

#WWDC18

The Life of a Button

Session 804

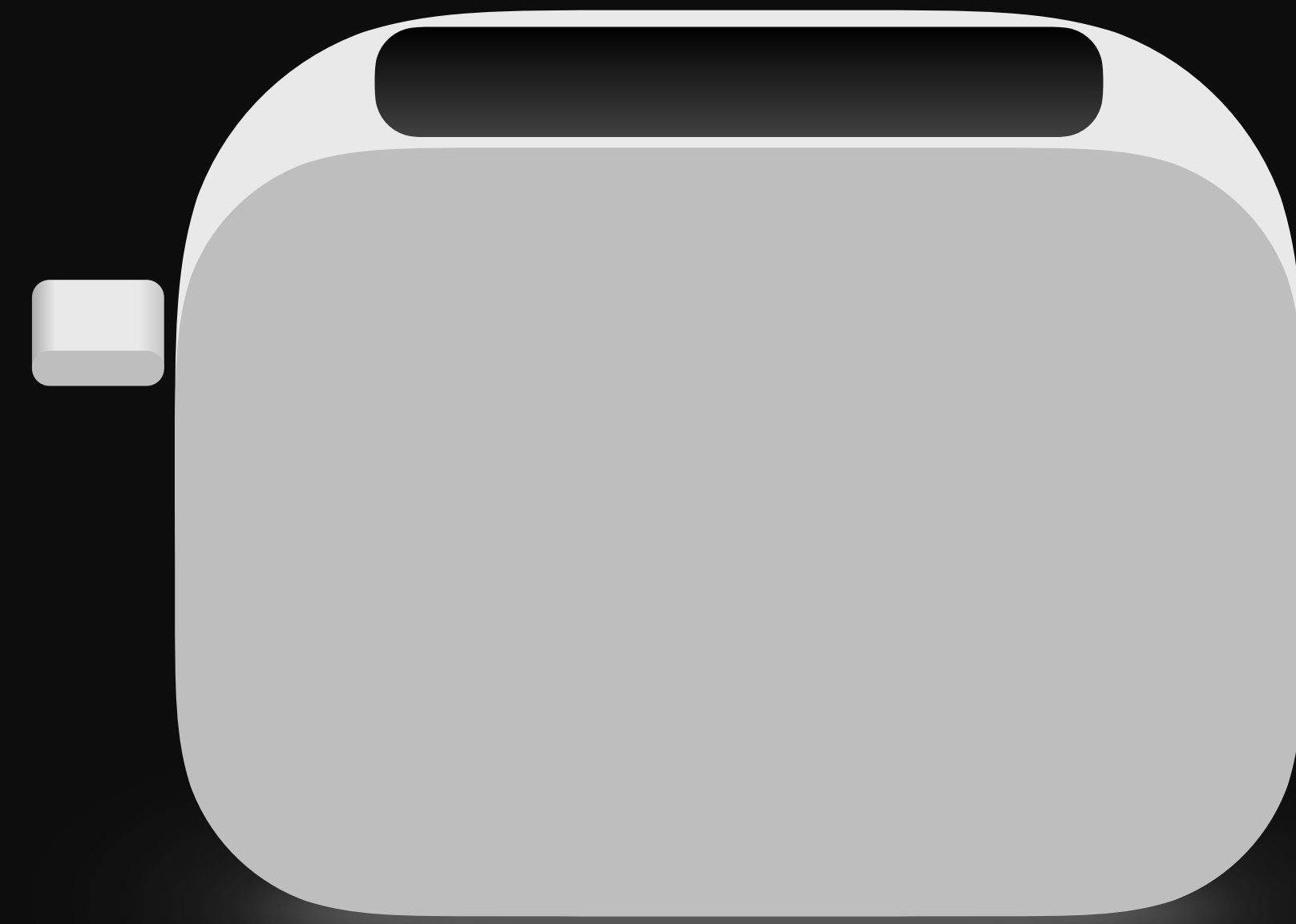
Julian Missig, Prototype Designer
Hugo Verweij, Sound Designer

