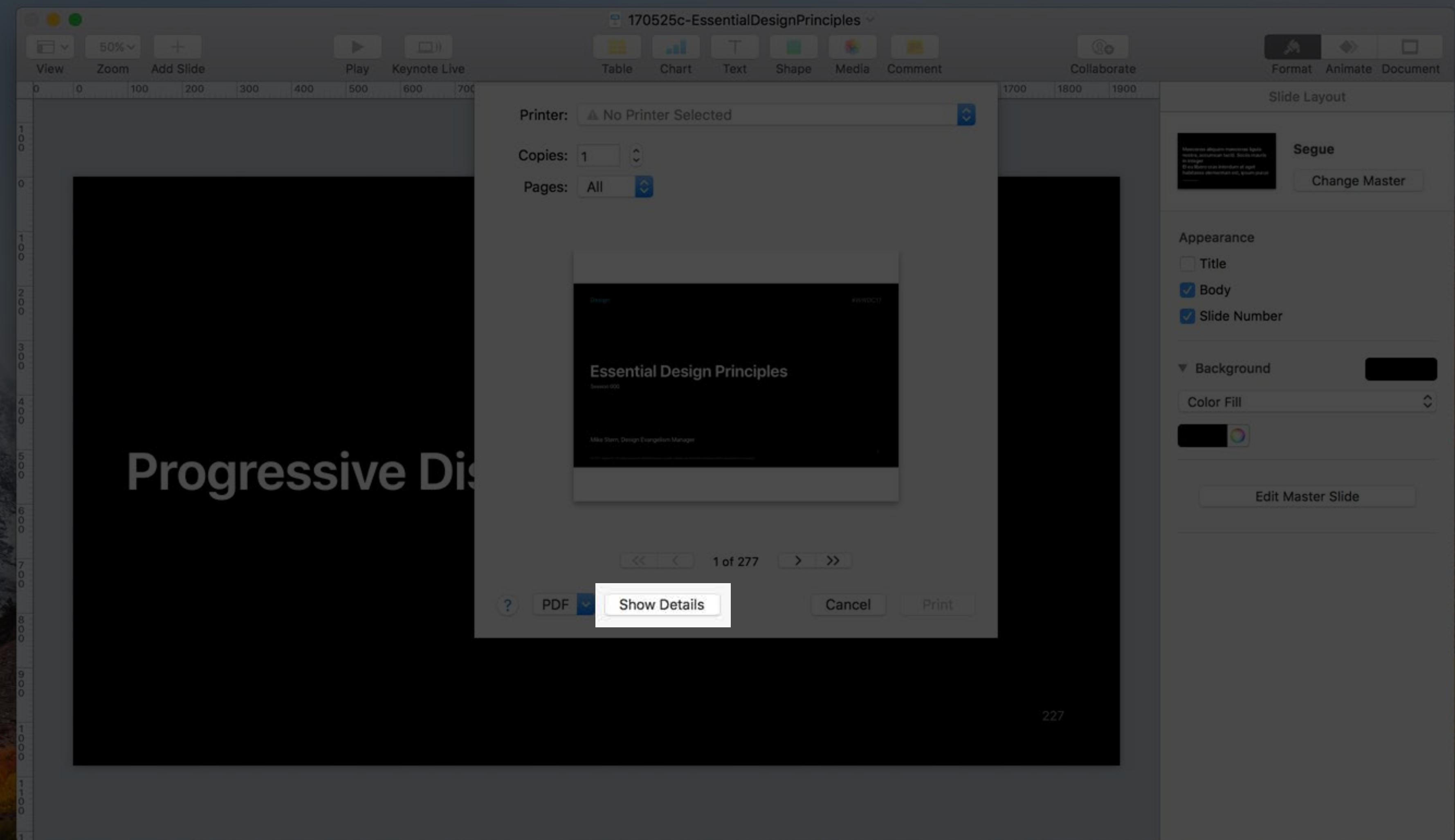
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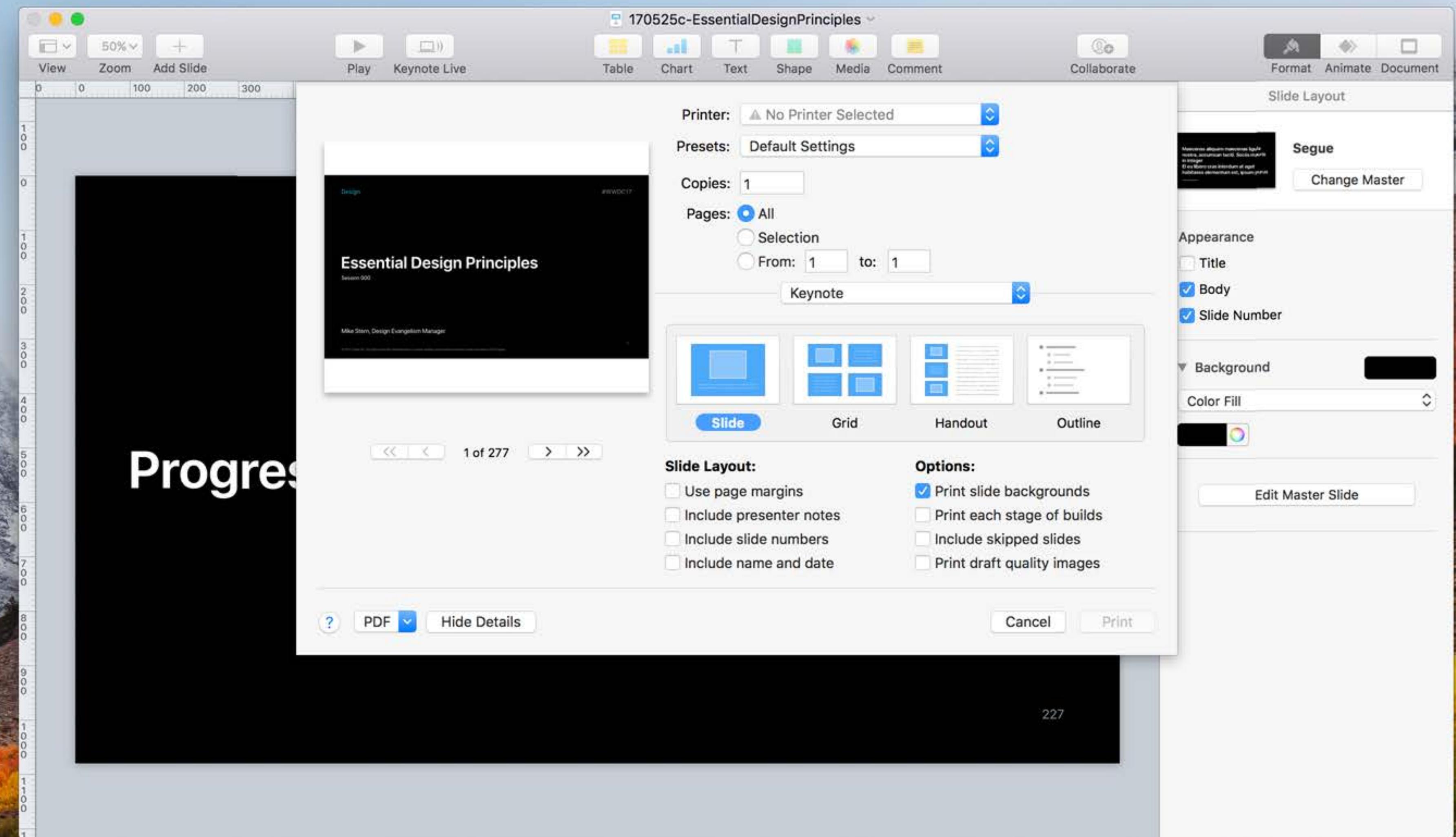
Cancel