9:41



< Toasters

Kitchen Toaster



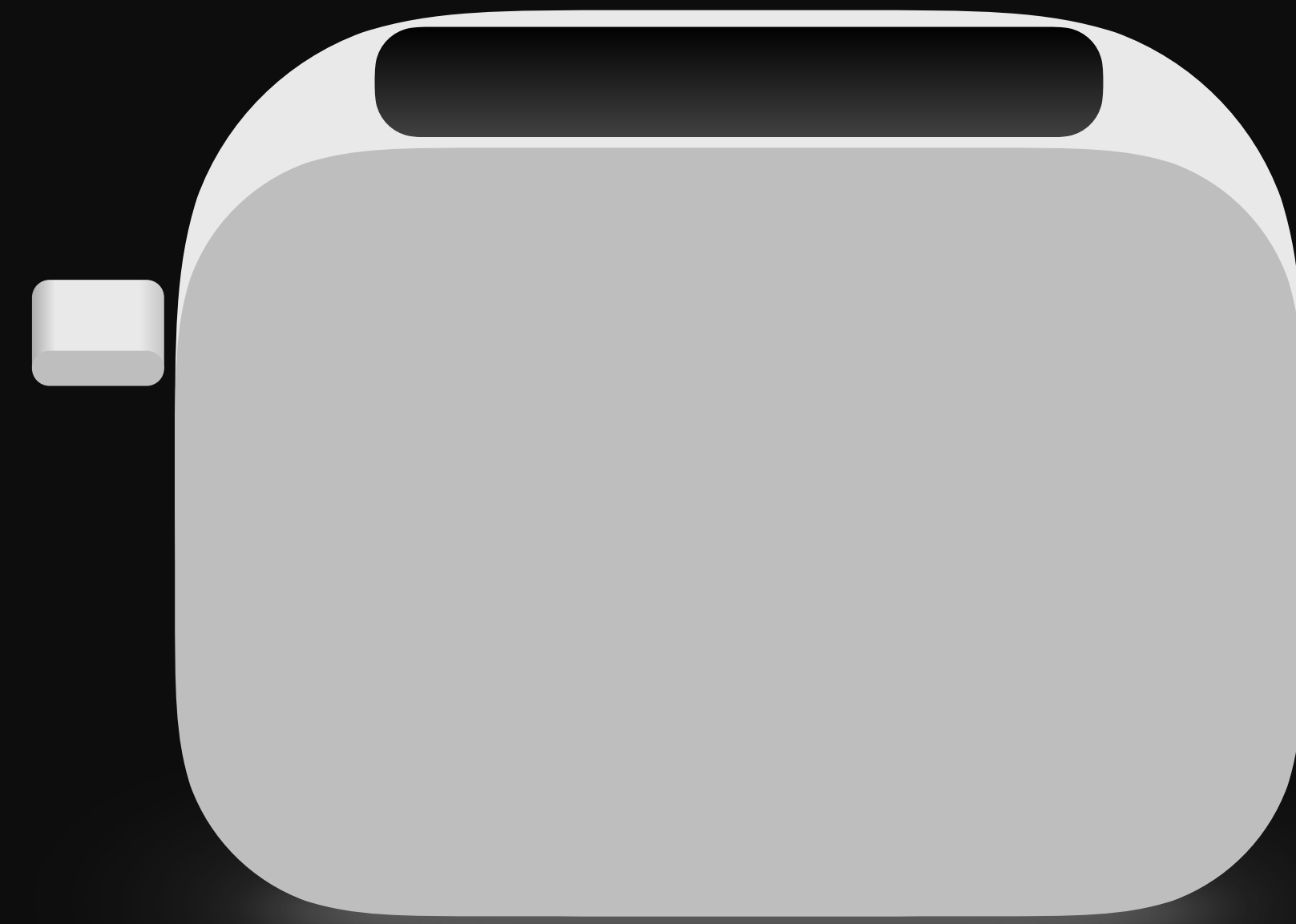
Make Toast

9:41

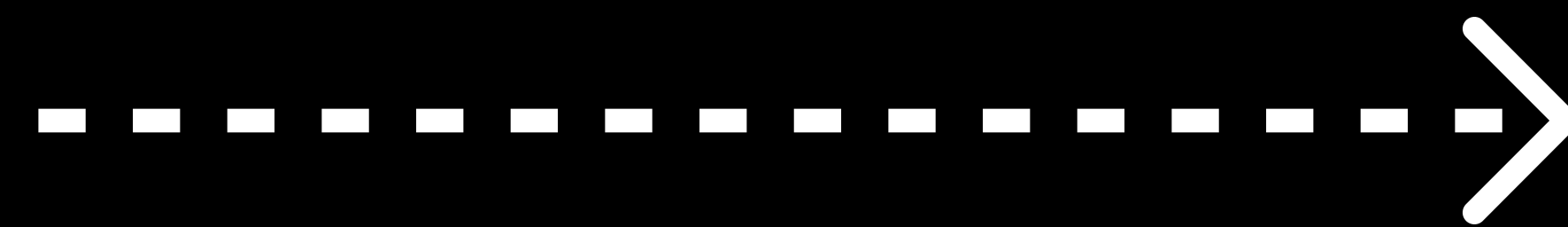


< Toasters

Kitchen Toaster



Make Toast

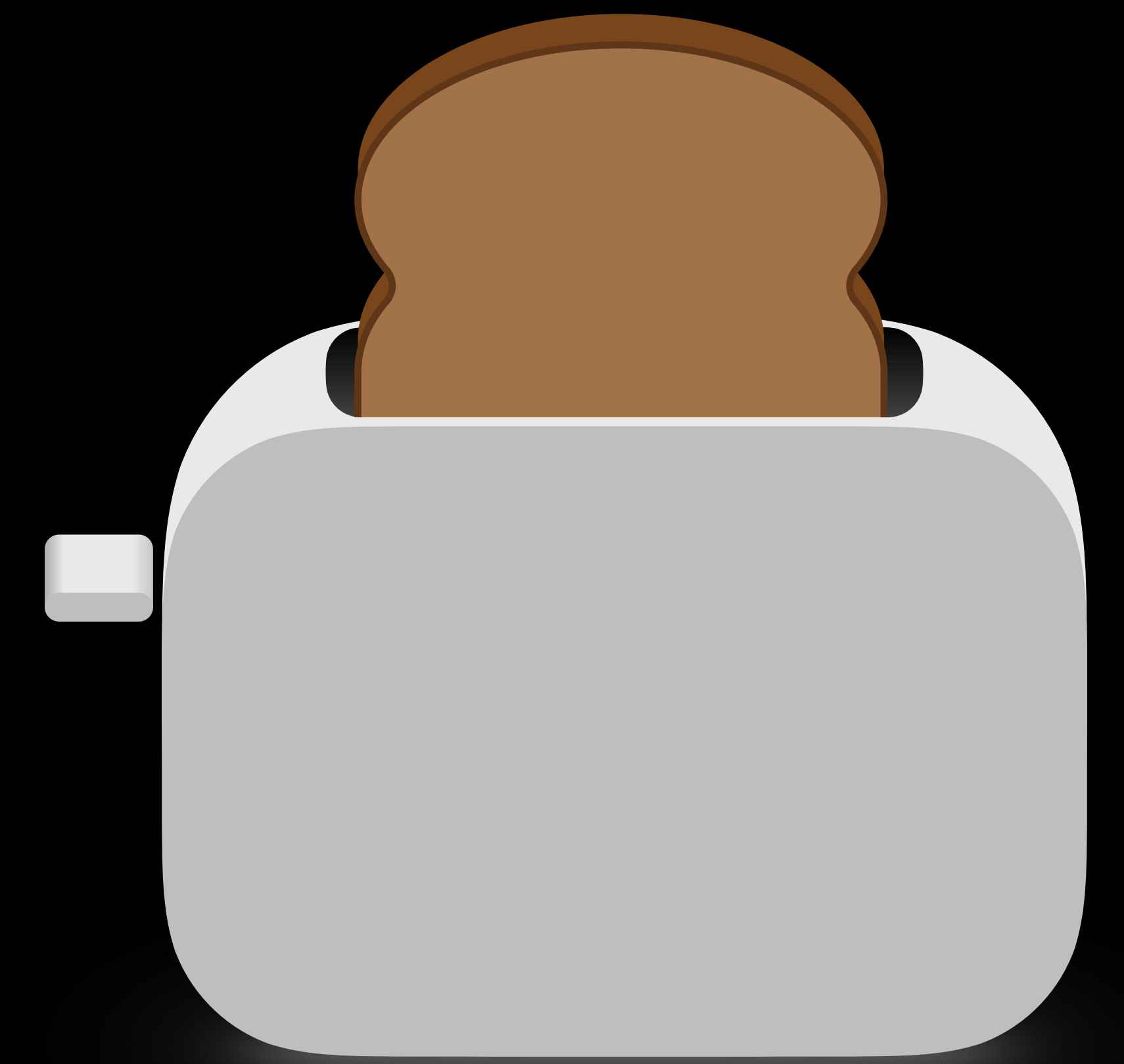




Toaster
Ready



Making
Toast



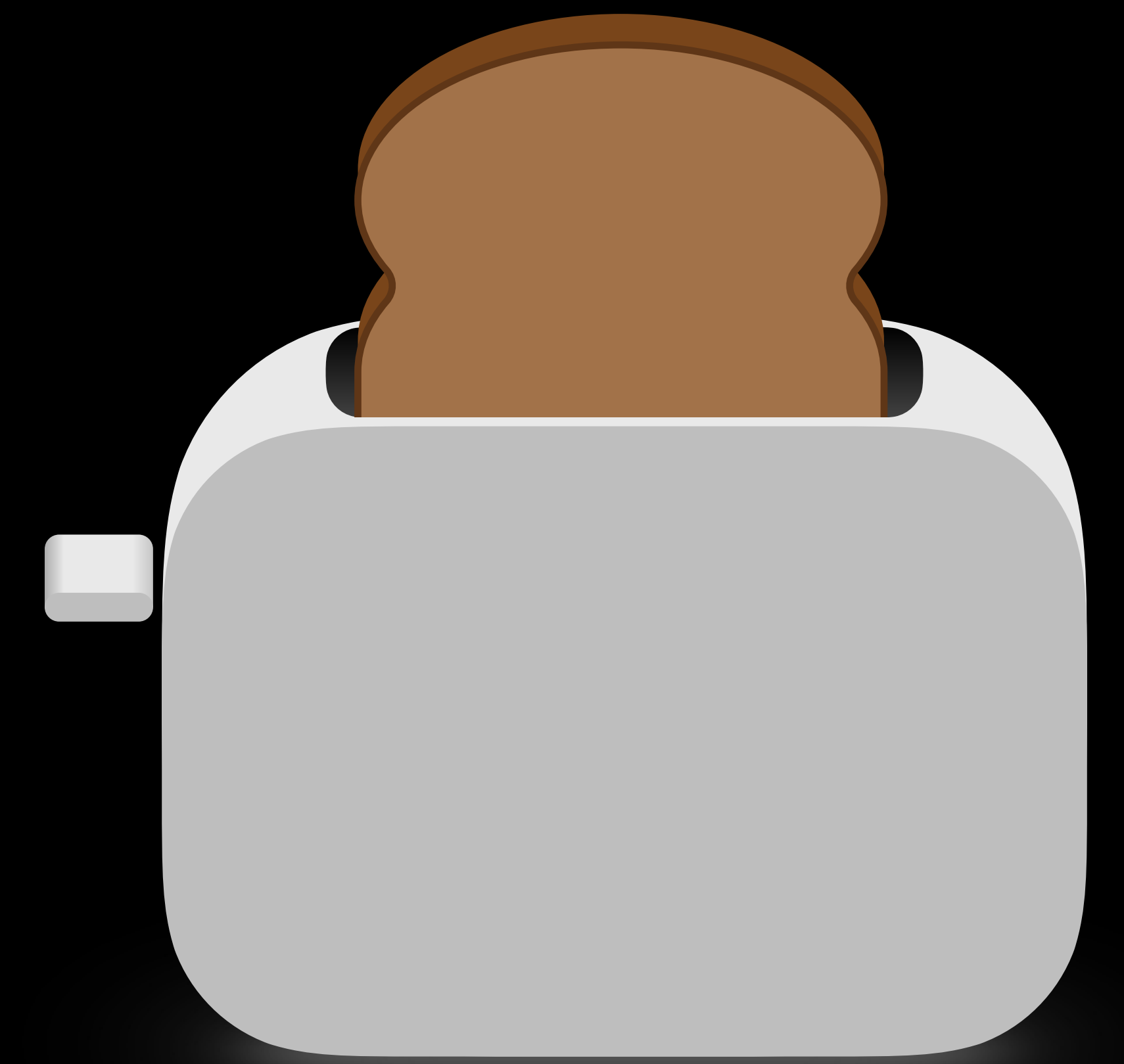
Toast
Done



Toaster
Ready



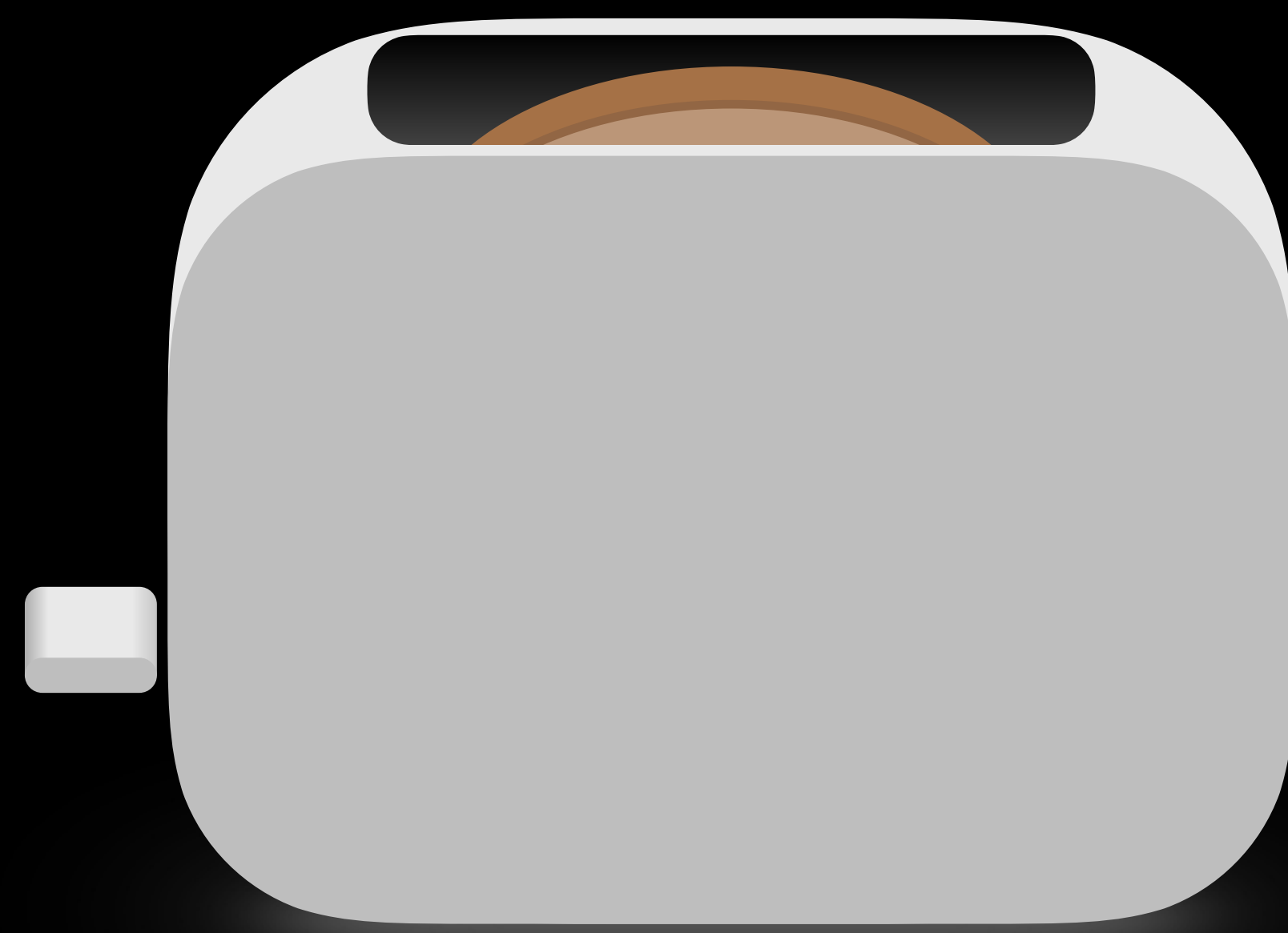
Request
Toast



Toast
Done

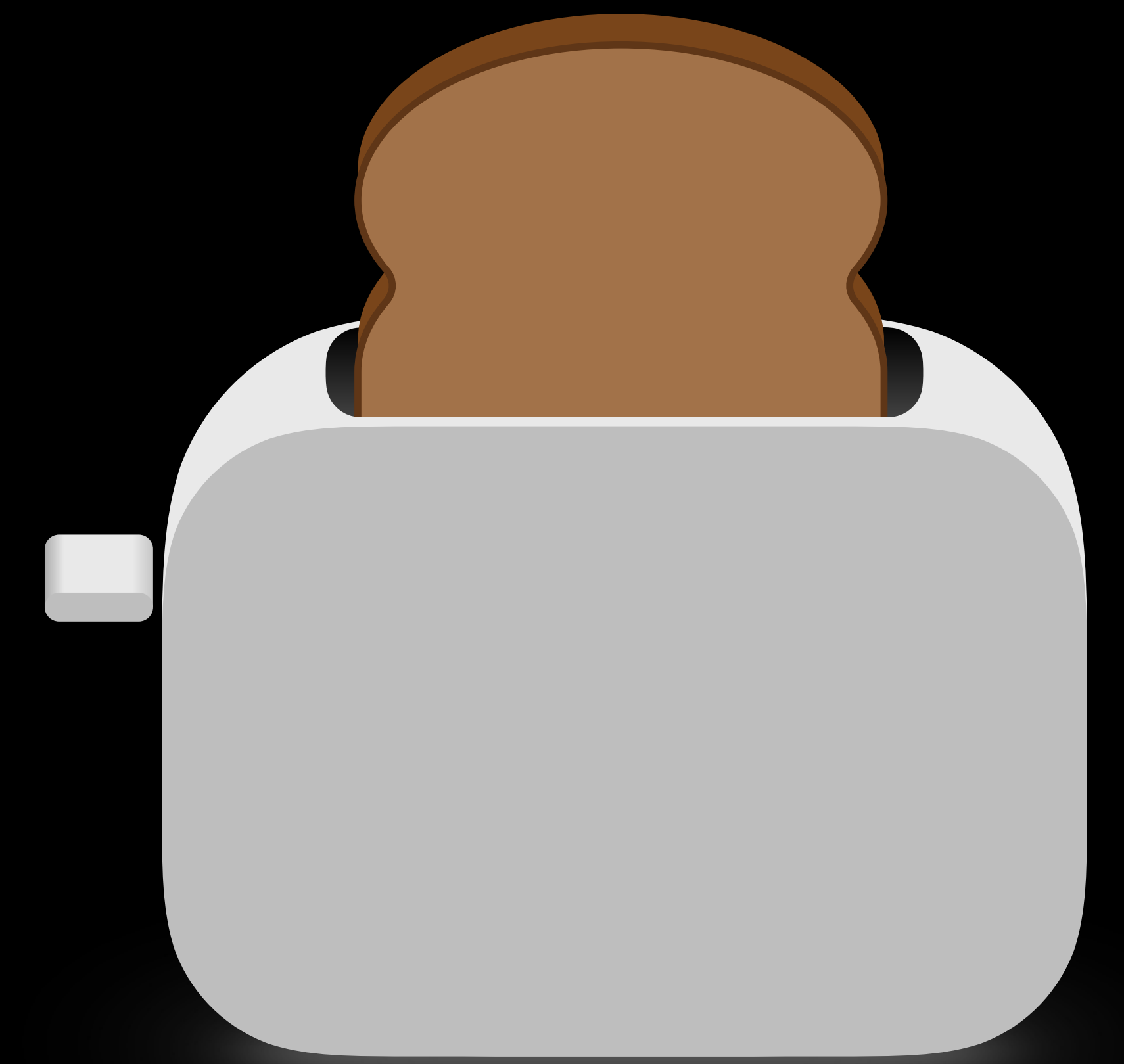


Toaster
Ready



Request
Toast

Making
Toast



Toast
Done

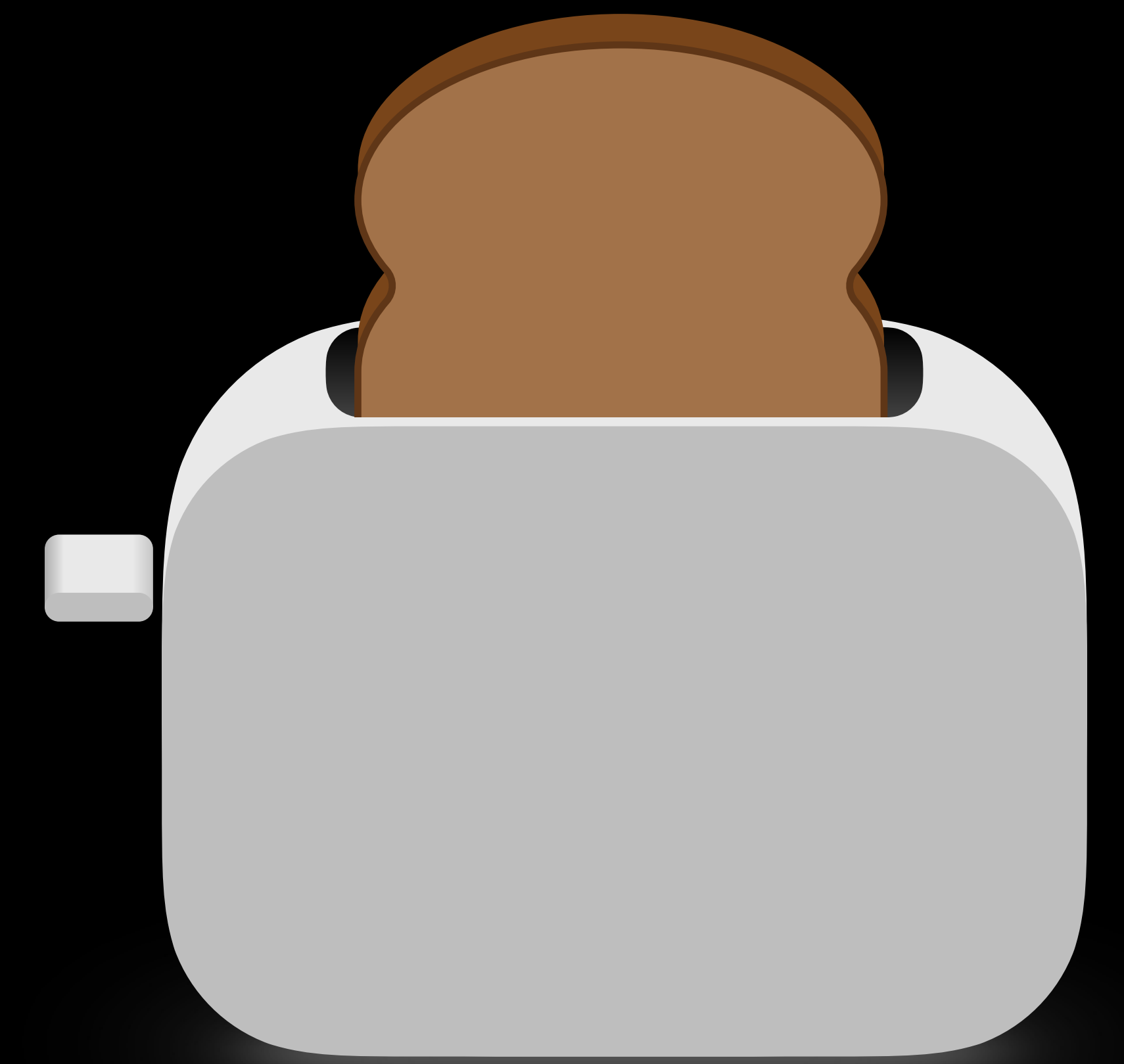
Eat Toast



Toaster
Ready



Making
Toast



Toast
Done

Cancel

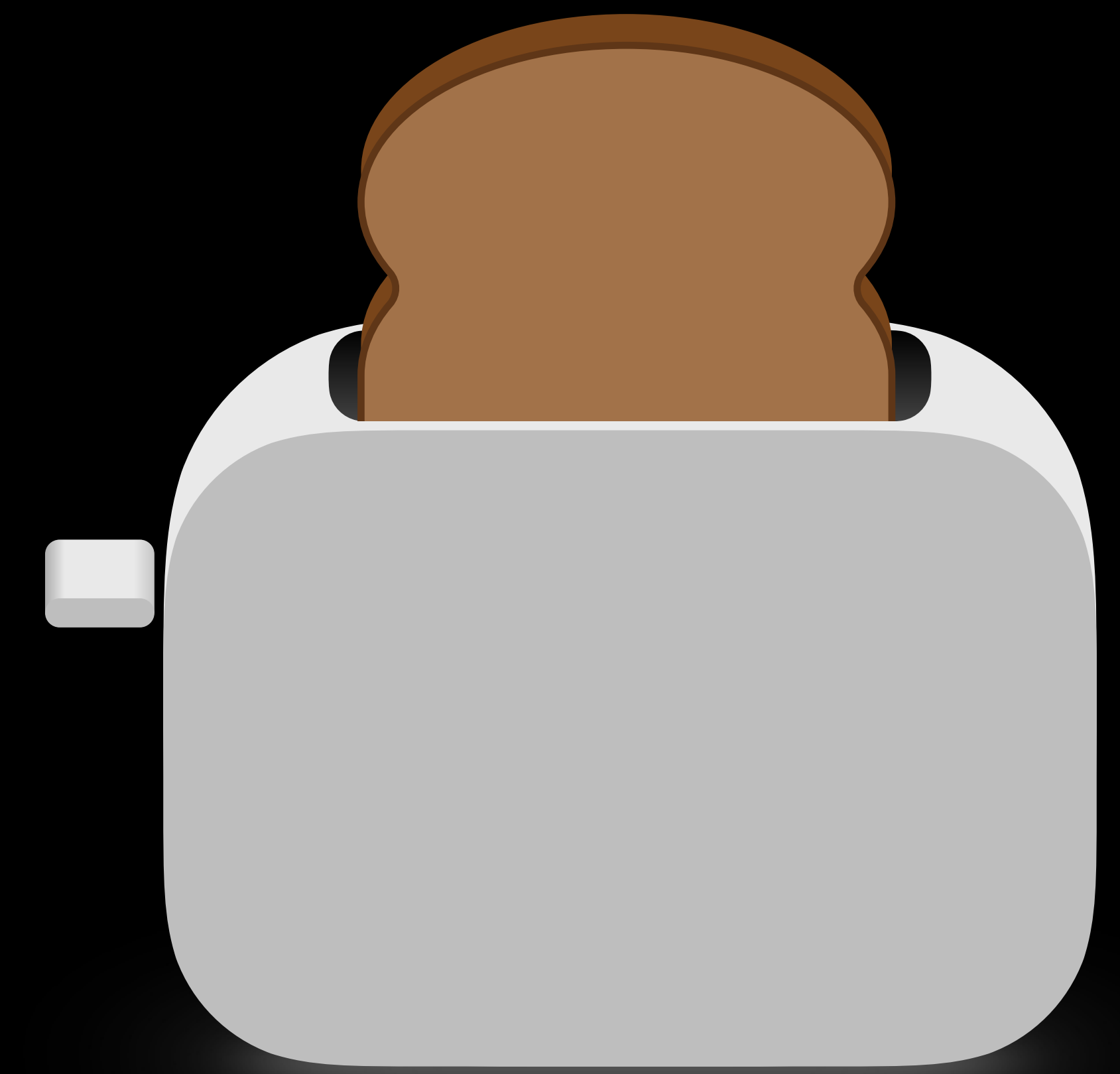
Eat Toast



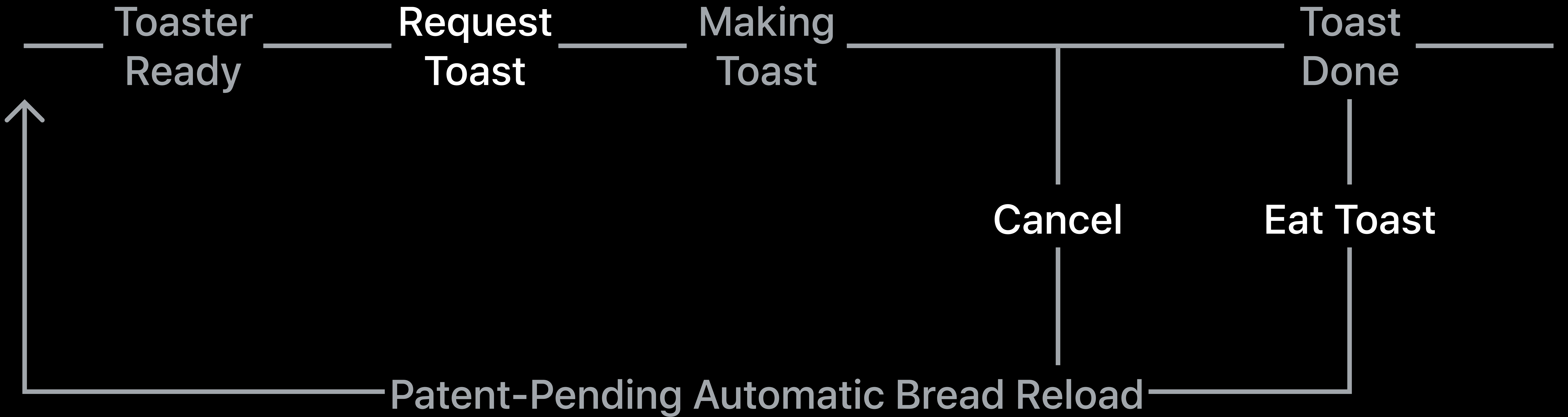
Toaster
Ready



Making
Toast



Toast
Done



Patent-Pending Automatic Bread Reload

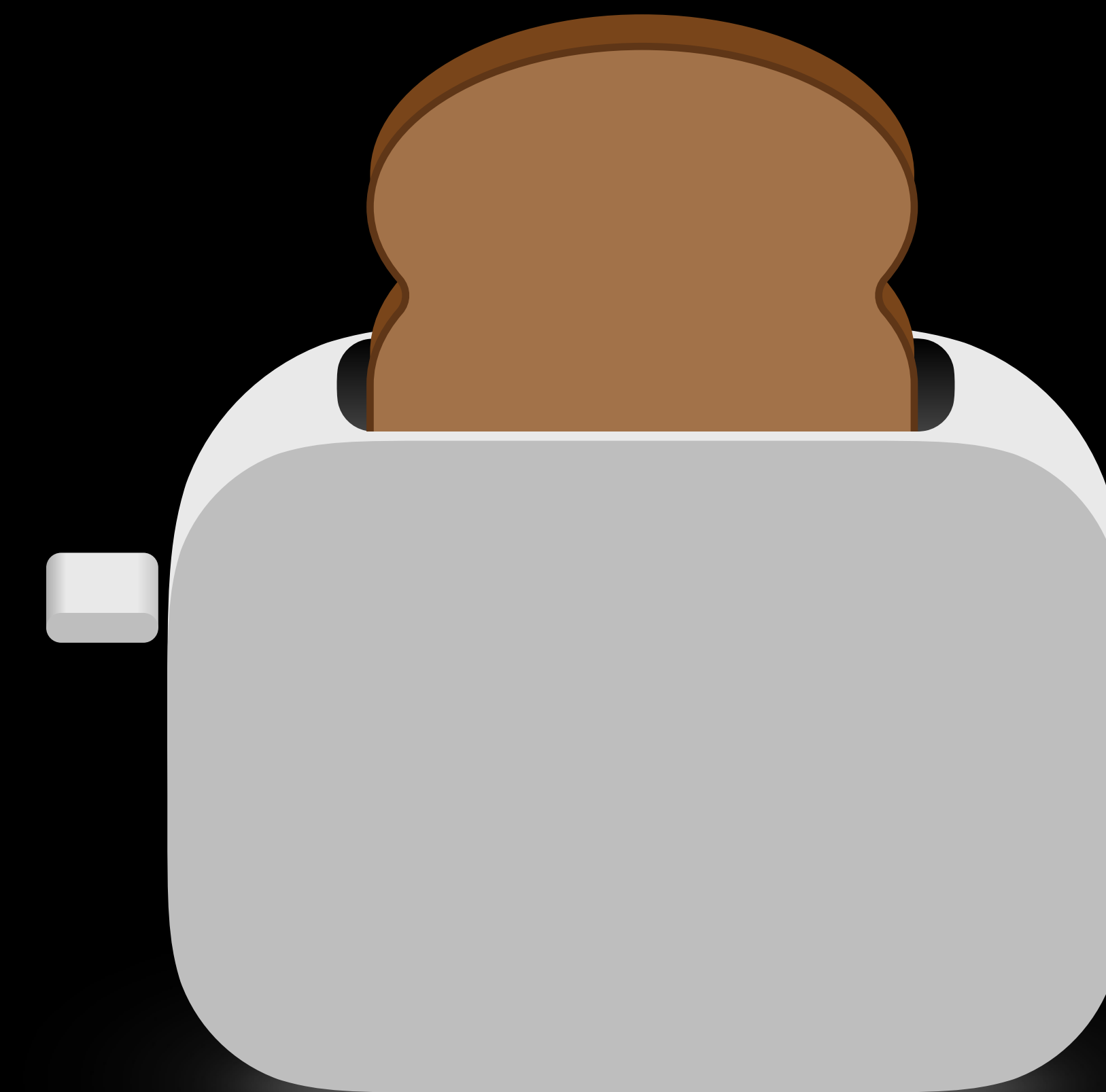
Most important interaction



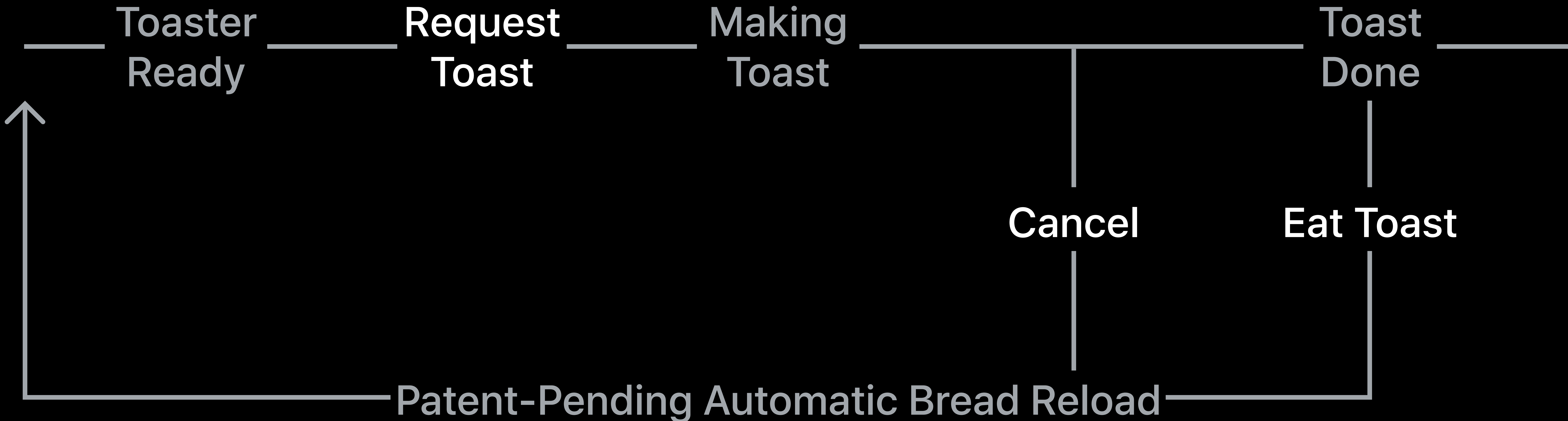
Toaster
Ready



Making
Toast



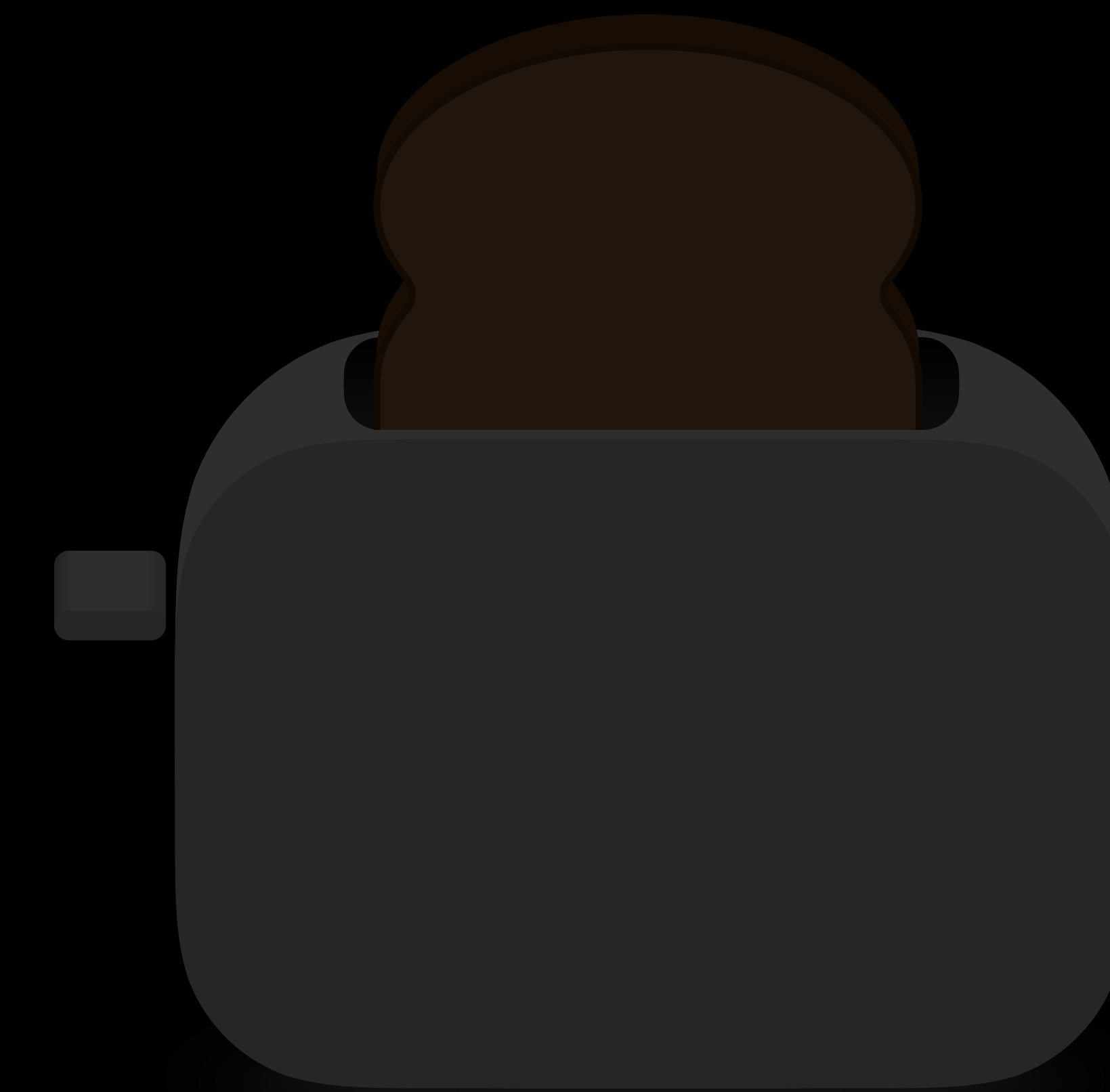
Toast
Done



Cancel

Eat Toast

Patent-Pending Automatic Bread Reload



Toaster
Ready

**Request
Toast**

Making
Toast

Toast
Done

Cancel

Eat Toast

Patent-Pending Automatic Bread Reload



What is a button anyway?

What is a button anyway?

Before, During, After

What is a button anyway?

Before, During, After

Making it click

What is a button anyway?

Before, During, After

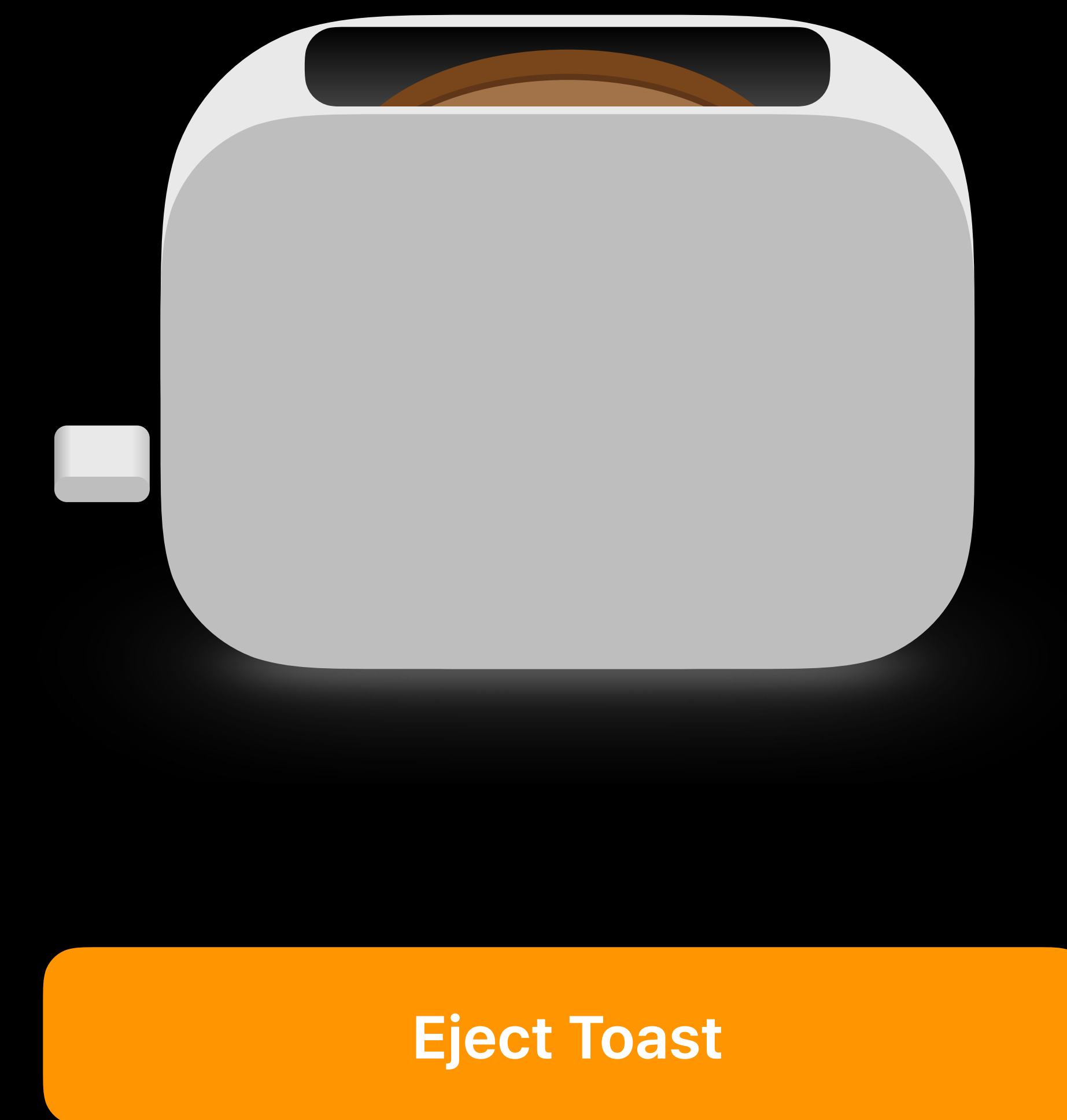
Making it click

What Is a Button Anyway?



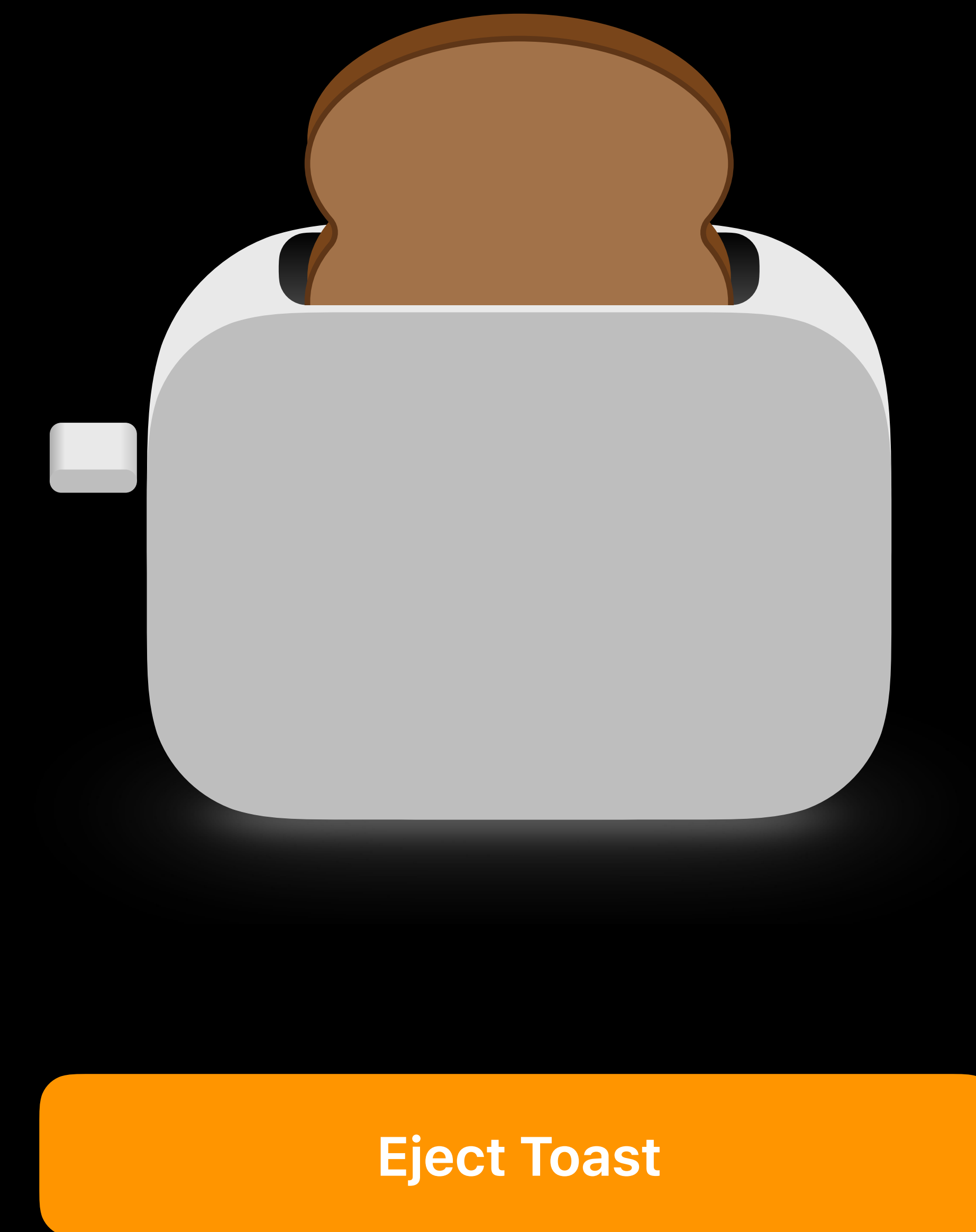
What Is a Button Anyway?

Buttons are indirect controllers of action



What Is a Button Anyway?

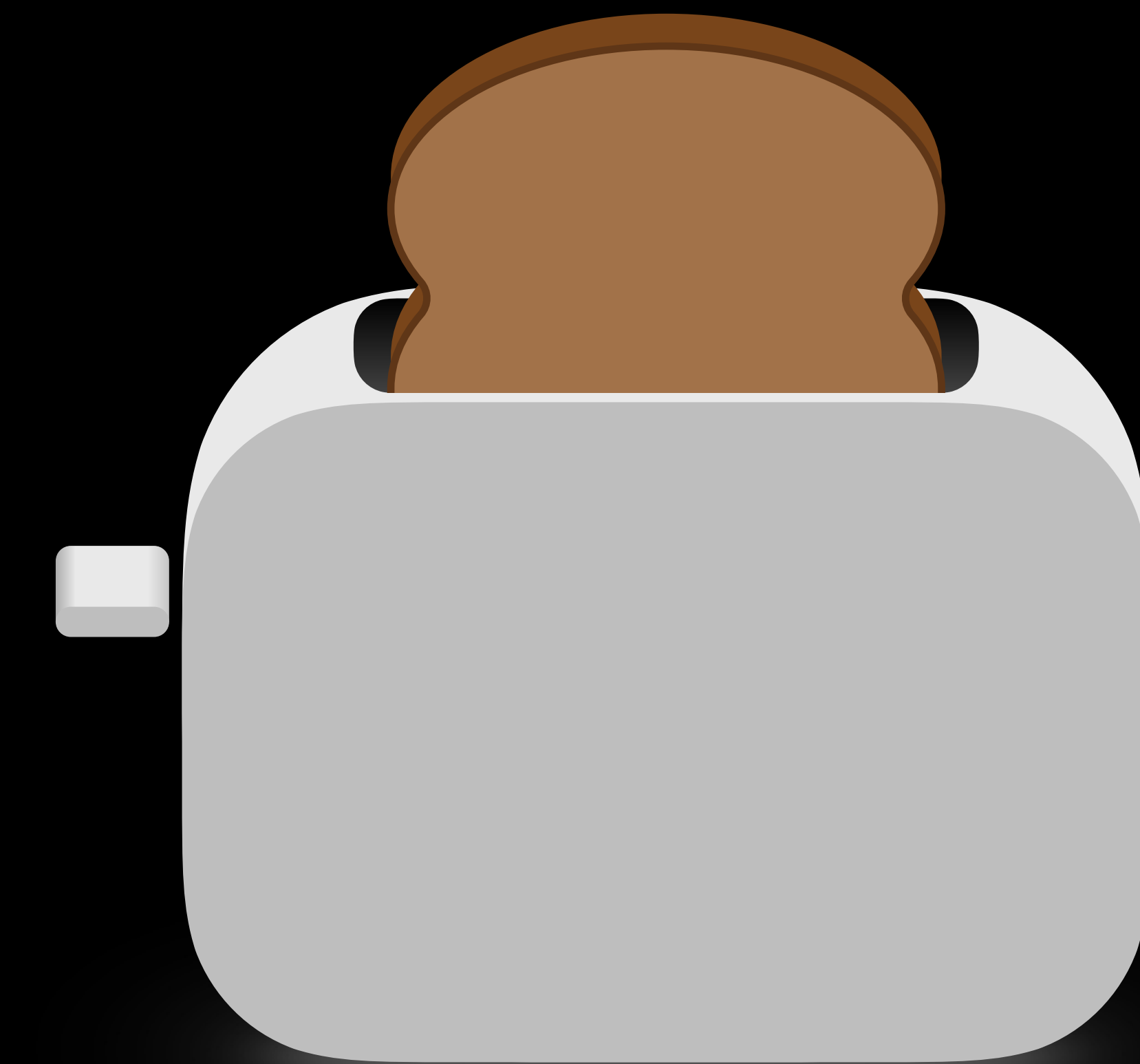
Buttons are indirect controllers of action



What Is a Button Anyway?

Buttons are indirect controllers of action

Direct interaction is often preferable



Eject Toast

What Is a Button Anyway?

Buttons are indirect controllers of action

Direct interaction is often preferable



What Is a Button Anyway?

Buttons are indirect controllers of action

Direct interaction is often preferable

Physical buttons are indirect



A button is designed

Feedback

Feedback

Let people know what your app is doing

Feedback

Let people know what your app is doing

Tell—text explanations, icons

Feedback

Let people know what your app is doing

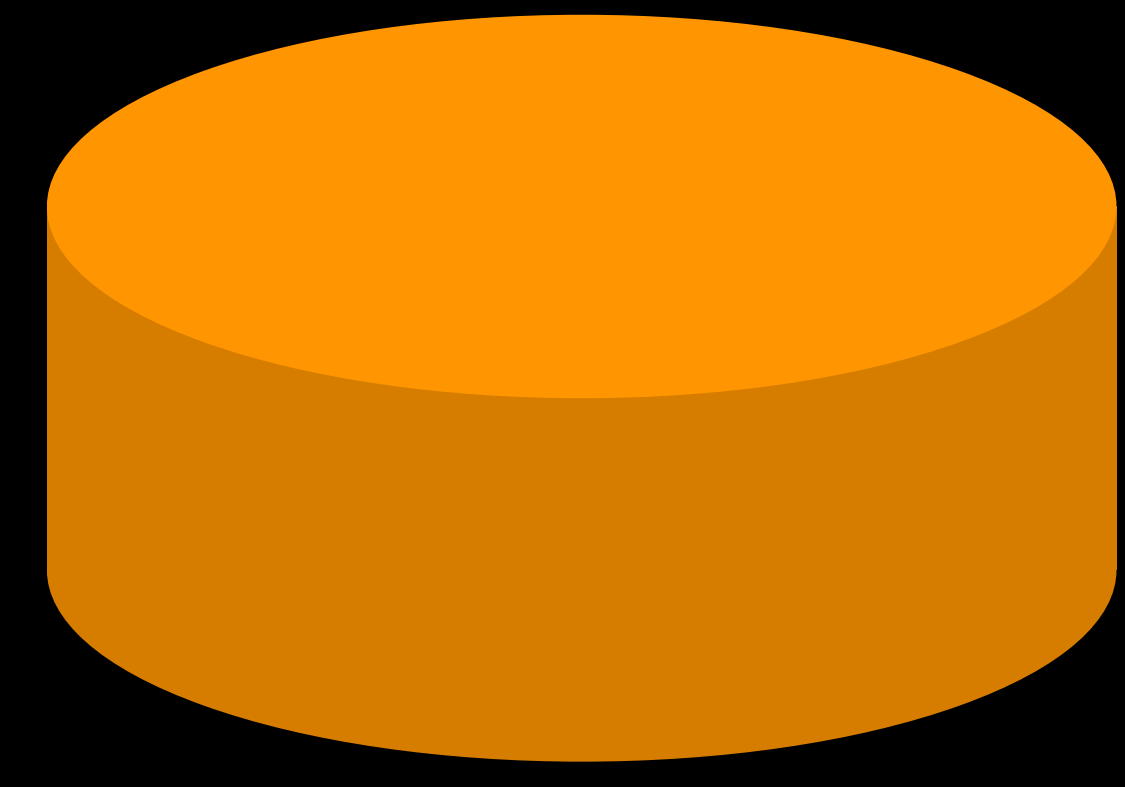
Tell—text explanations, icons

Show—experience visual, audio, haptic change over time

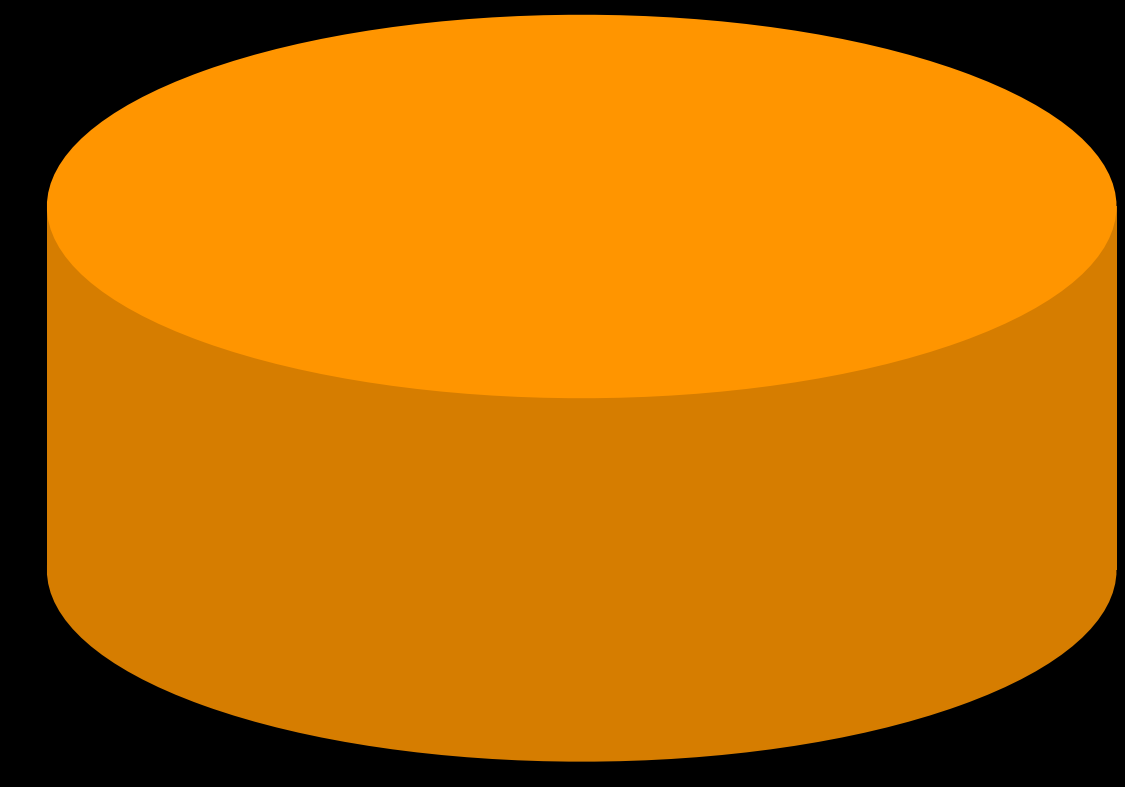
What is a button anyway?