Print

227







Pr♥gressive Disclosure





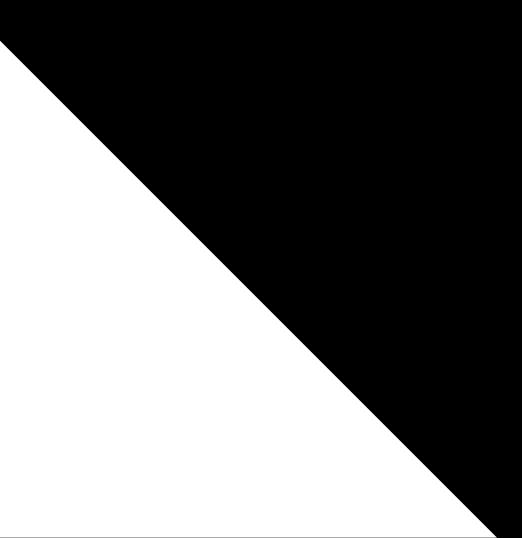
Beach

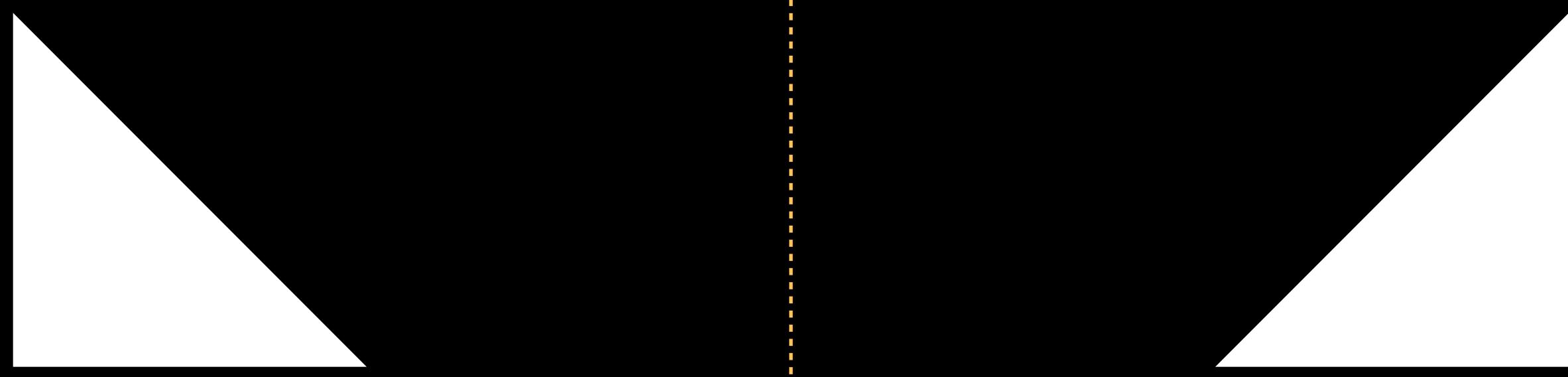


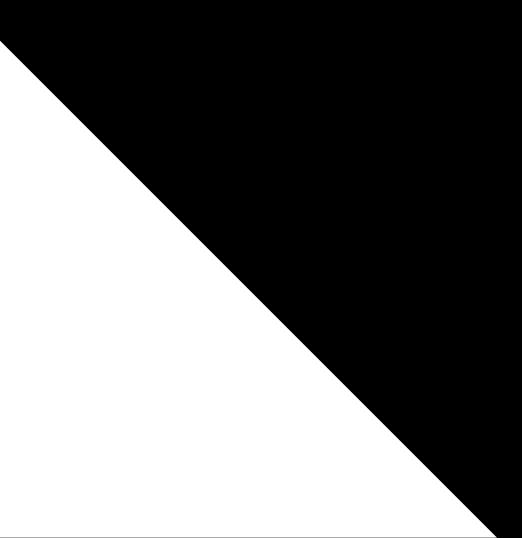


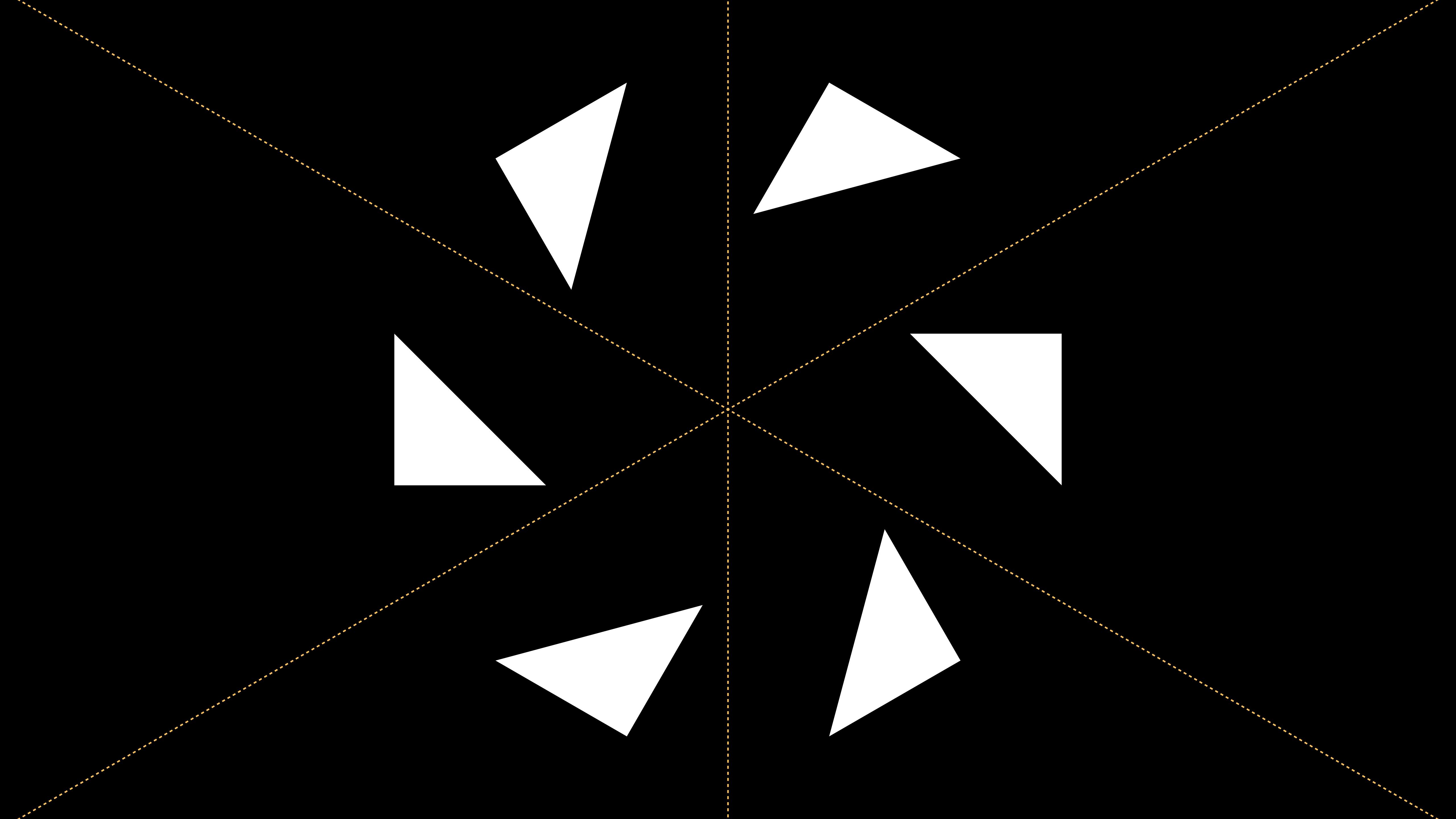


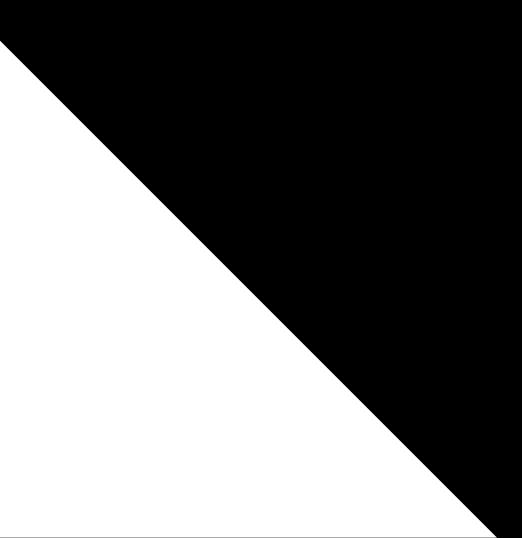
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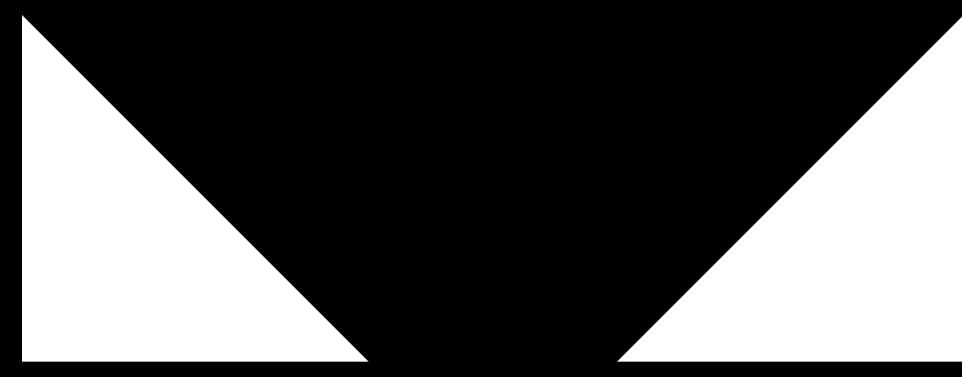