Before, During, After

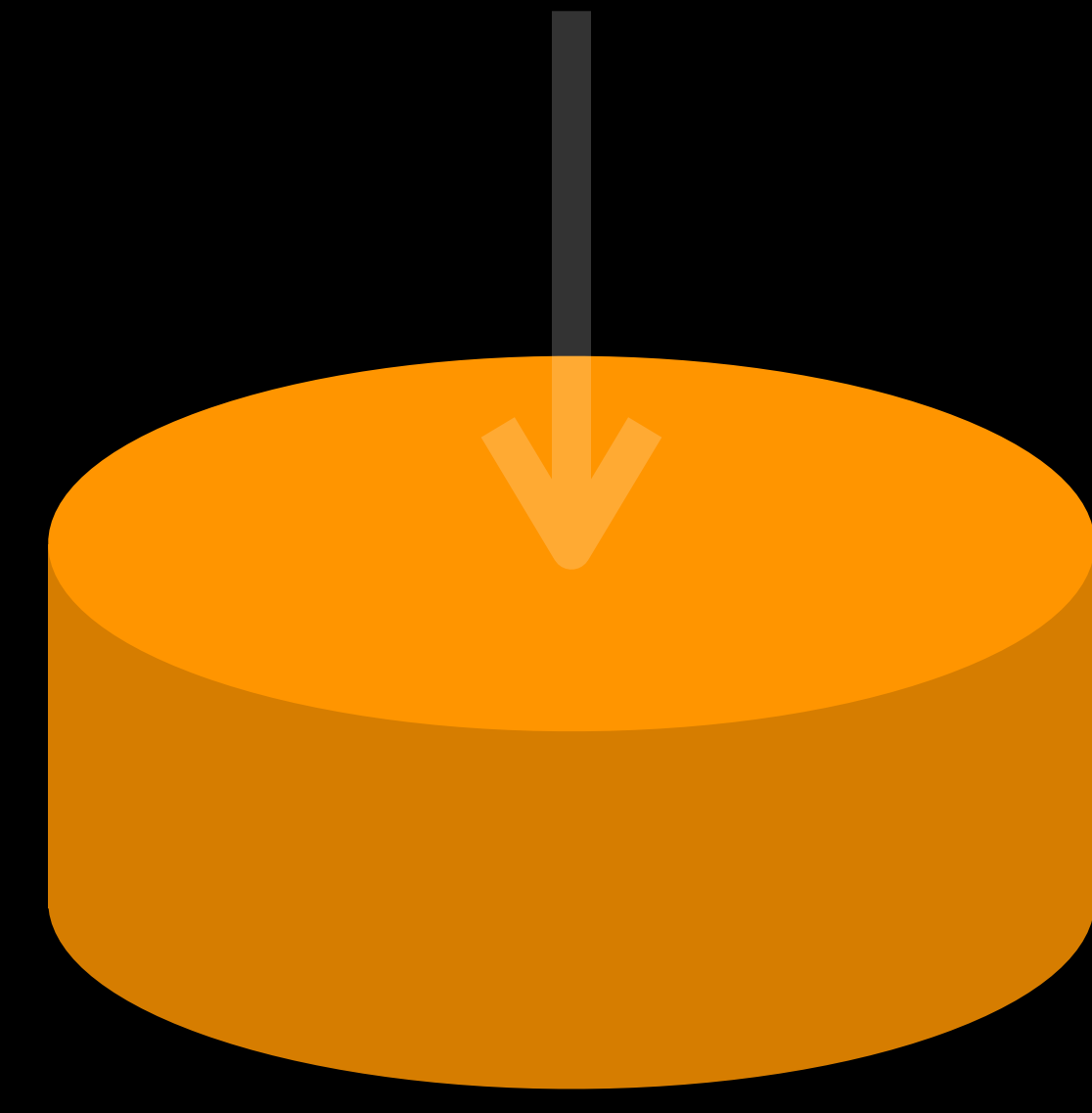
Making it click



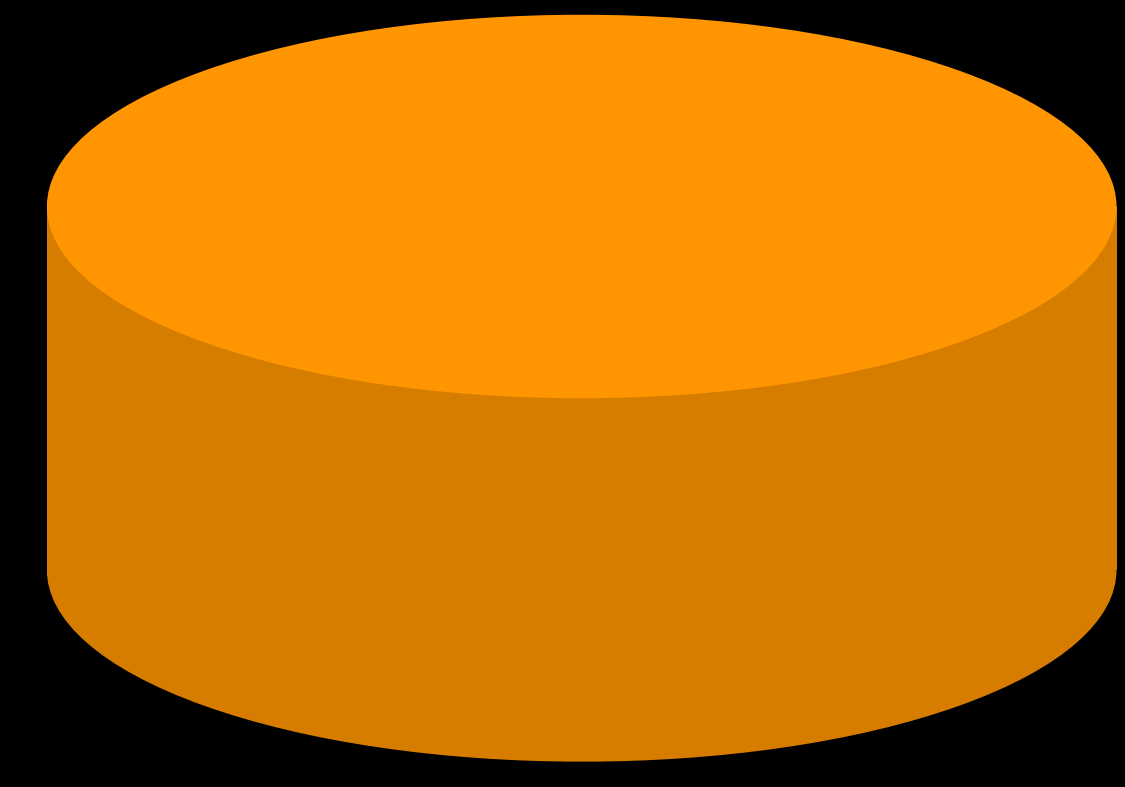
Before



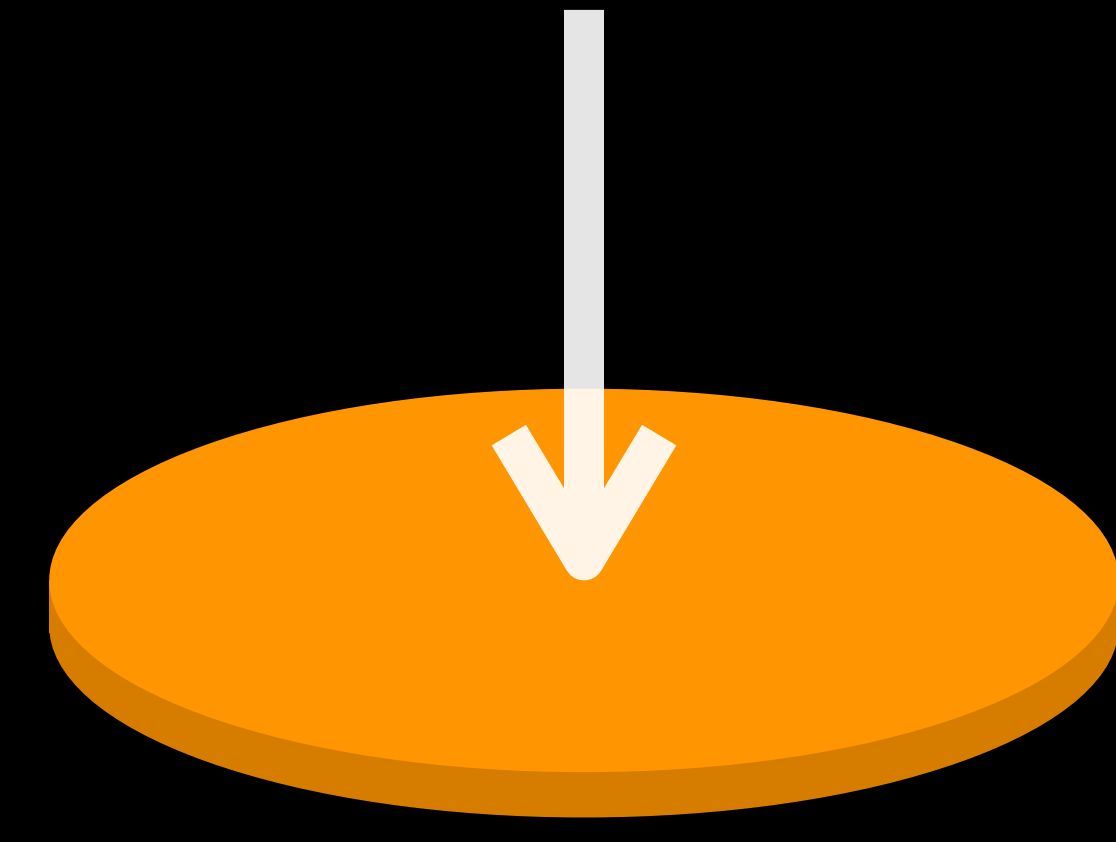
Before



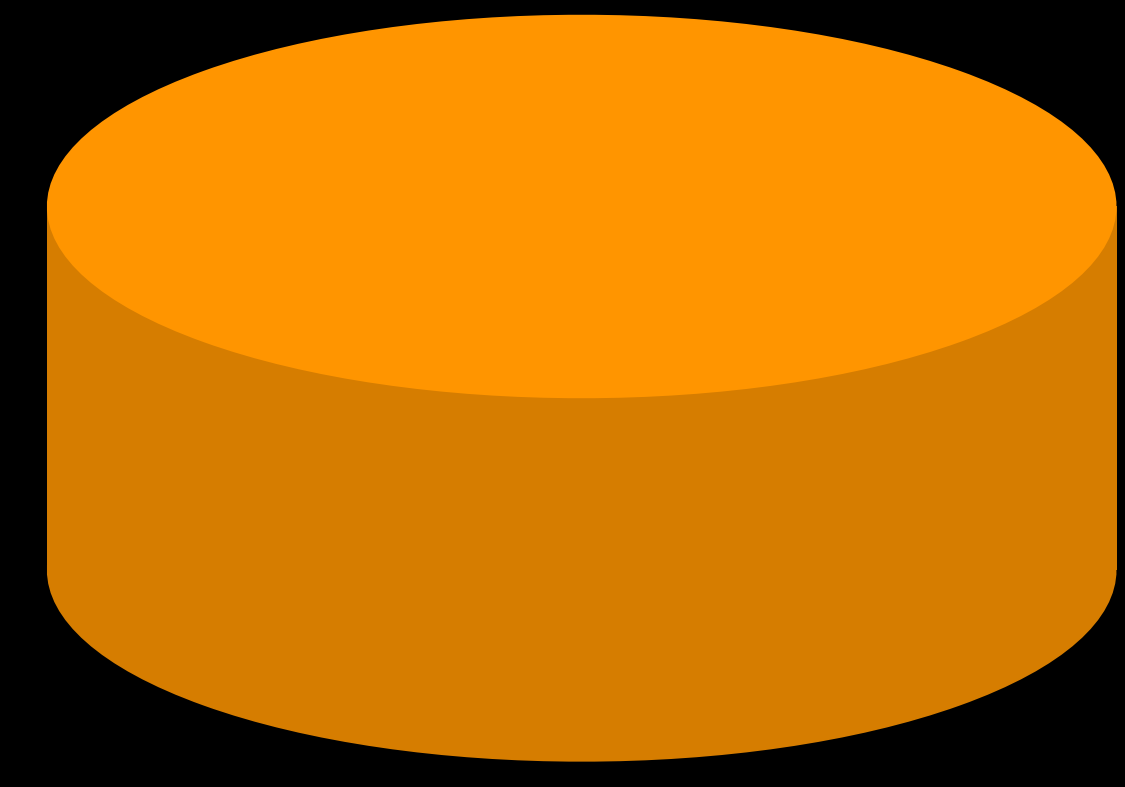
During



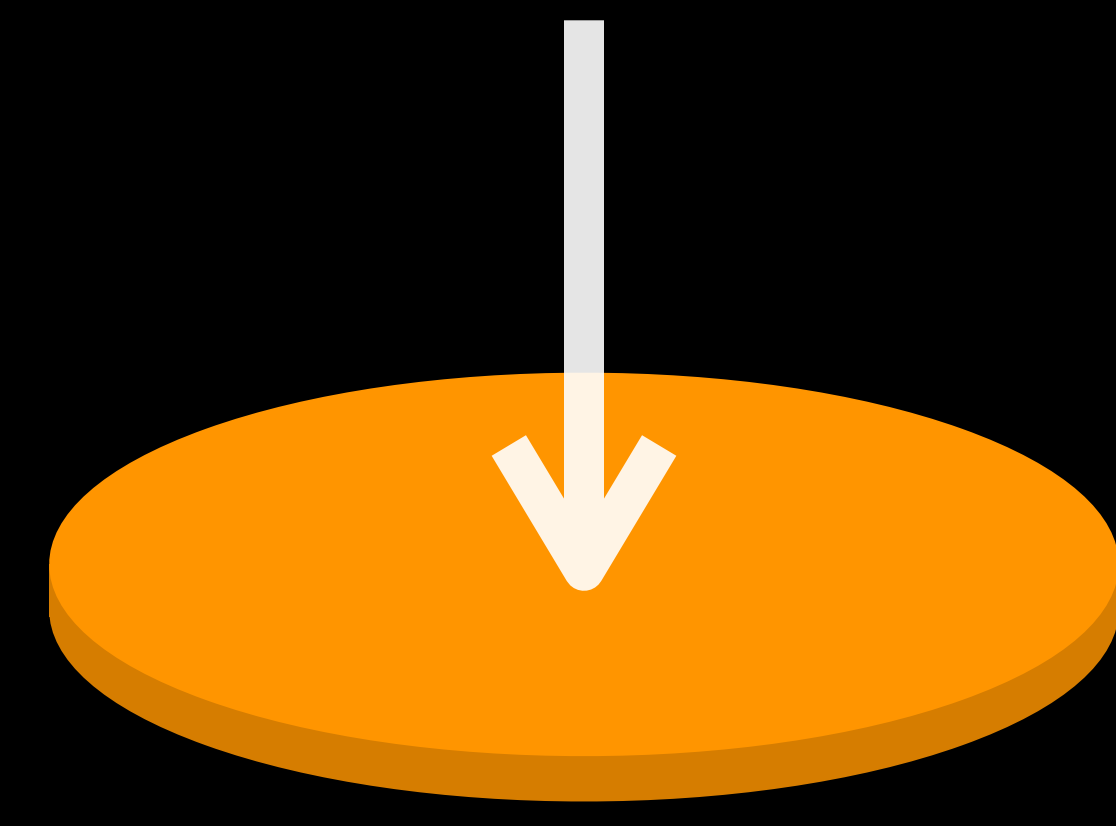
Before



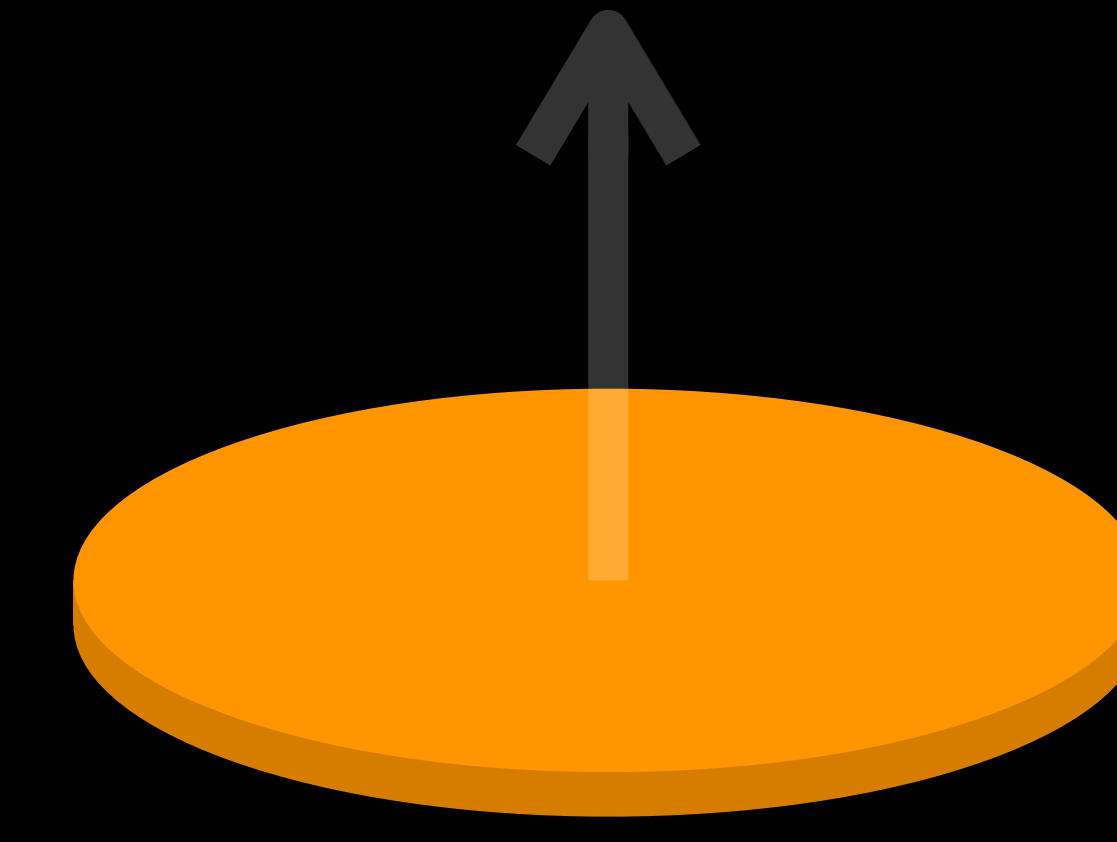
During



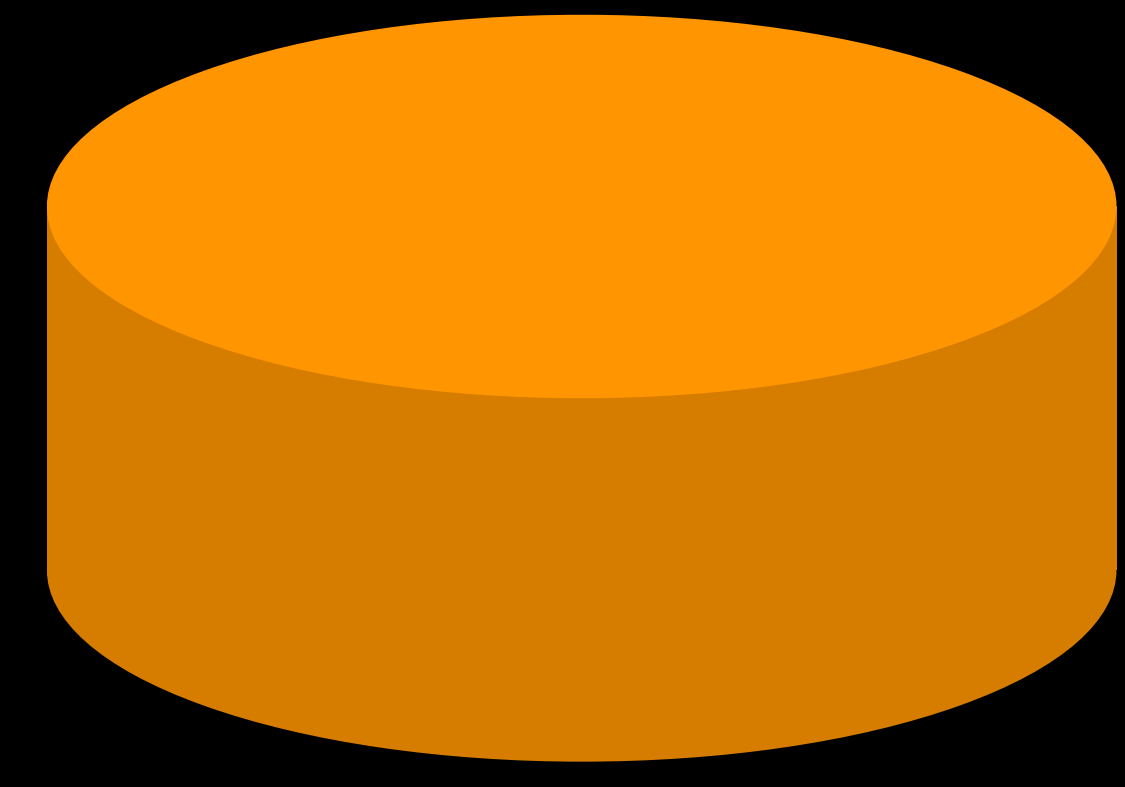
Before



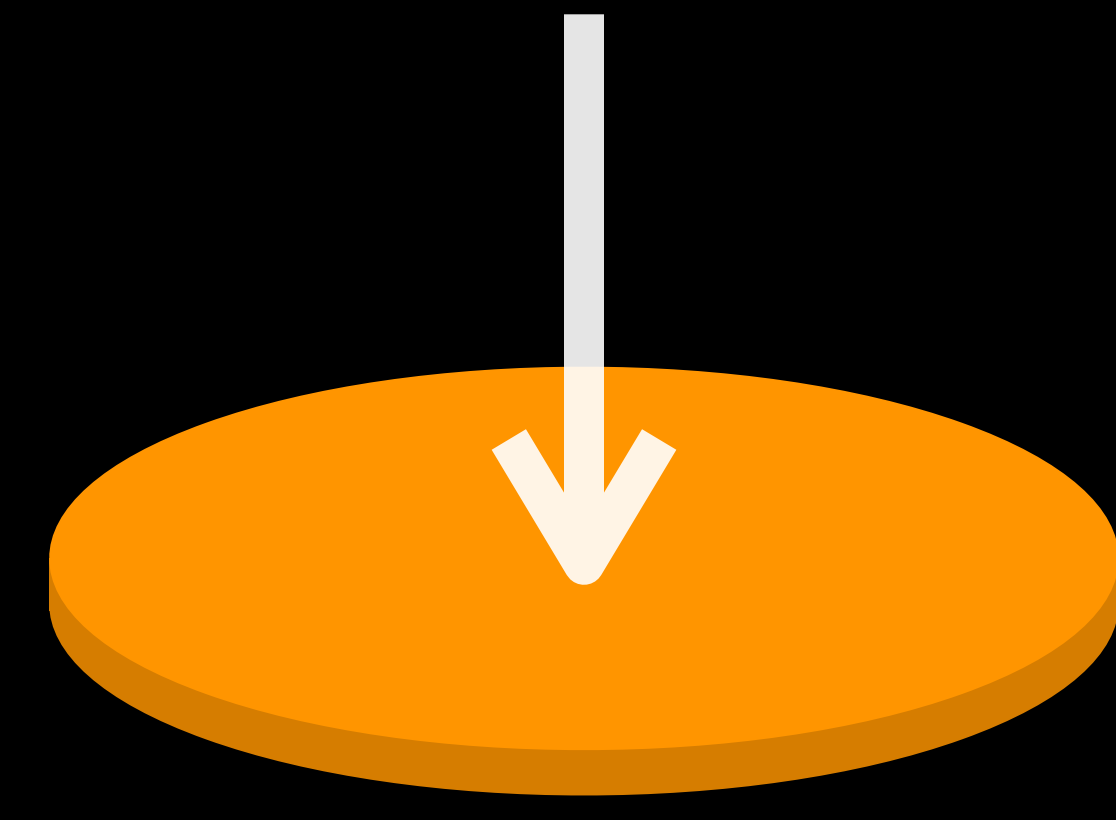
During