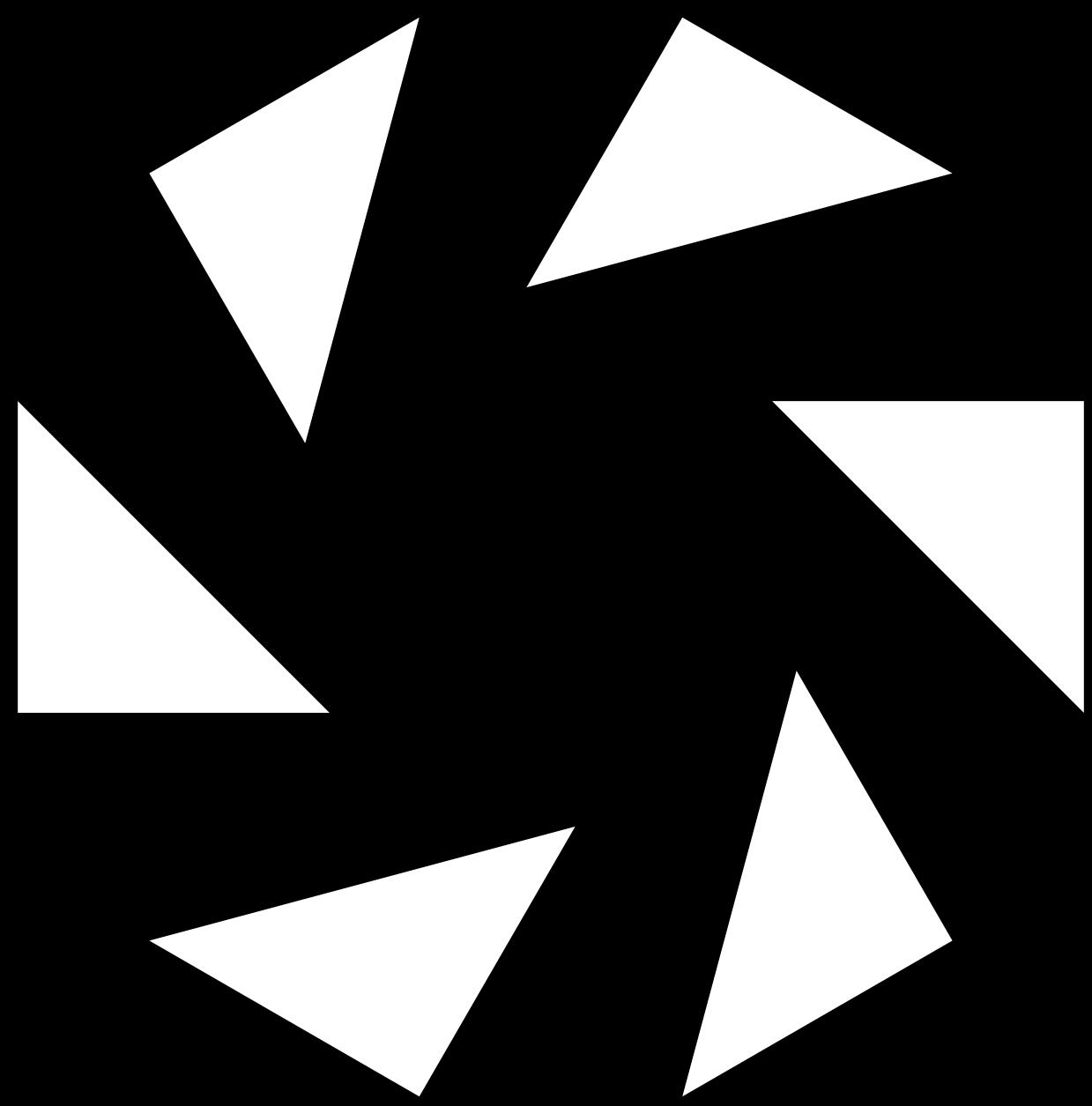




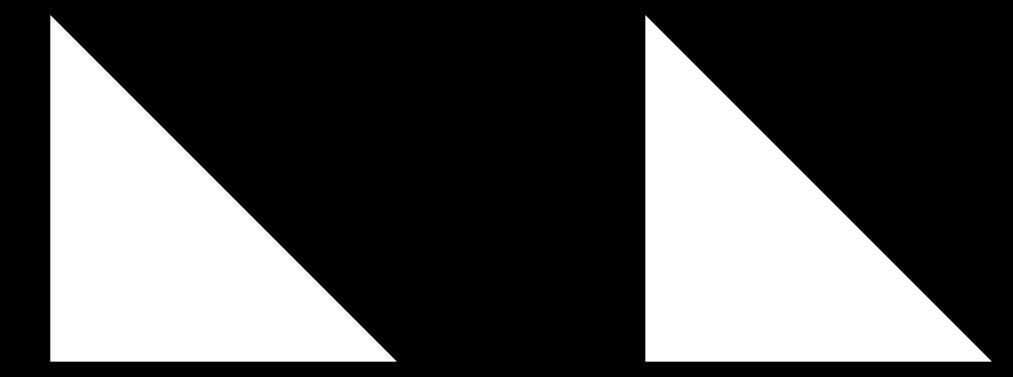




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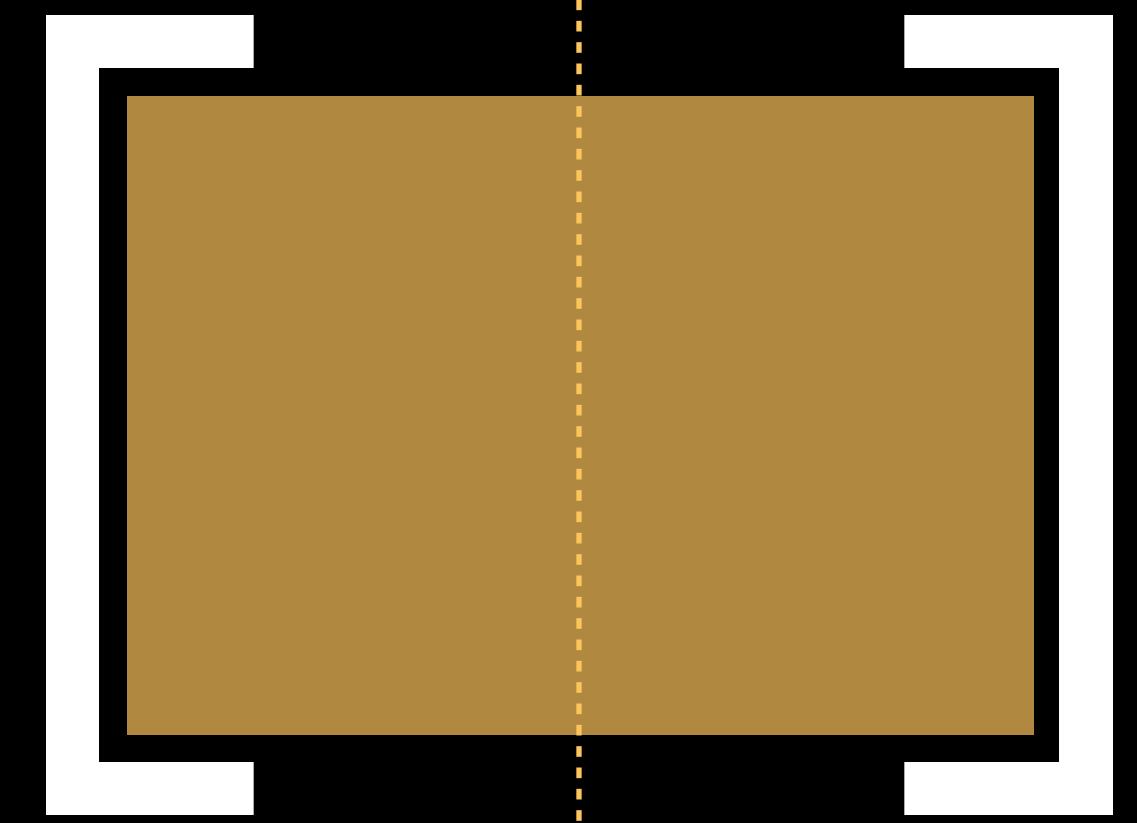


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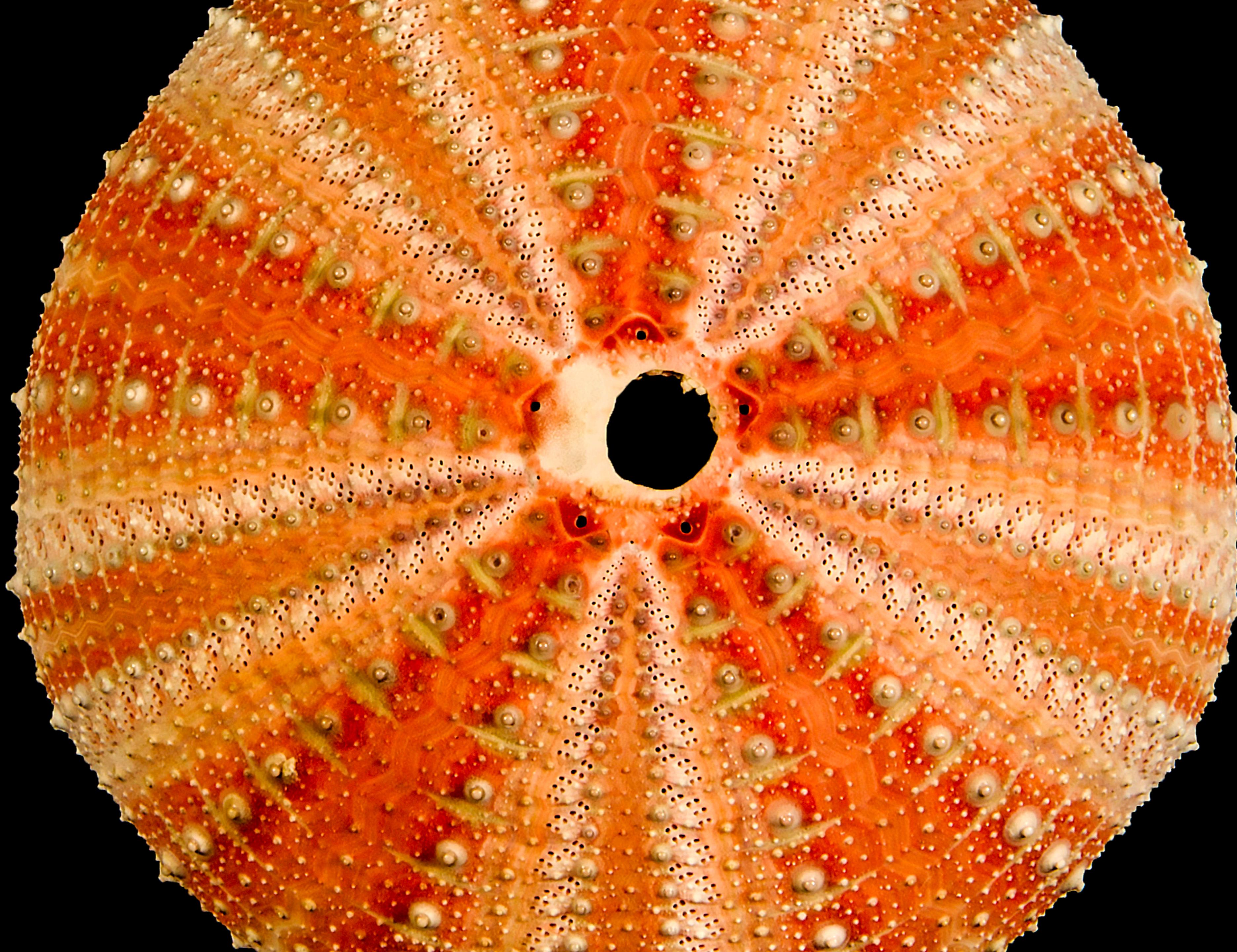