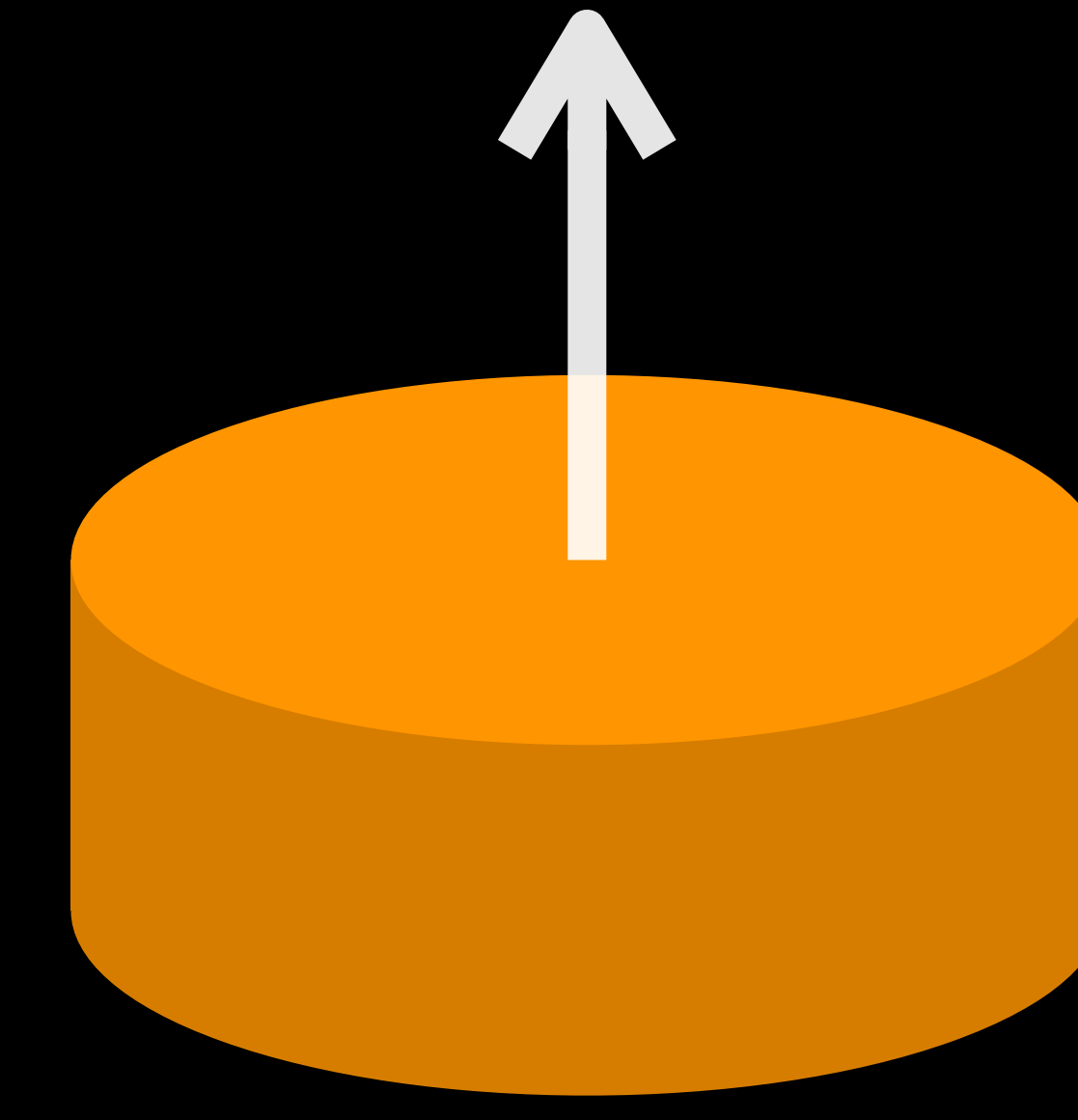
After



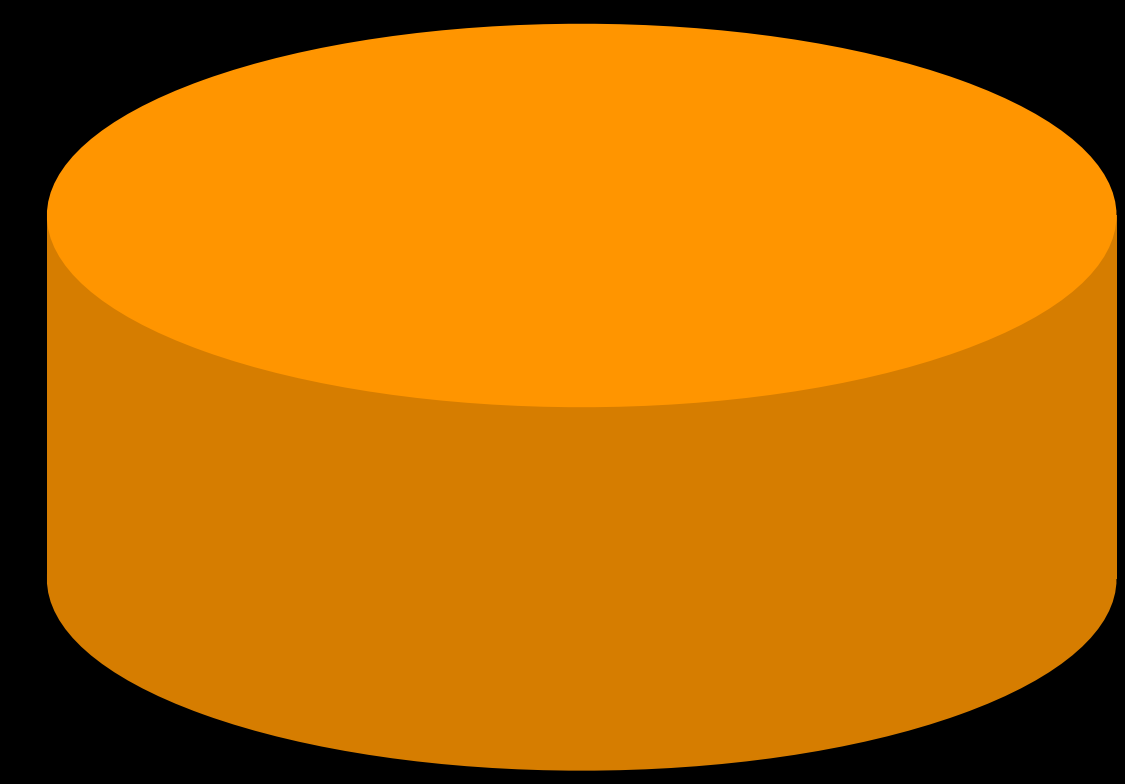
Before



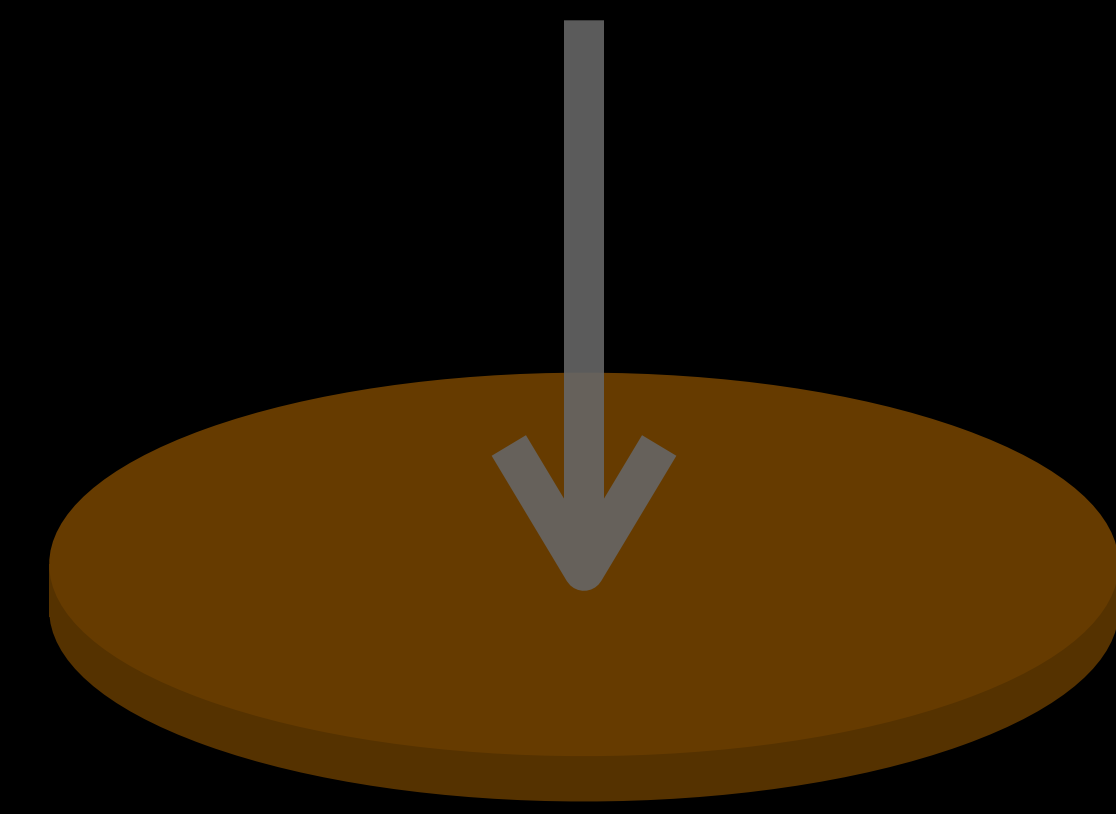
During



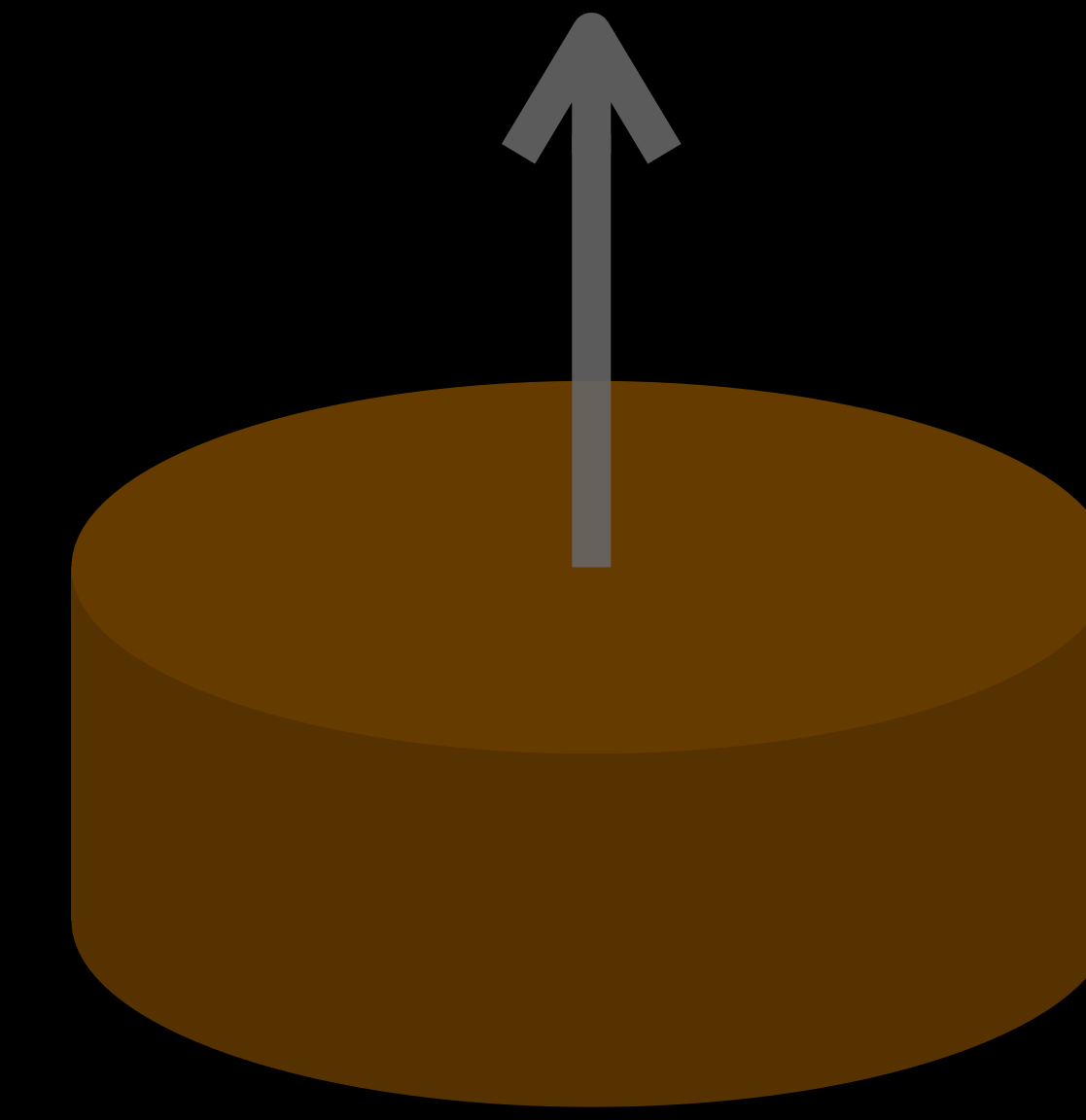
After



Before



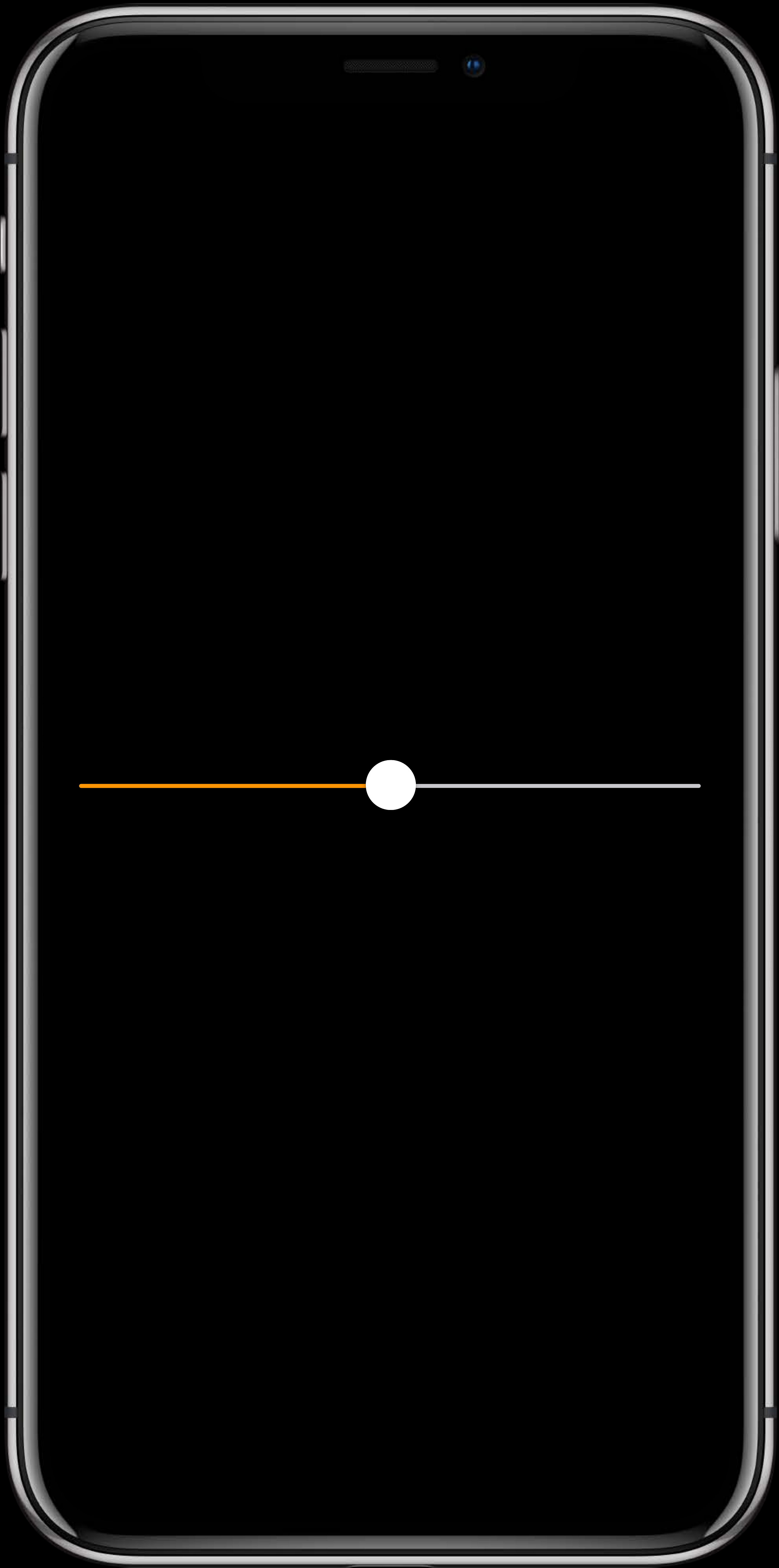
During

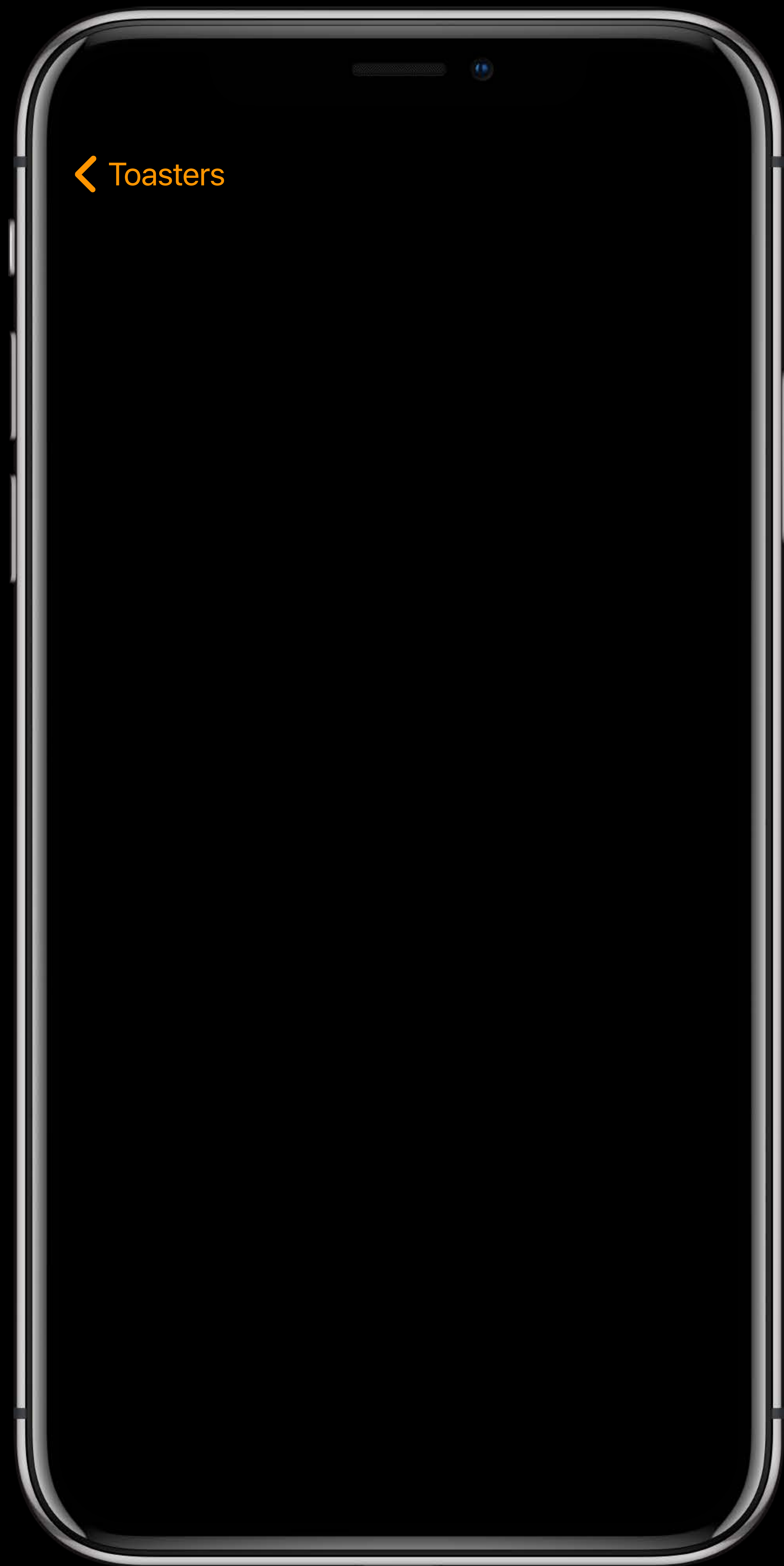


After



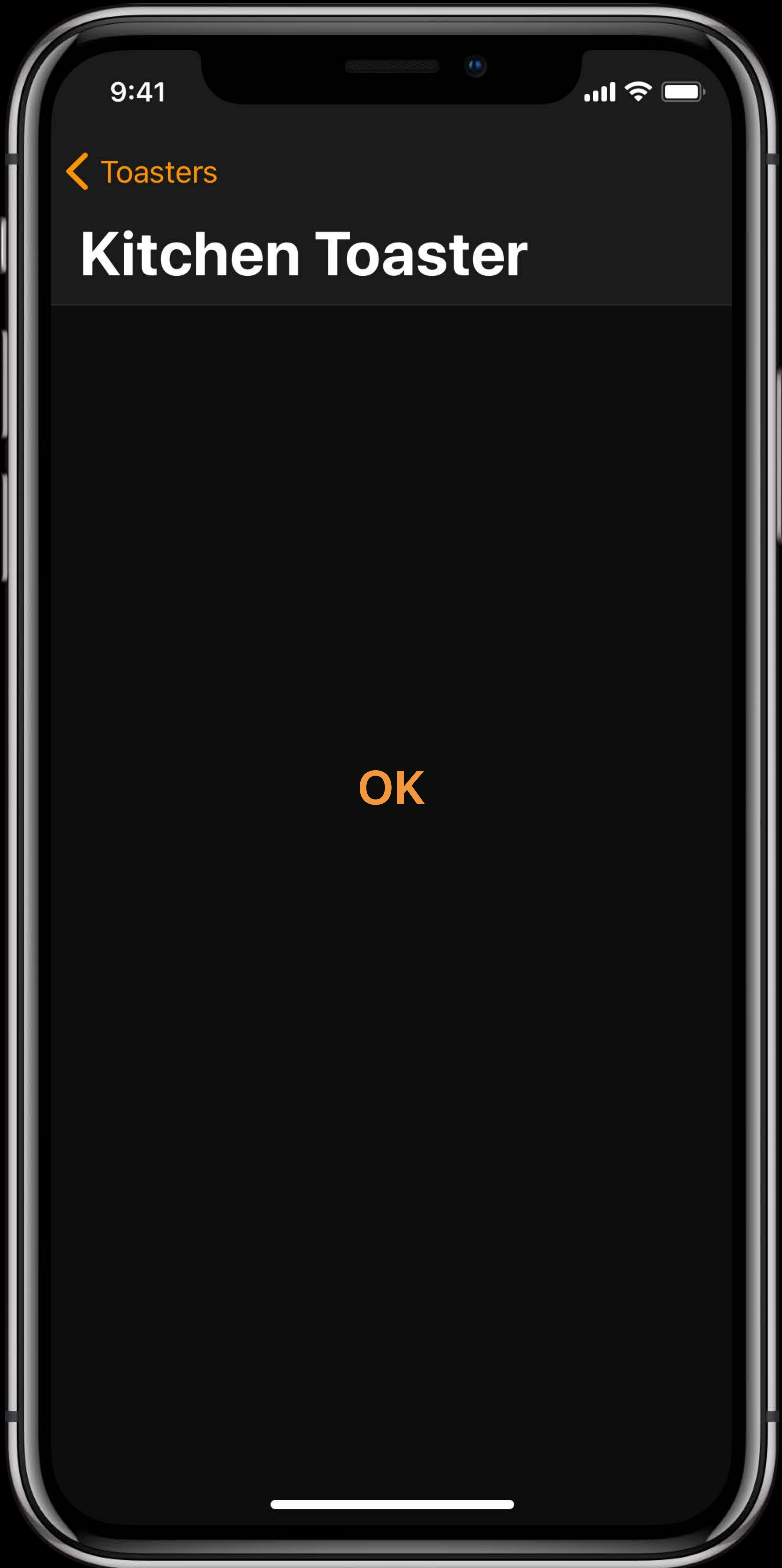






Perceived Affordance

Before — During — After



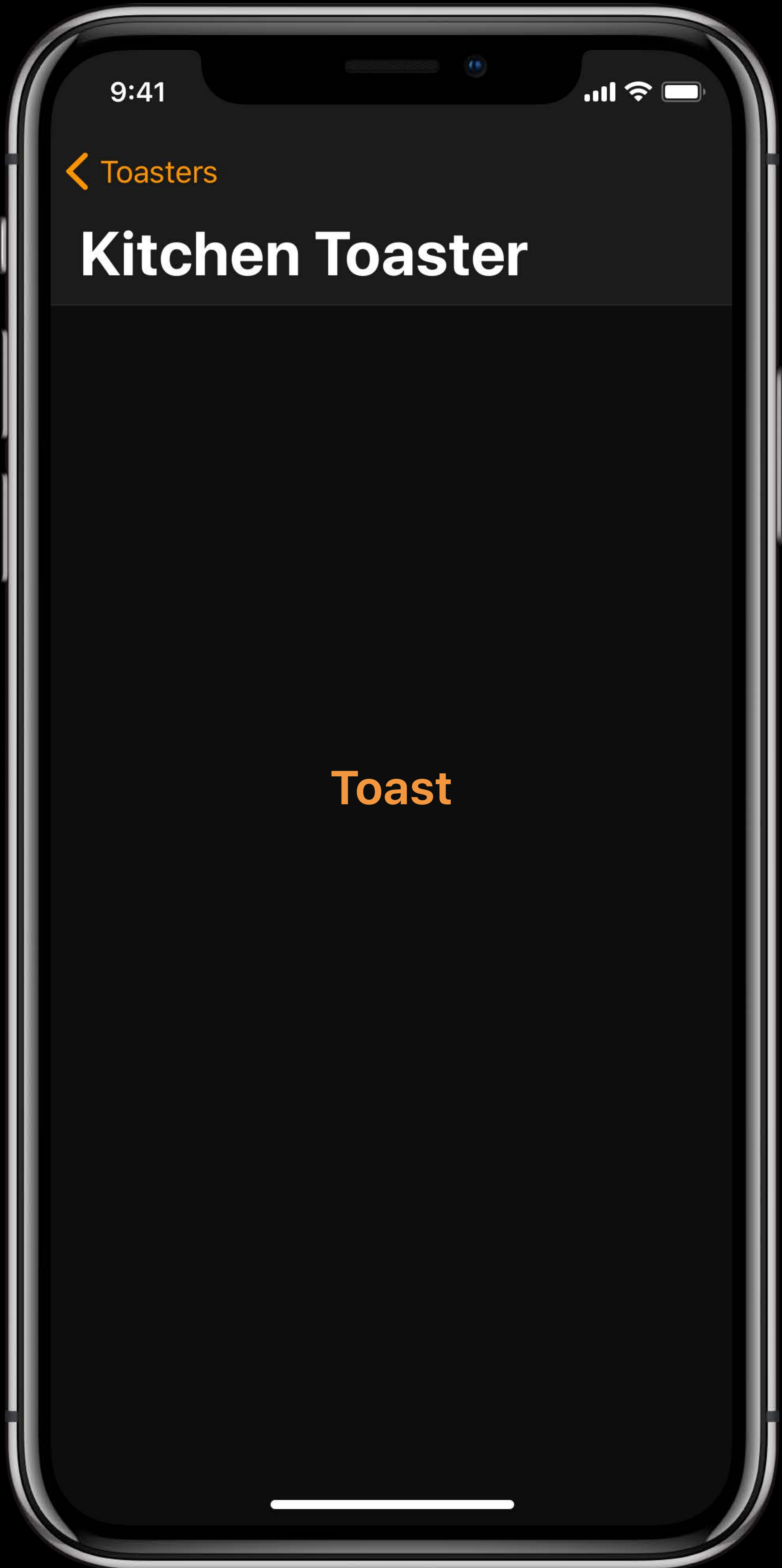