Translation

[ ]

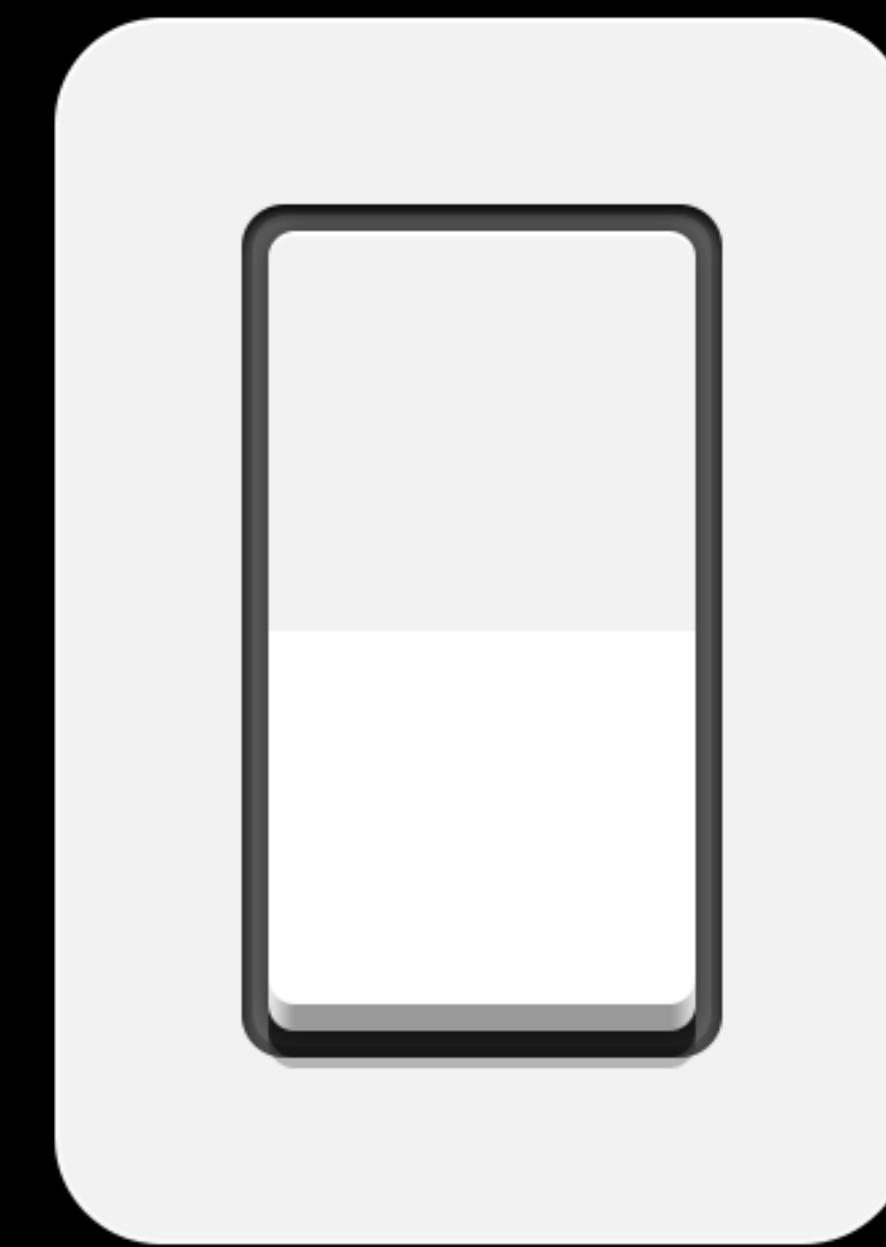


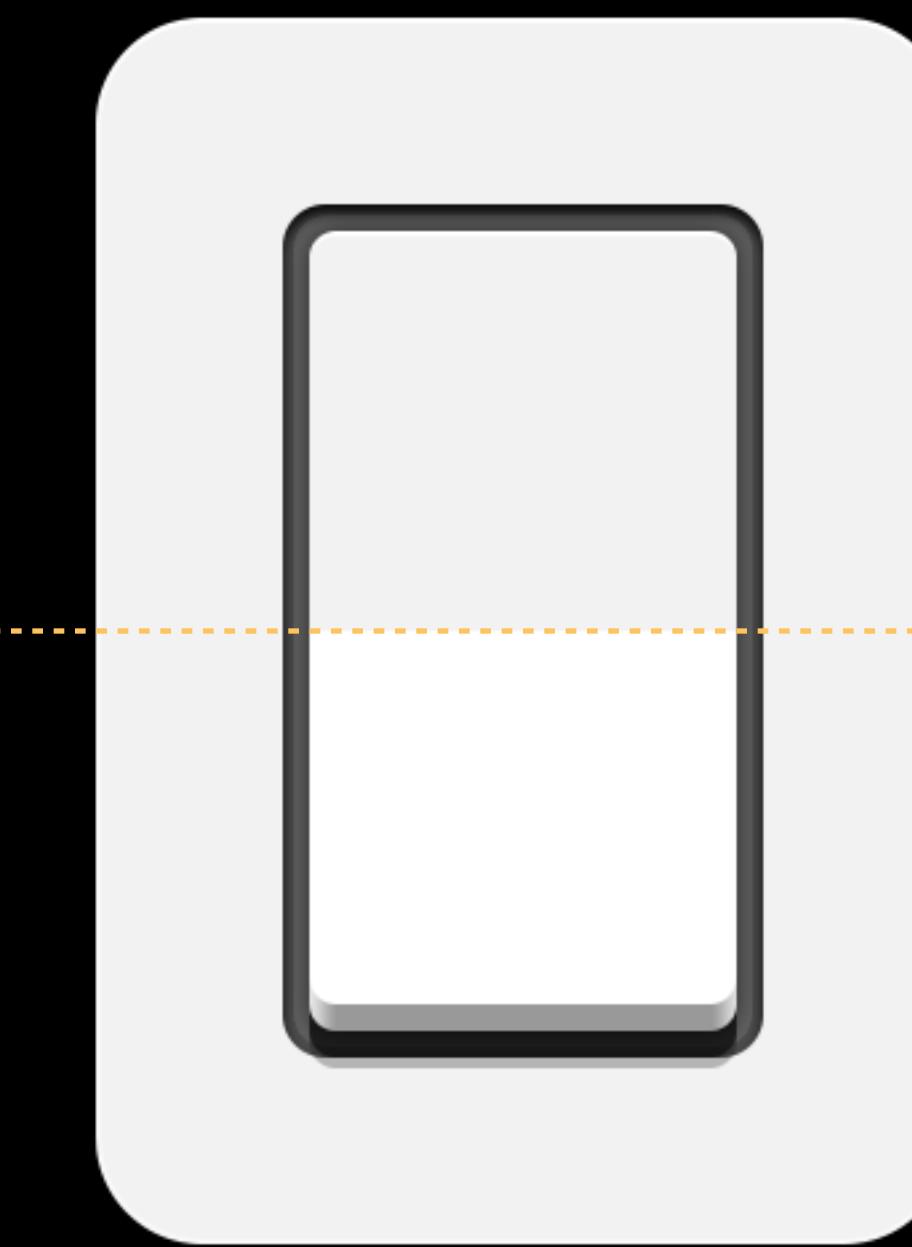




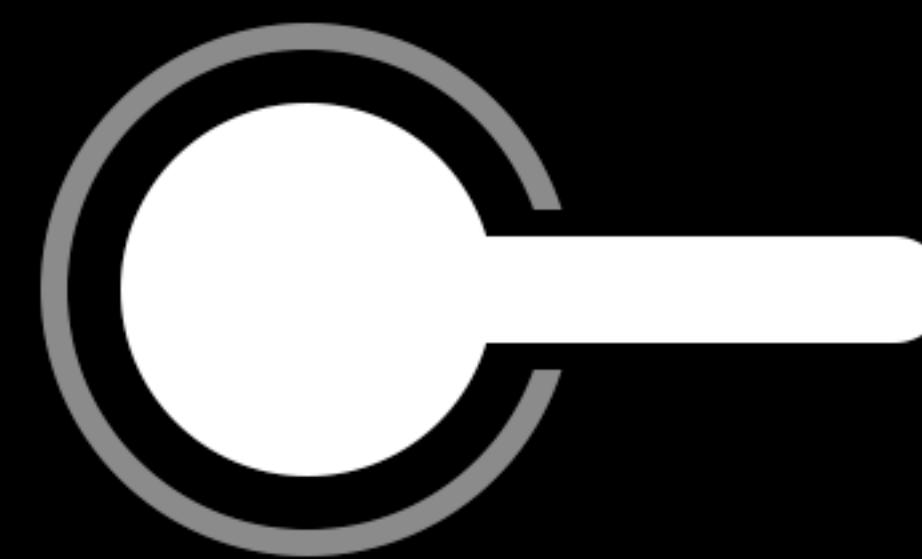
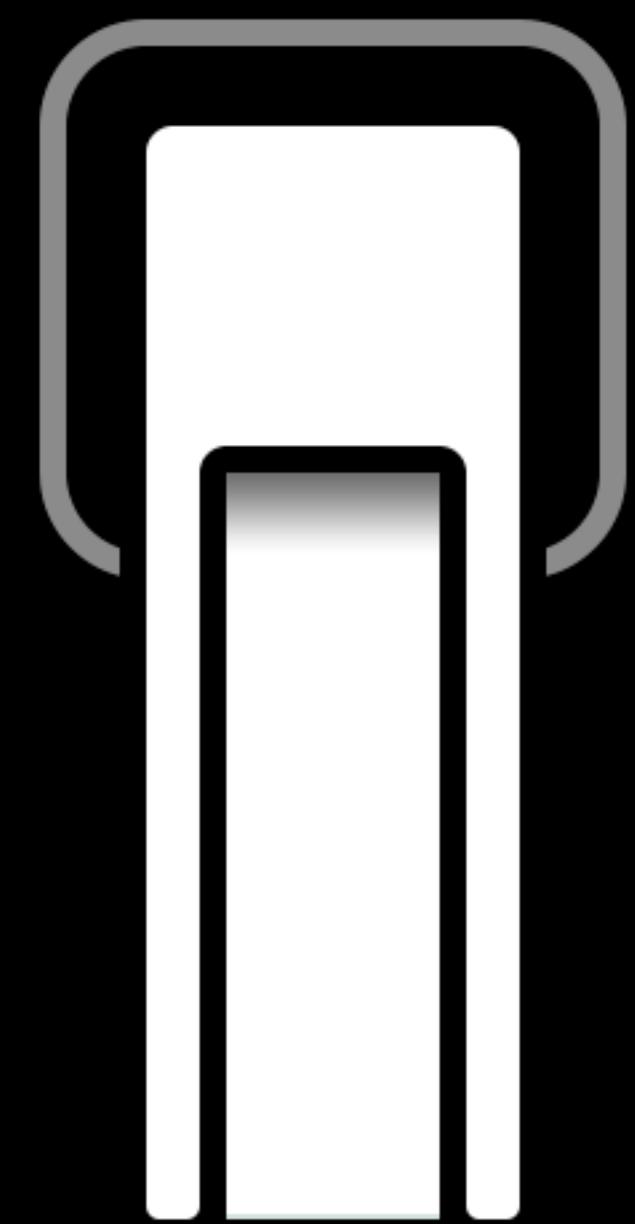
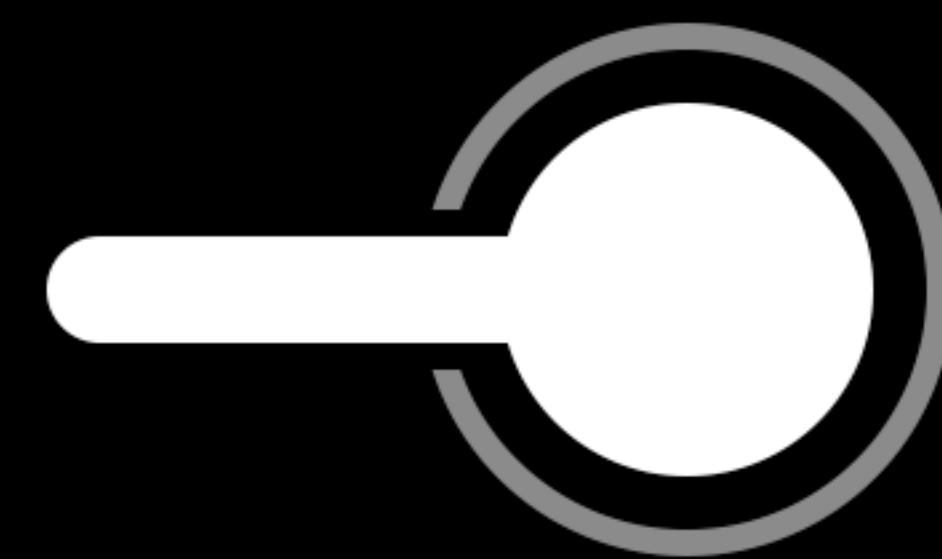


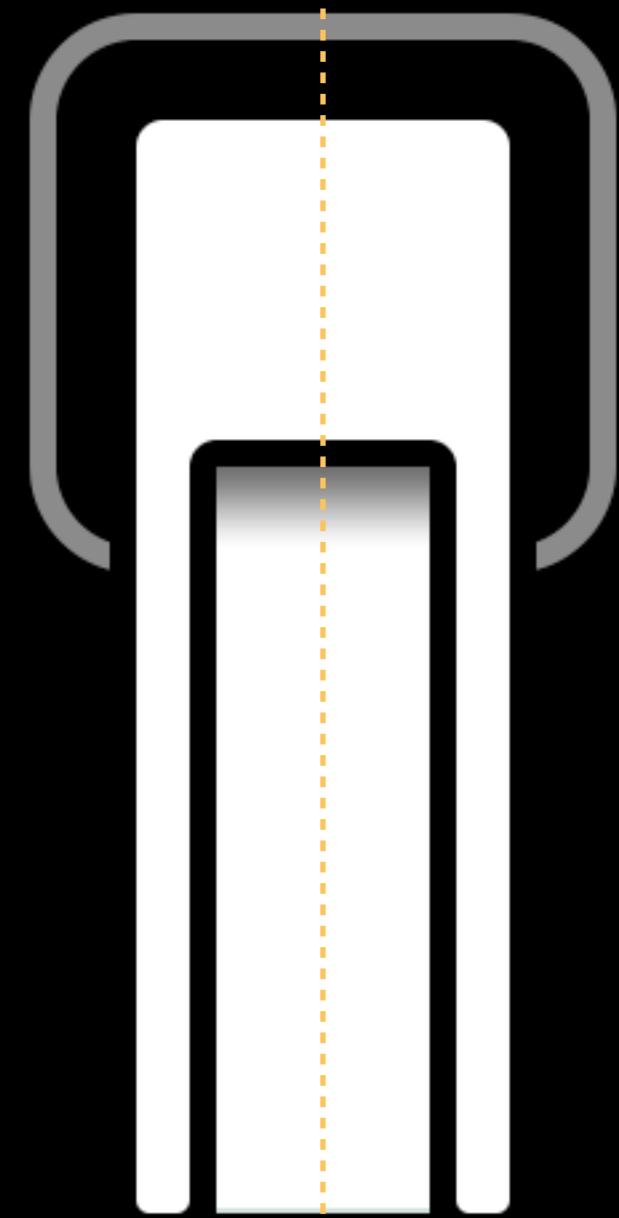
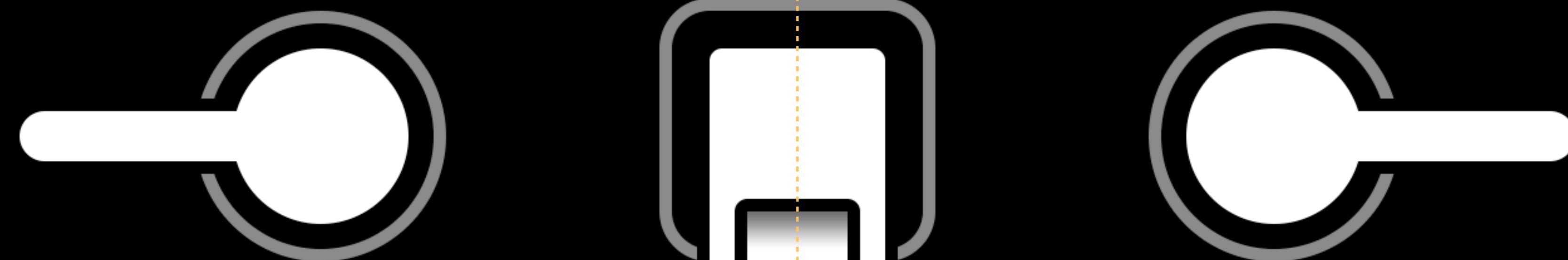