9:41



< Toasters

Kitchen Toaster

OK



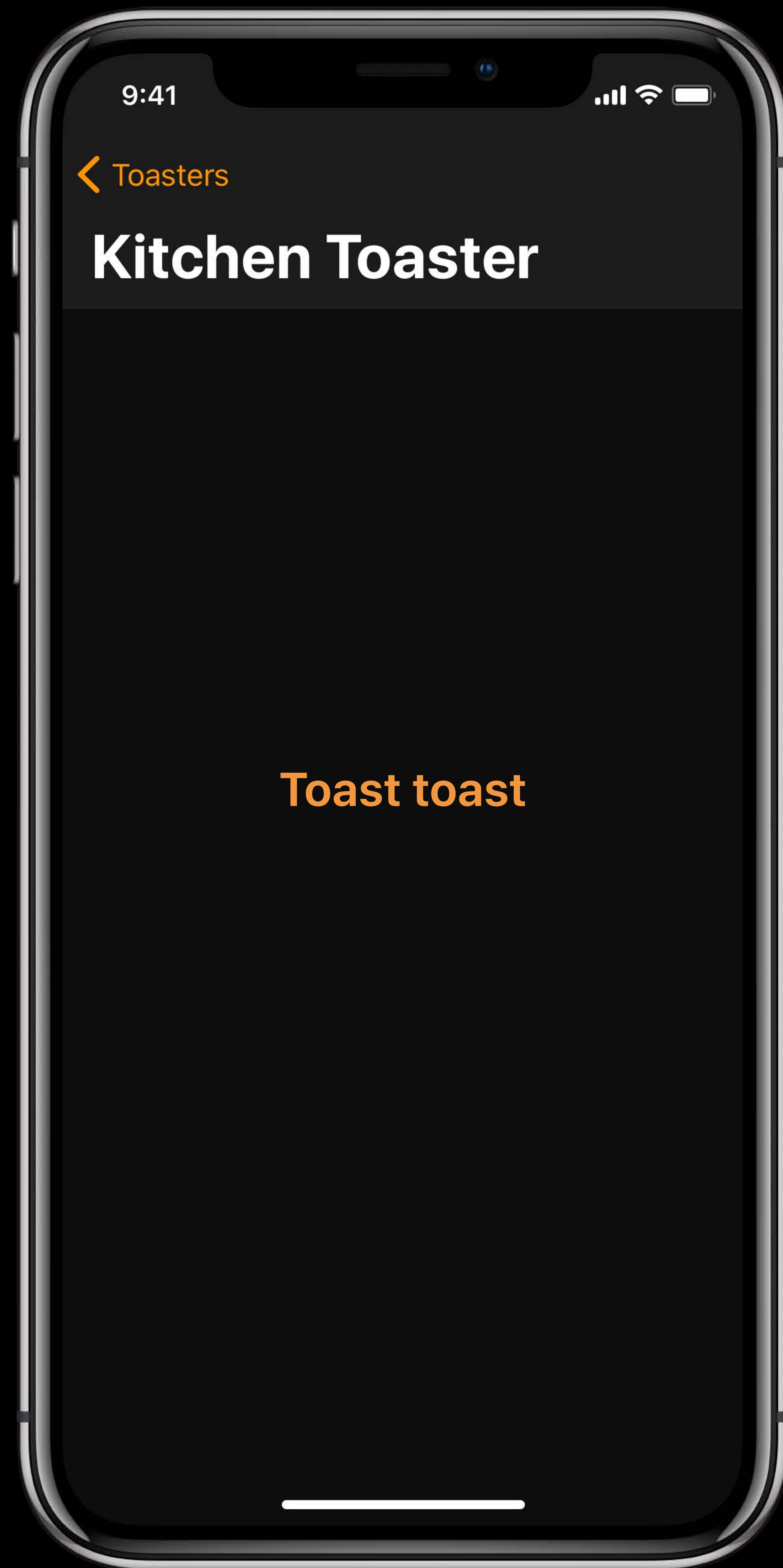
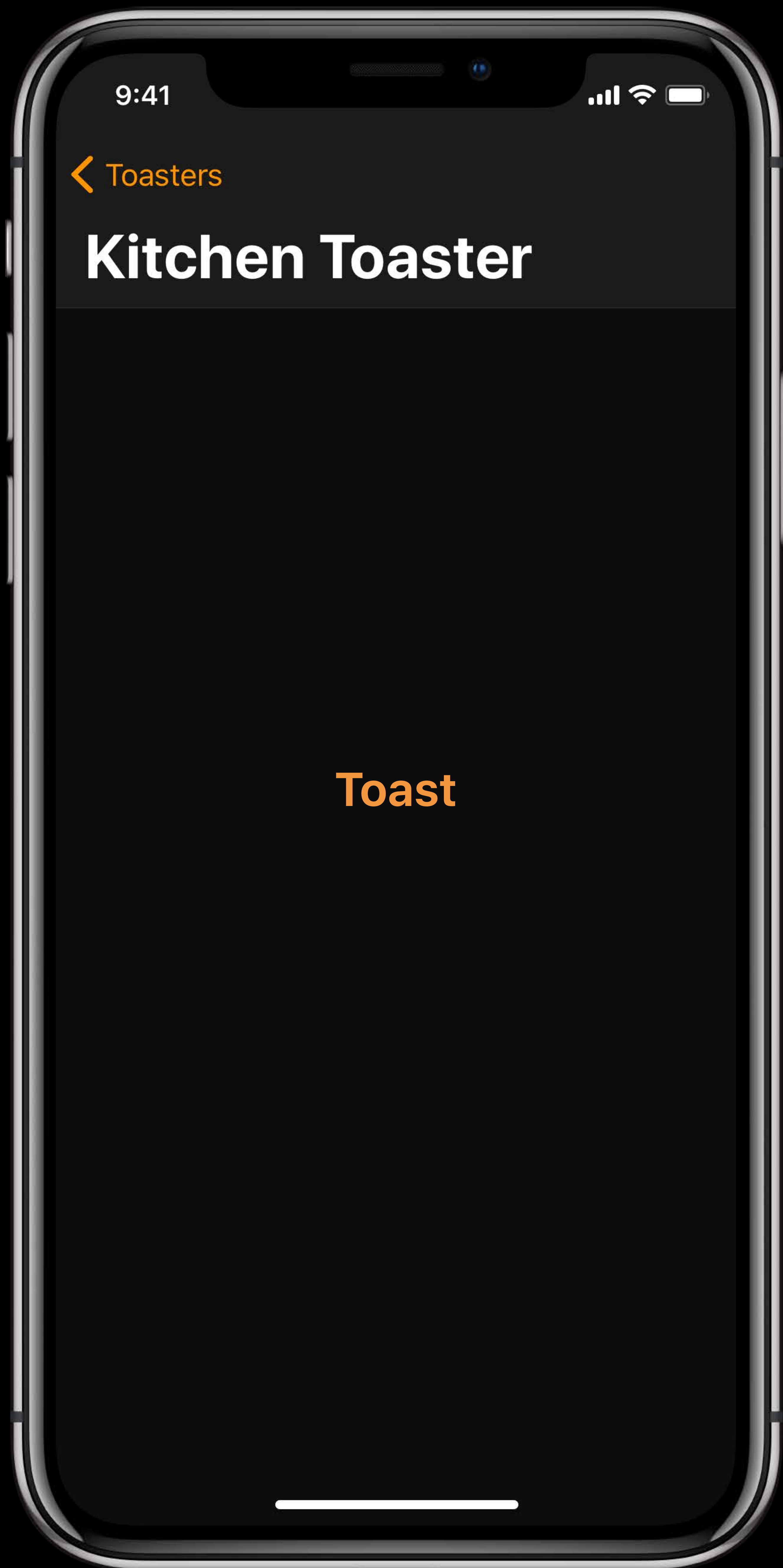
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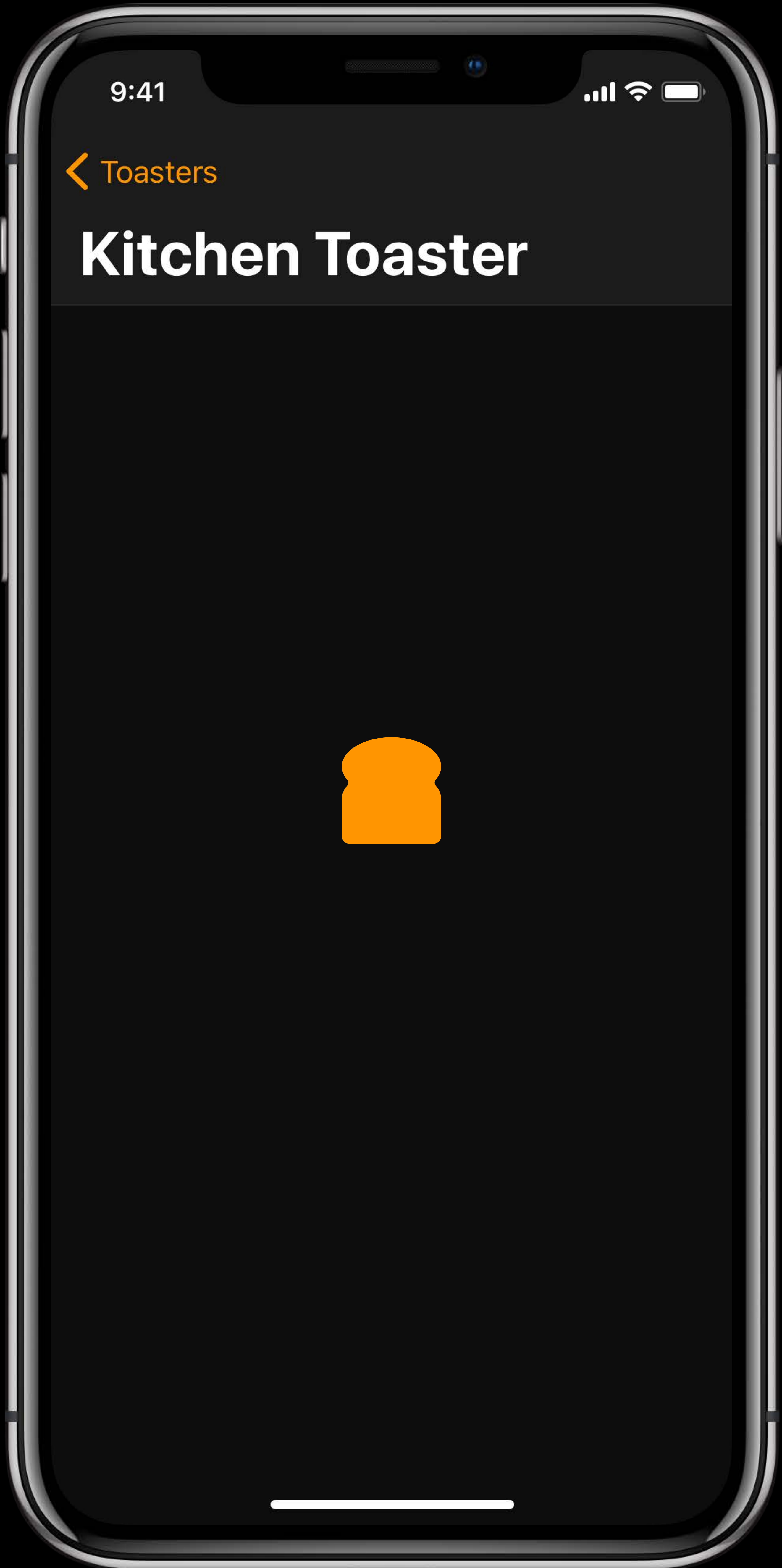


< Toasters

Kitchen Toaster

Toast





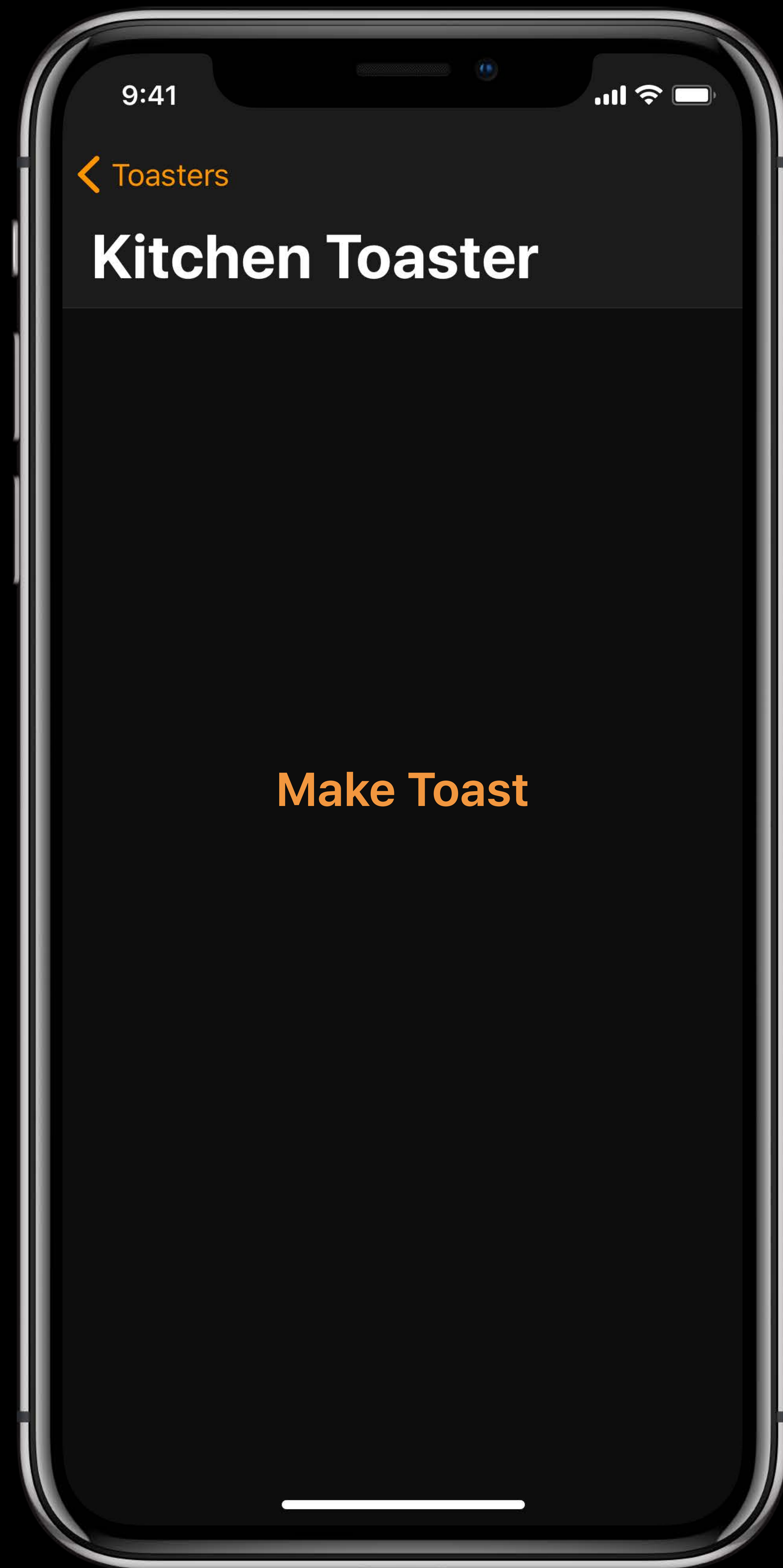
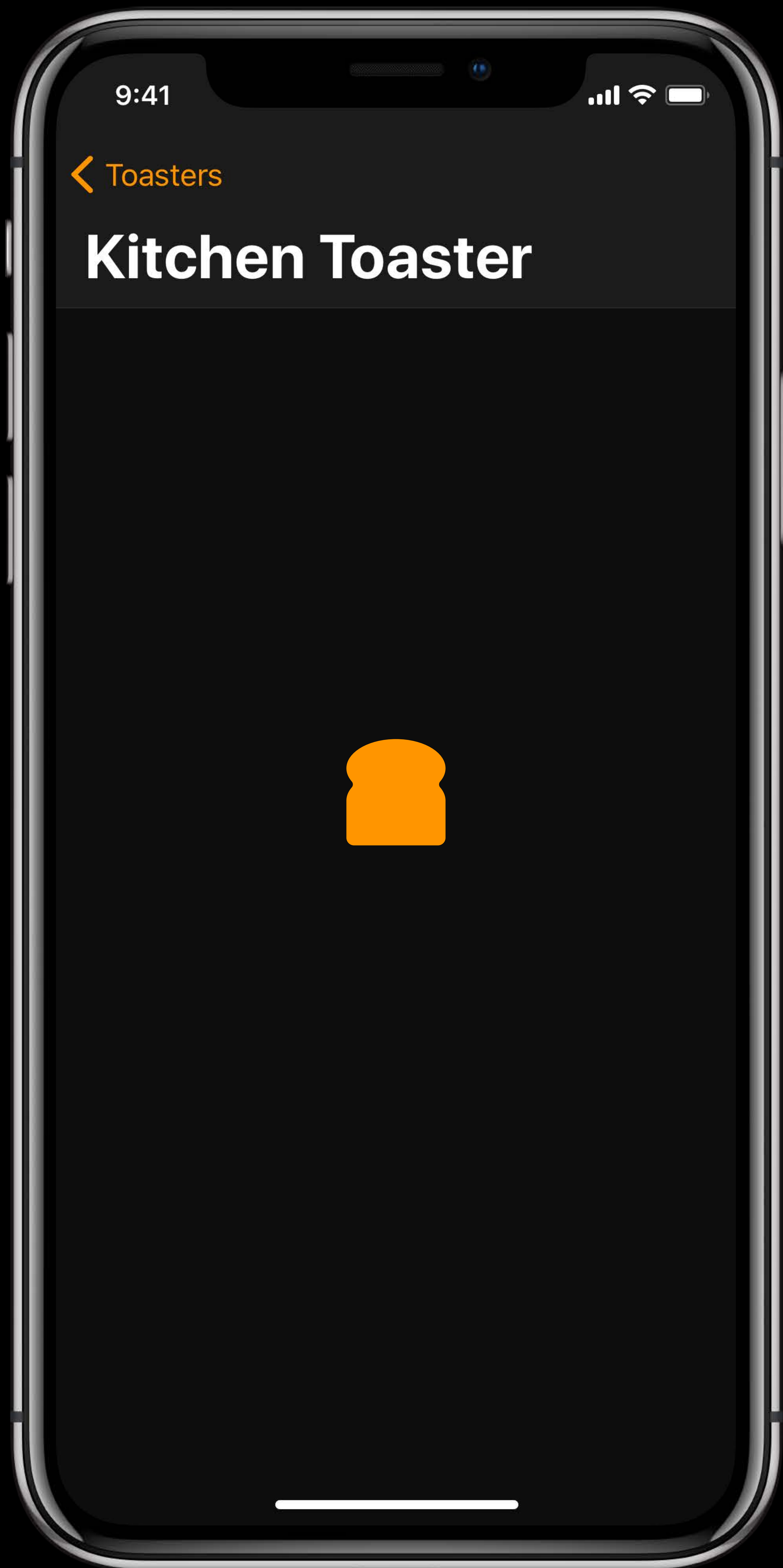
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Kitchen Toaster