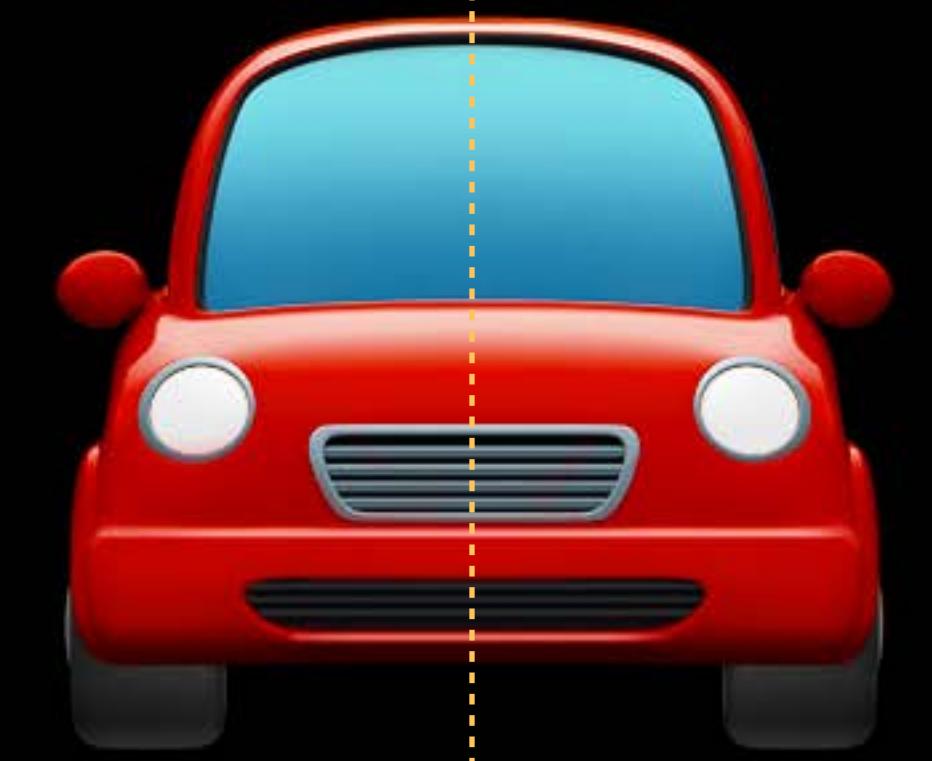


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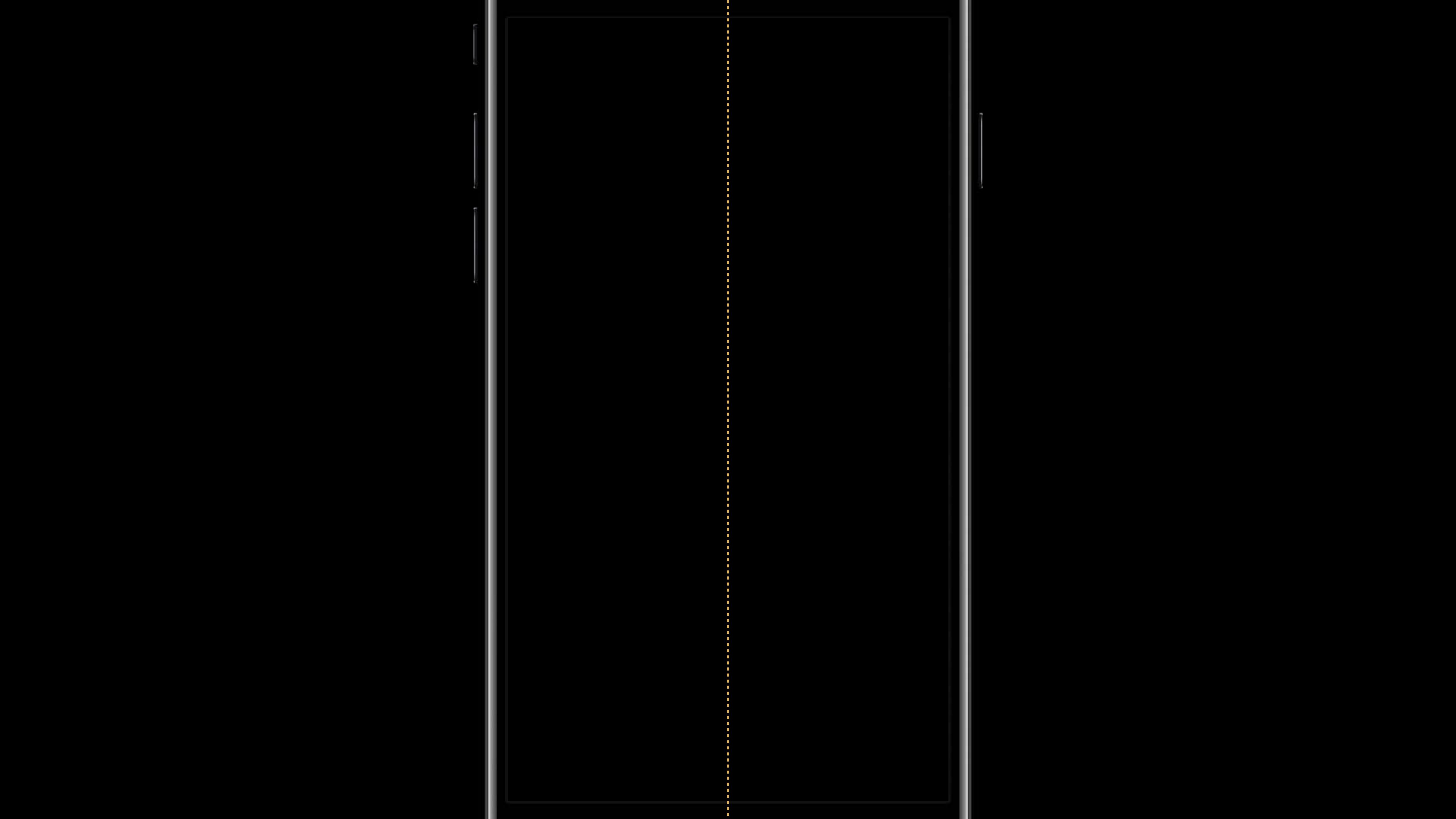




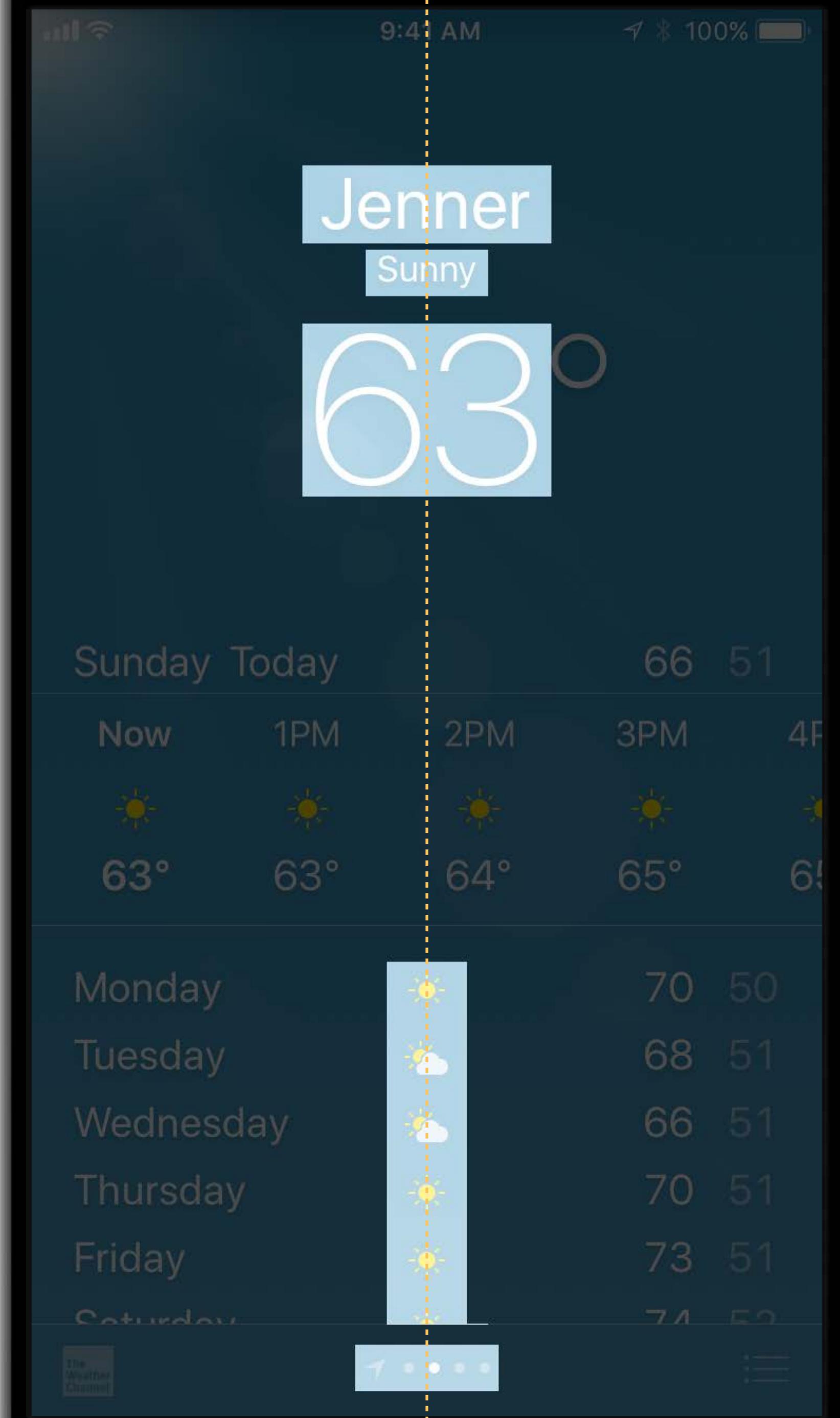












9:41 AM 100%

Jenner

Sunny

63°

Sunday Today 66 51

Now 1PM 2PM 3PM 4PM



63° 63° 64° 65° 65°

Monday 70 50

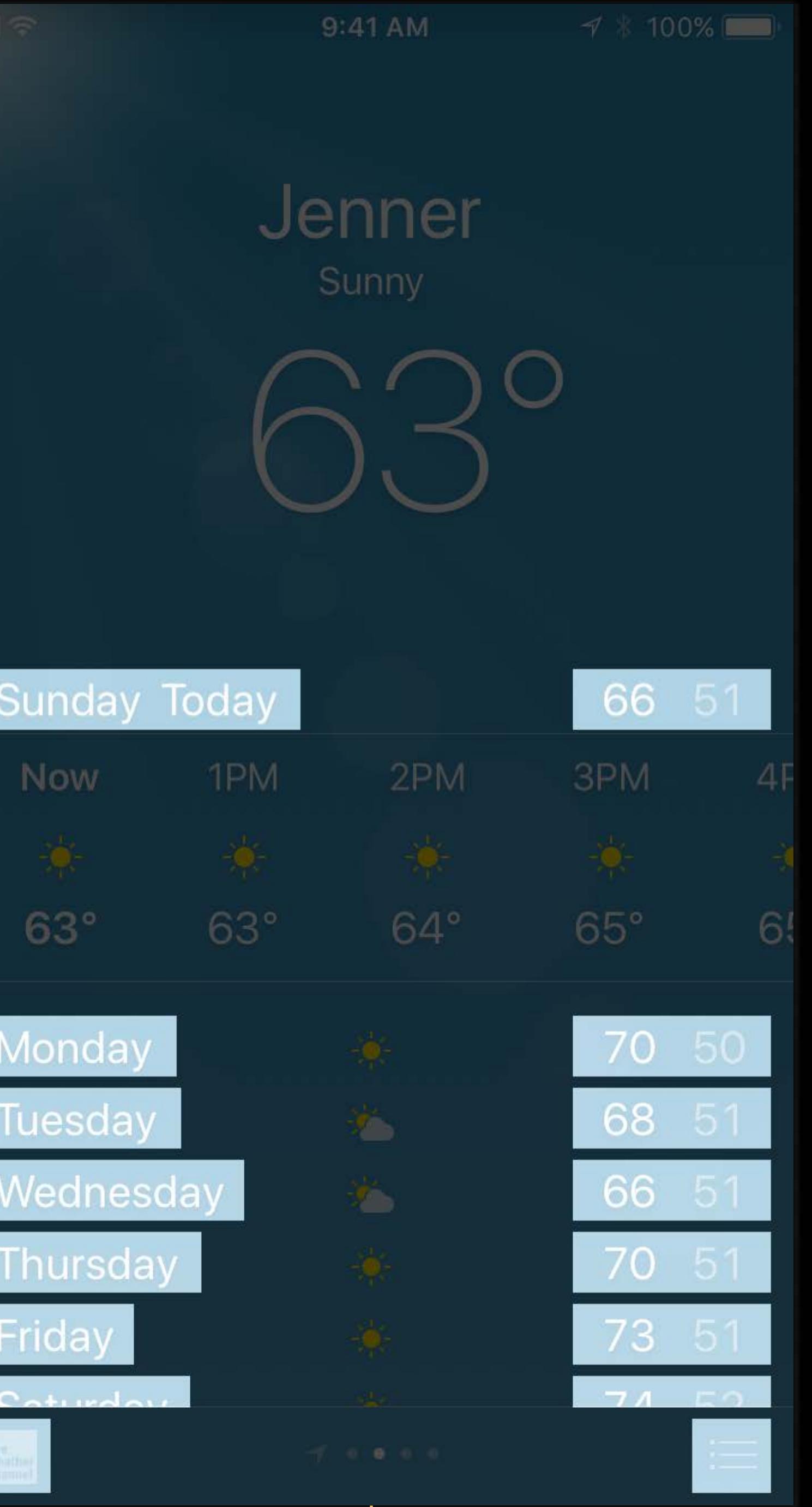
Tuesday 68 51

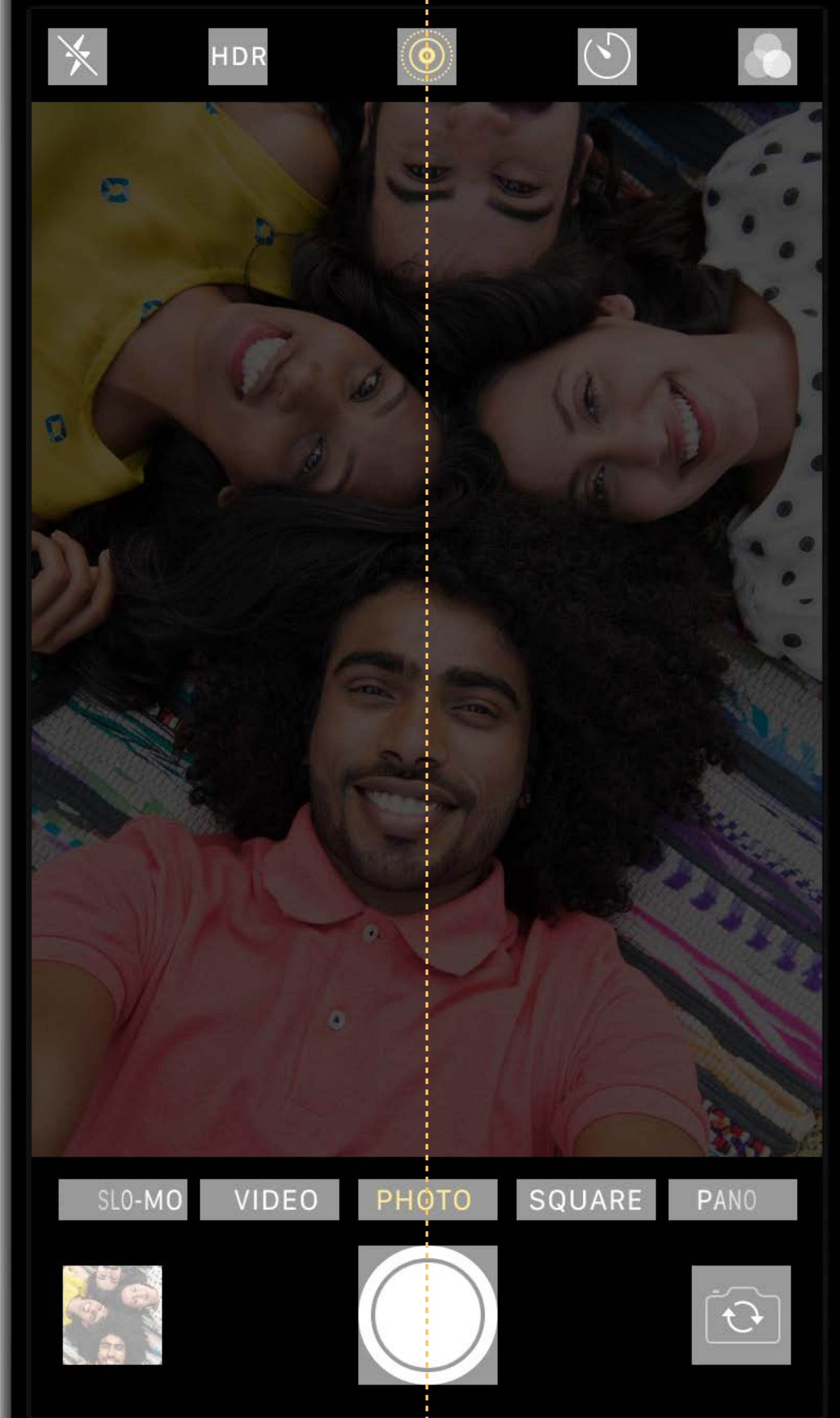
Wednesday 66 51

Thursday 70 51

Friday 73 51

Saturday 74 52





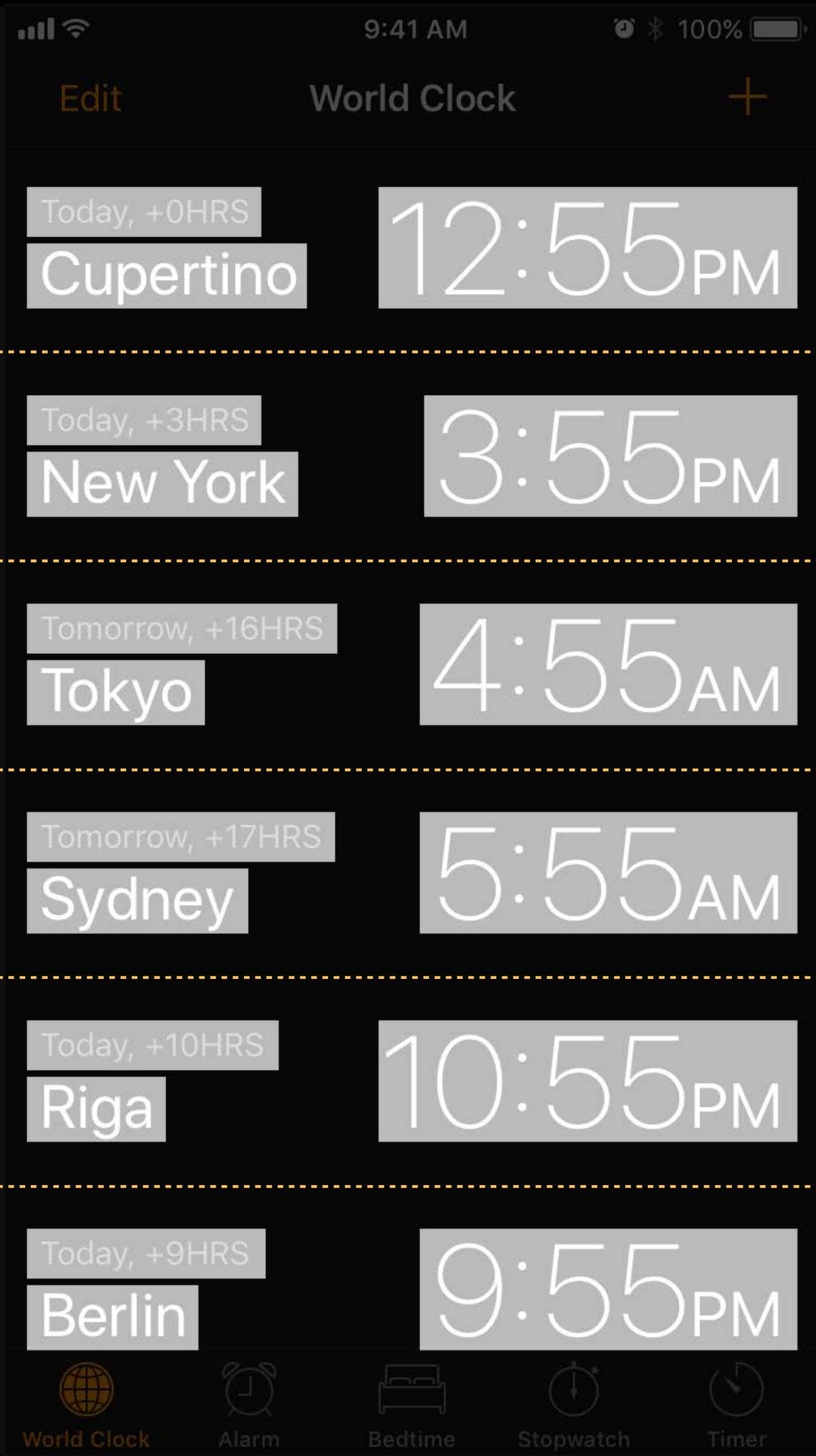




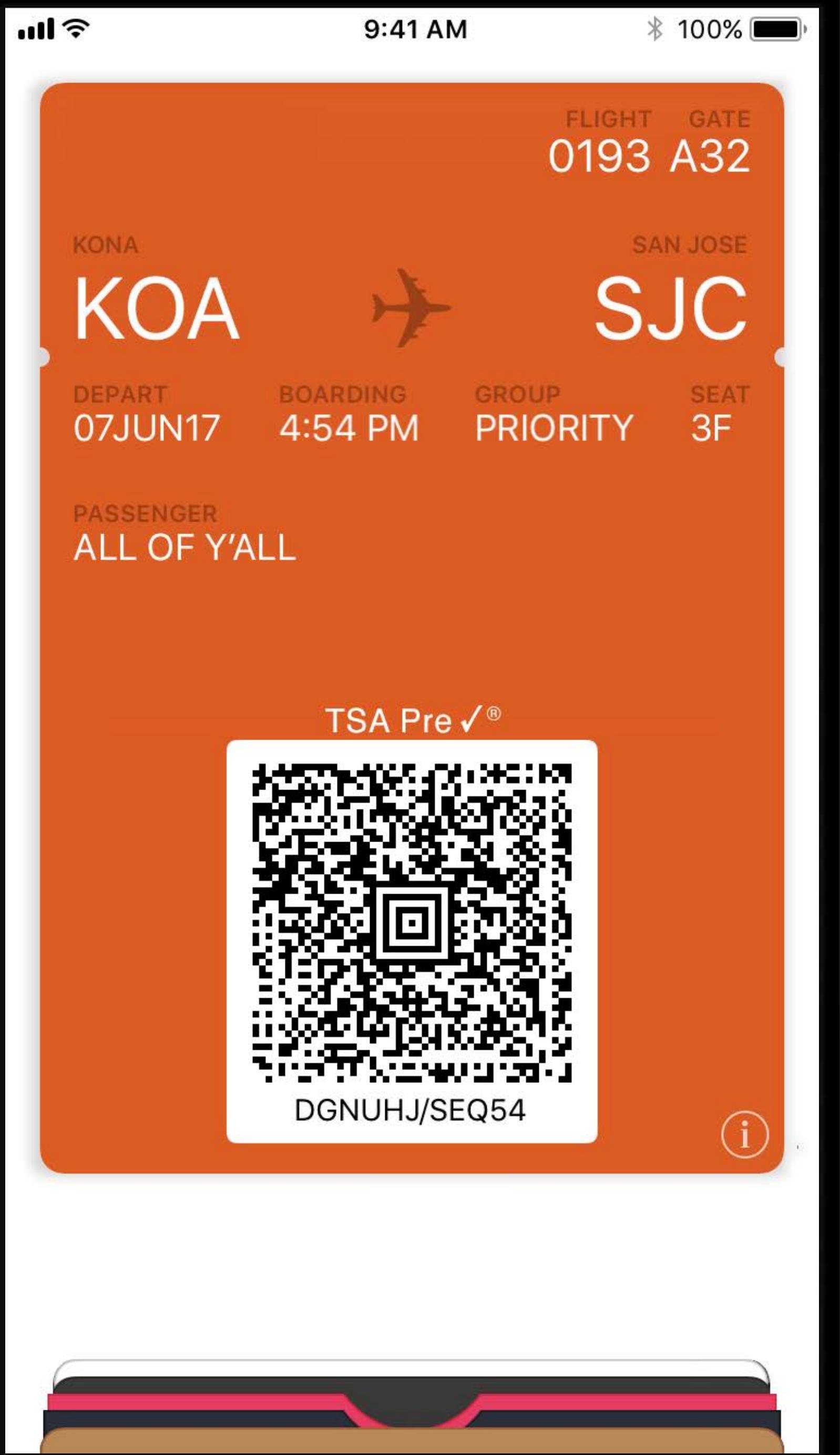








12:58 PM	1	66°
12:58 PM	San Francisco	57°
12:58 PM	Jenner	63°
9:58 AM	Lihue	78°
9:58 PM	Berlin	80°
9:58 PM	Stockholm	67°
4:58 AM	Tokyo	64°



# Design Principles



# Design Principles



Wayfinding



Feedback



Mental Model



Affordance



Symmetry

Visibility

Proximity

Progressive  
Disclosure

Consistency

Grouping

80/20 Rule

Mapping

# Everyone Needs to...

Feel safe

Understand

Achieve

Experience beauty

# Challenges Applying Design Principles

Resolving differences

# Challenges Applying Design Principles

They can conflict with each other

Too much of a good thing

# Challenges Applying Design Principles

They can conflict with each other