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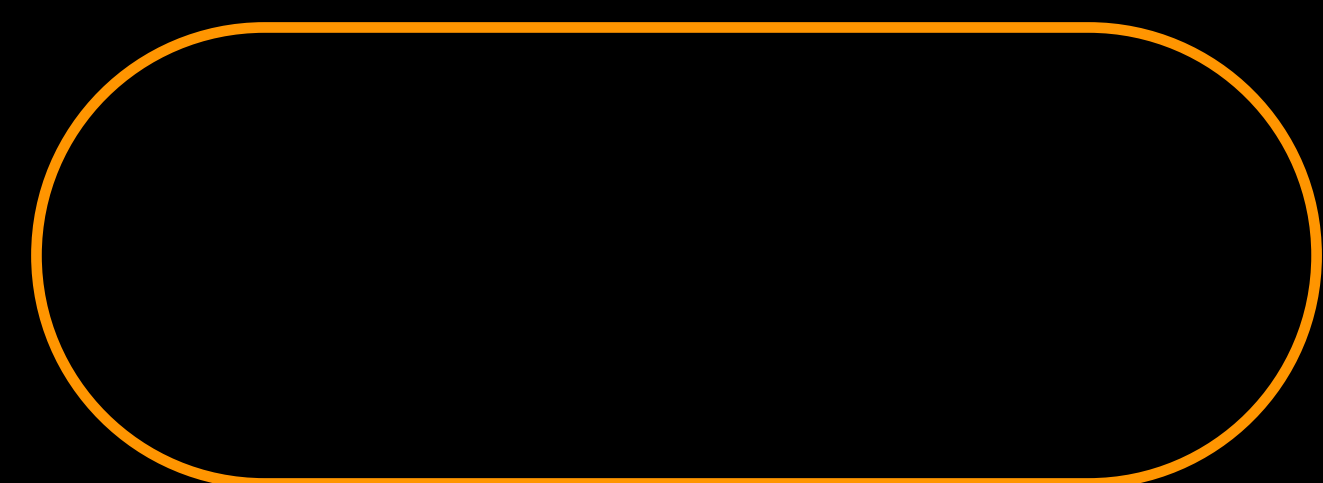
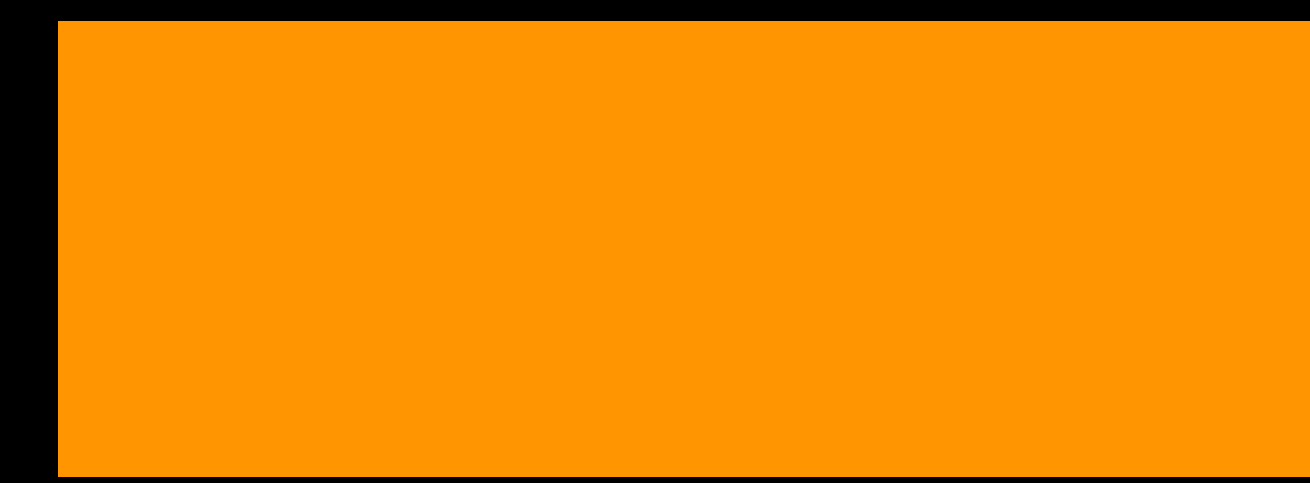
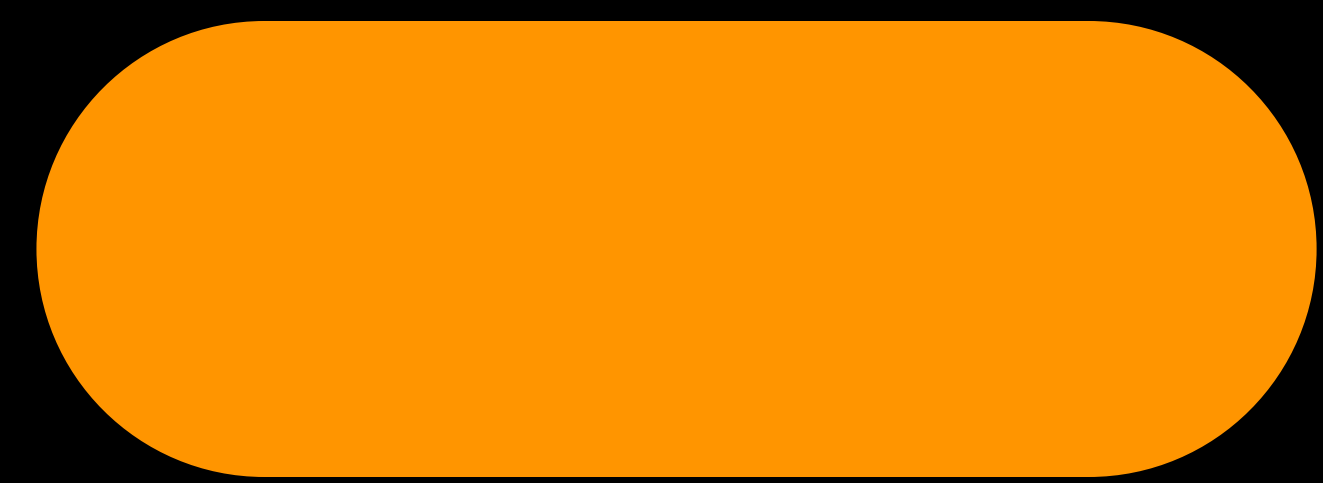


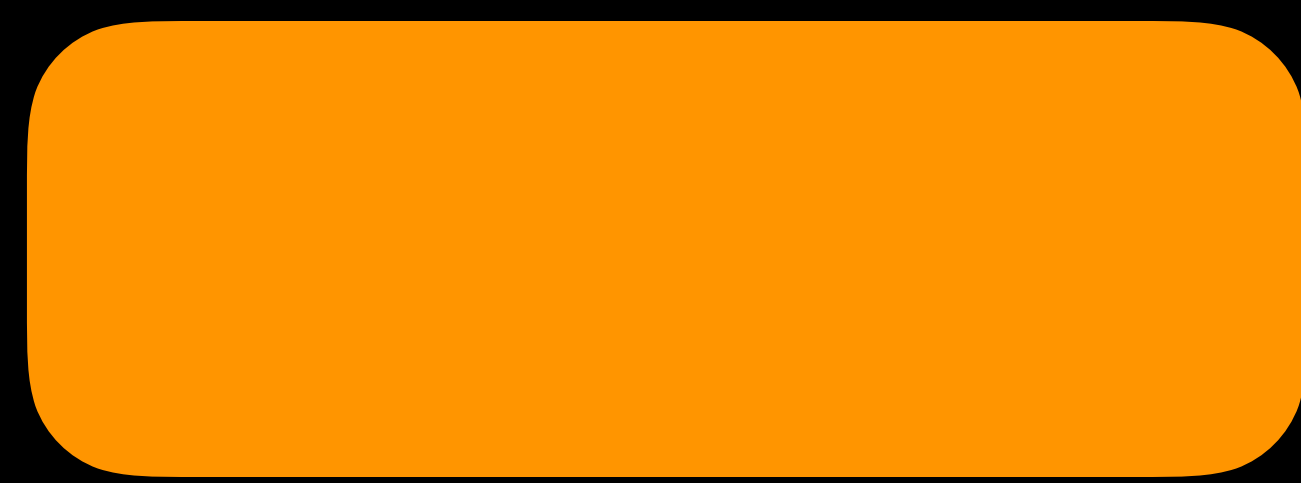
[← Toasters](#)

Kitchen Toaster

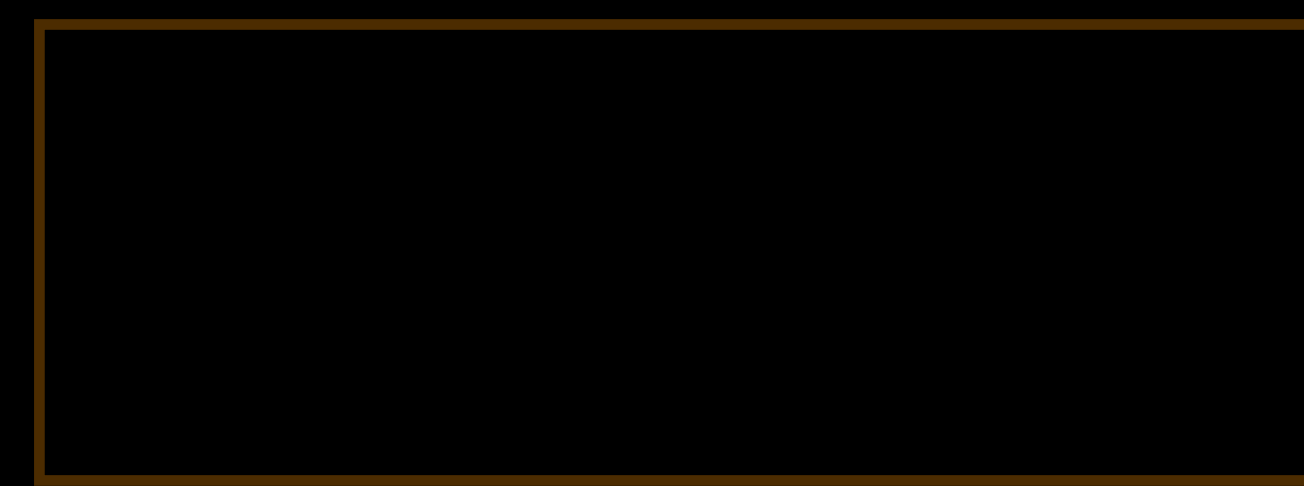
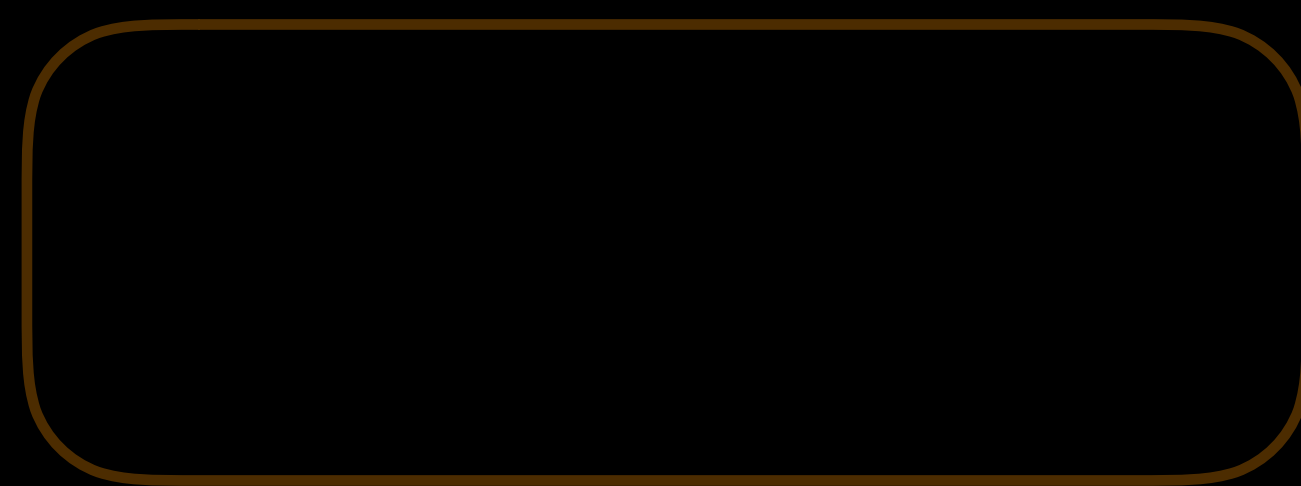
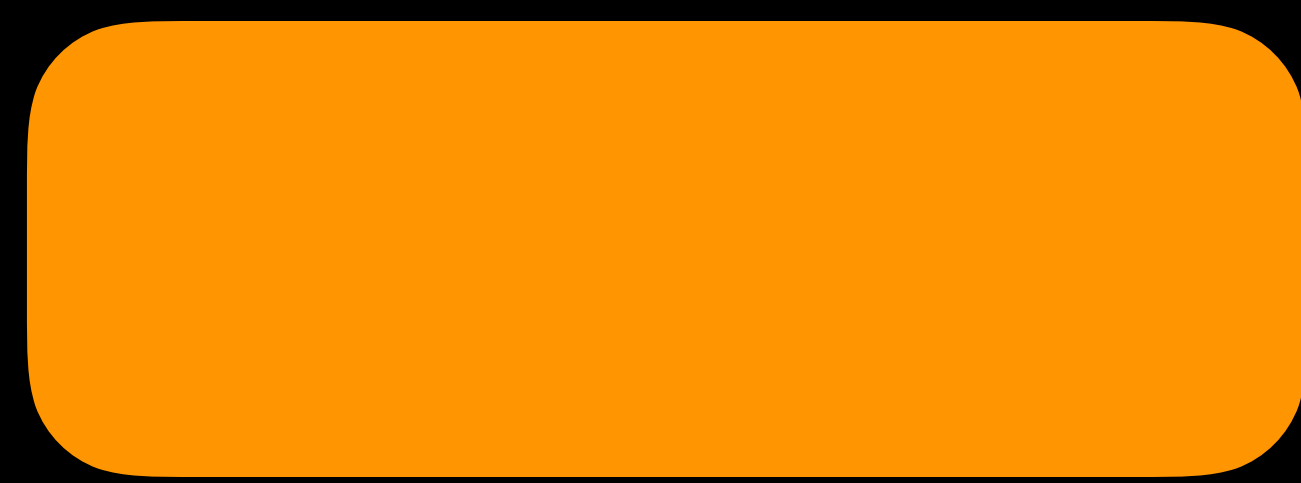