Too much of a good thing

Their relevance varies



# Design Principles



Wayfinding



Feedback



Mental Model



Affordance



Symmetry

Visibility

Proximity

Progressive  
Disclosure

Consistency

Grouping

80/20 Rule

Mapping

# Human

# Humanity

## More Information

<https://developer.apple.com/wwdc17/802>

# Related Sessions

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Designing Sound	Grand Ballroom B	Wednesday 4:10PM
Design For Everyone	Hall 3	Thursday 11:00AM
Design Studio Shorts 2	Hall 3	Thursday 1:50PM
Designing Across Platforms	Hall 3	Thursday 4:10PM
Planning a Great Apple Watch Experience	Hall 2	Thursday 5:10PM
Design Studio Shorts 3	Executive Ballroom	Friday 11:00PM

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# Labs

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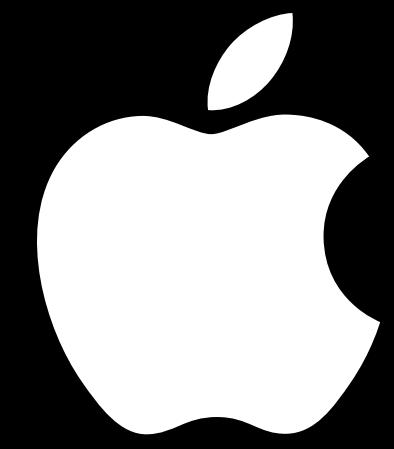
User Interface Design by Appointment Lab

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User Interface Design Lab A

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Thursday 9:00AM–6:00PM  
Friday 9:00AM–3:30PM

WWDC17