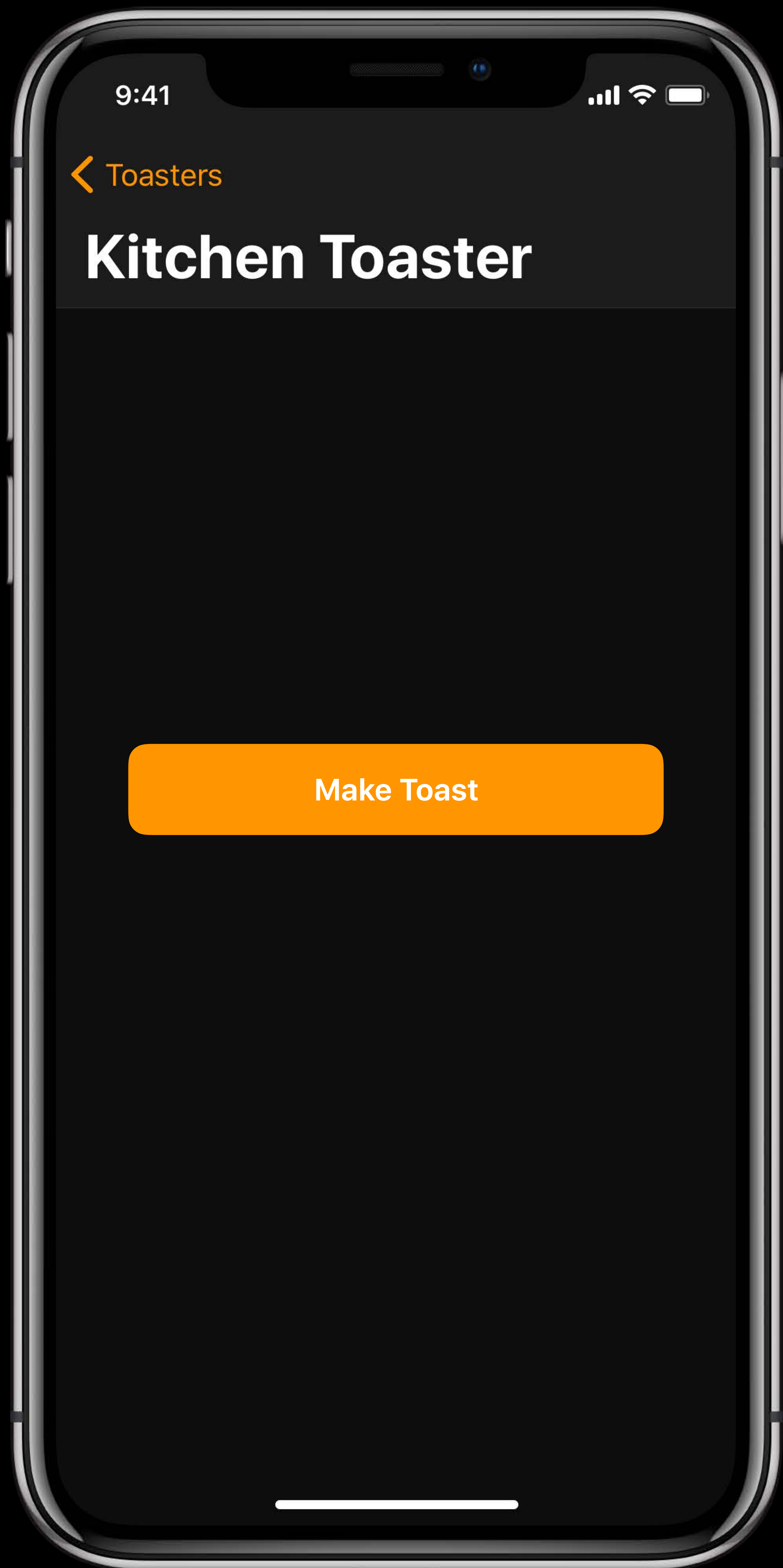


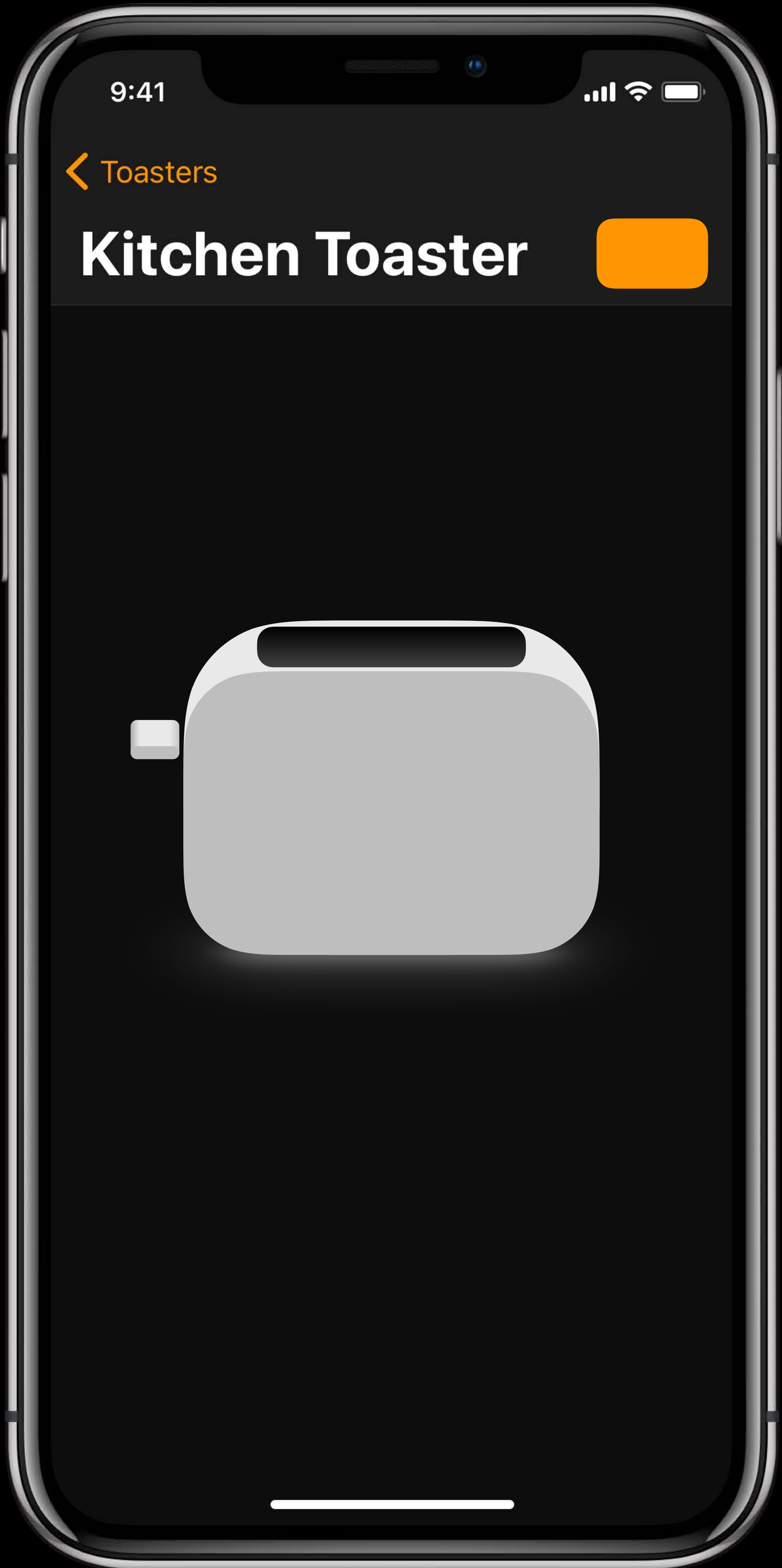


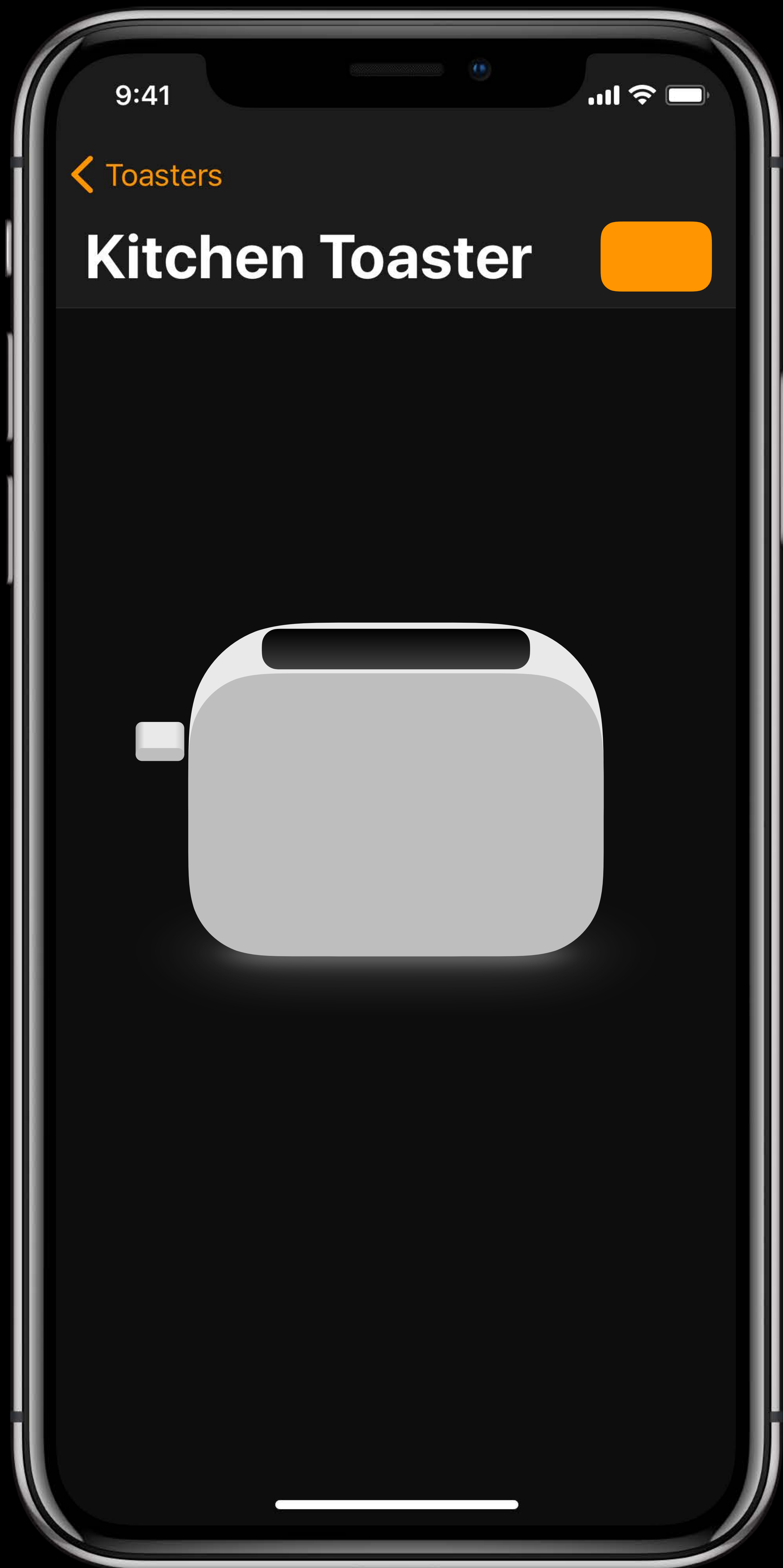
Make Toast



Make Toast





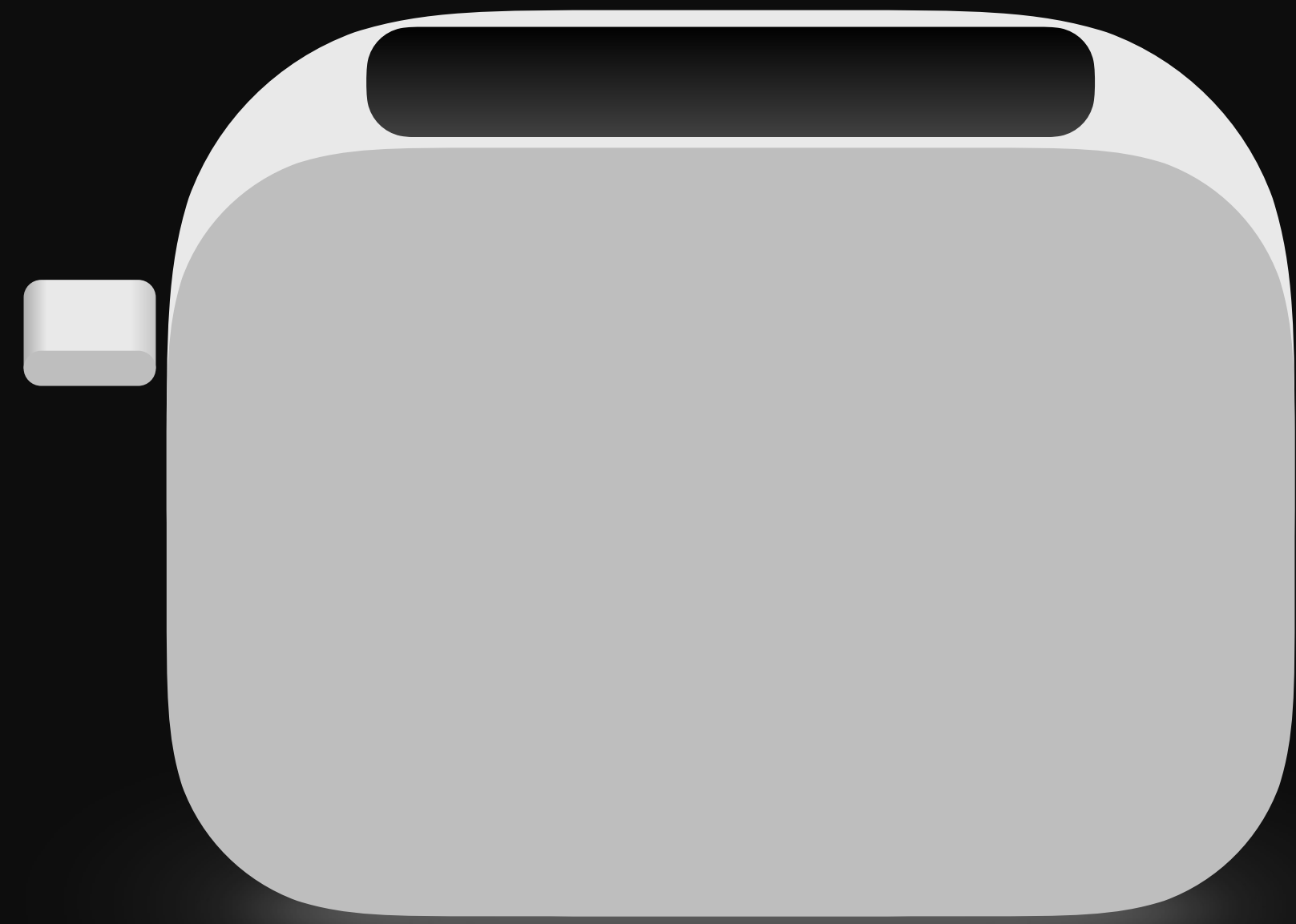


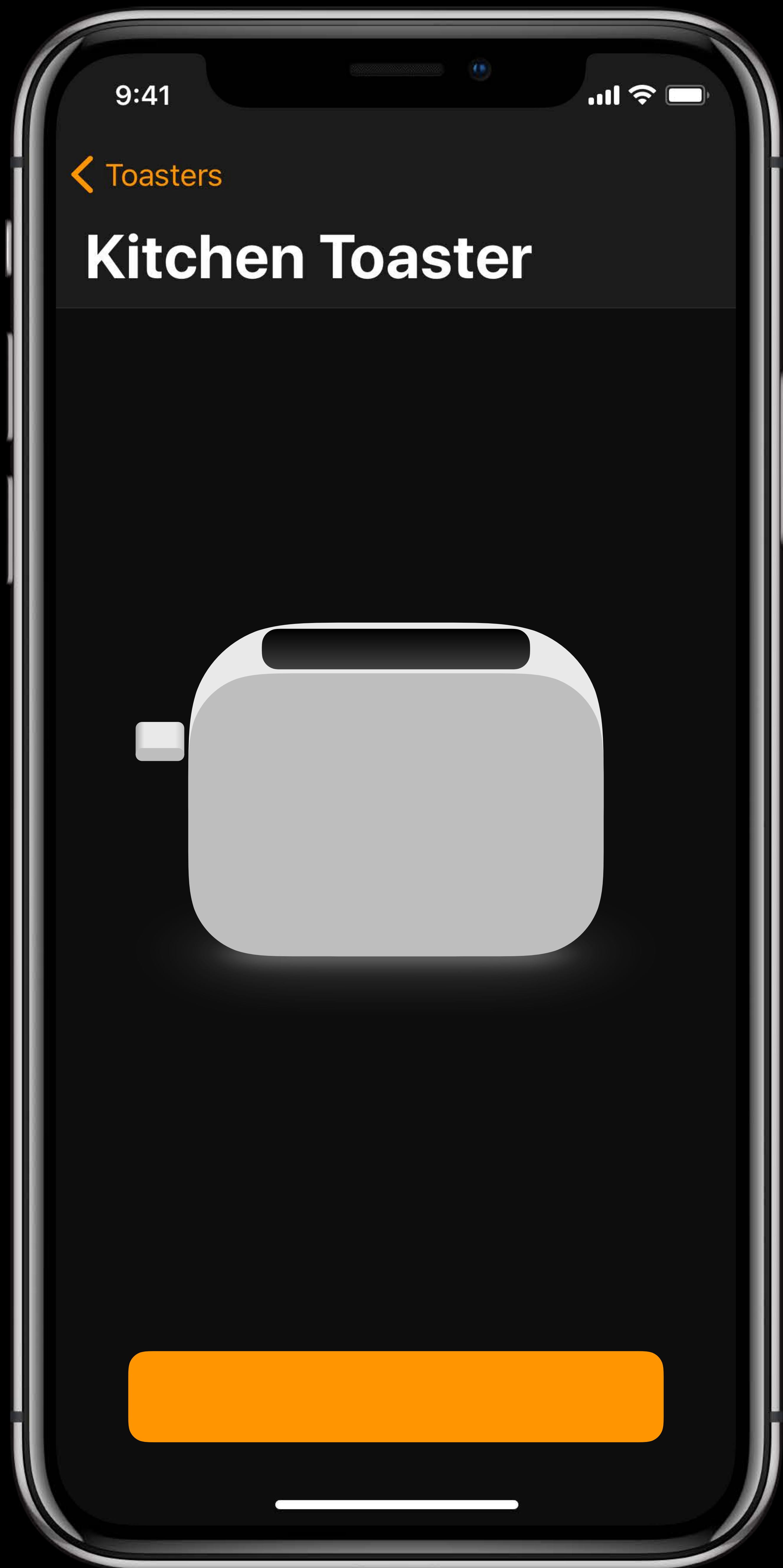
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< Toasters

Kitchen Toaster







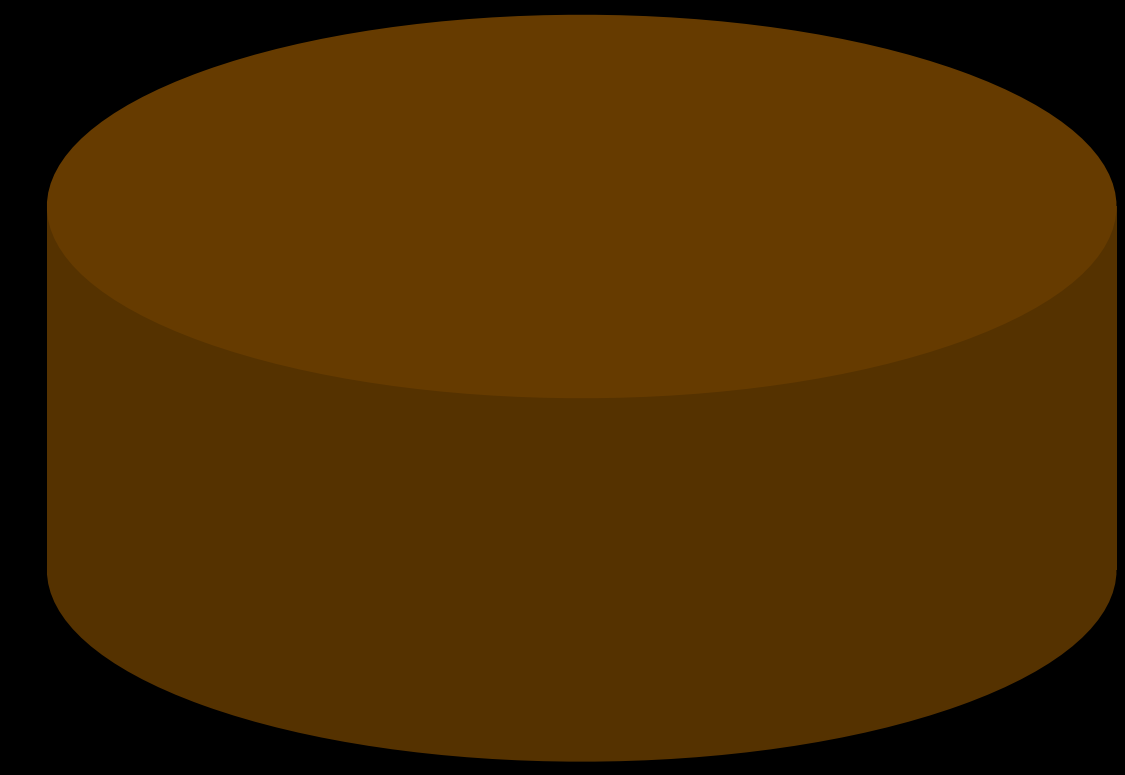
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< Toasters

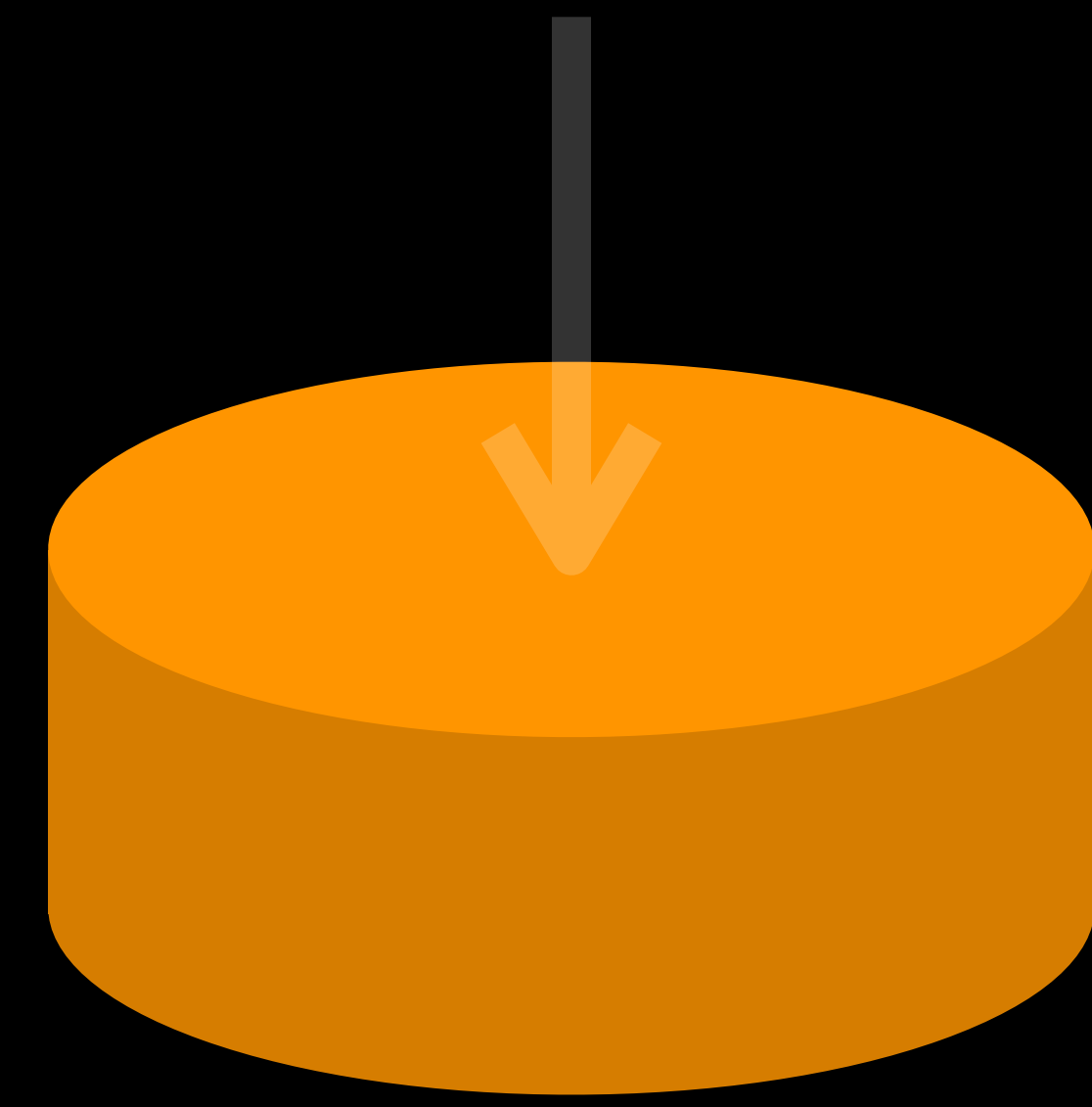
Kitchen Toaster



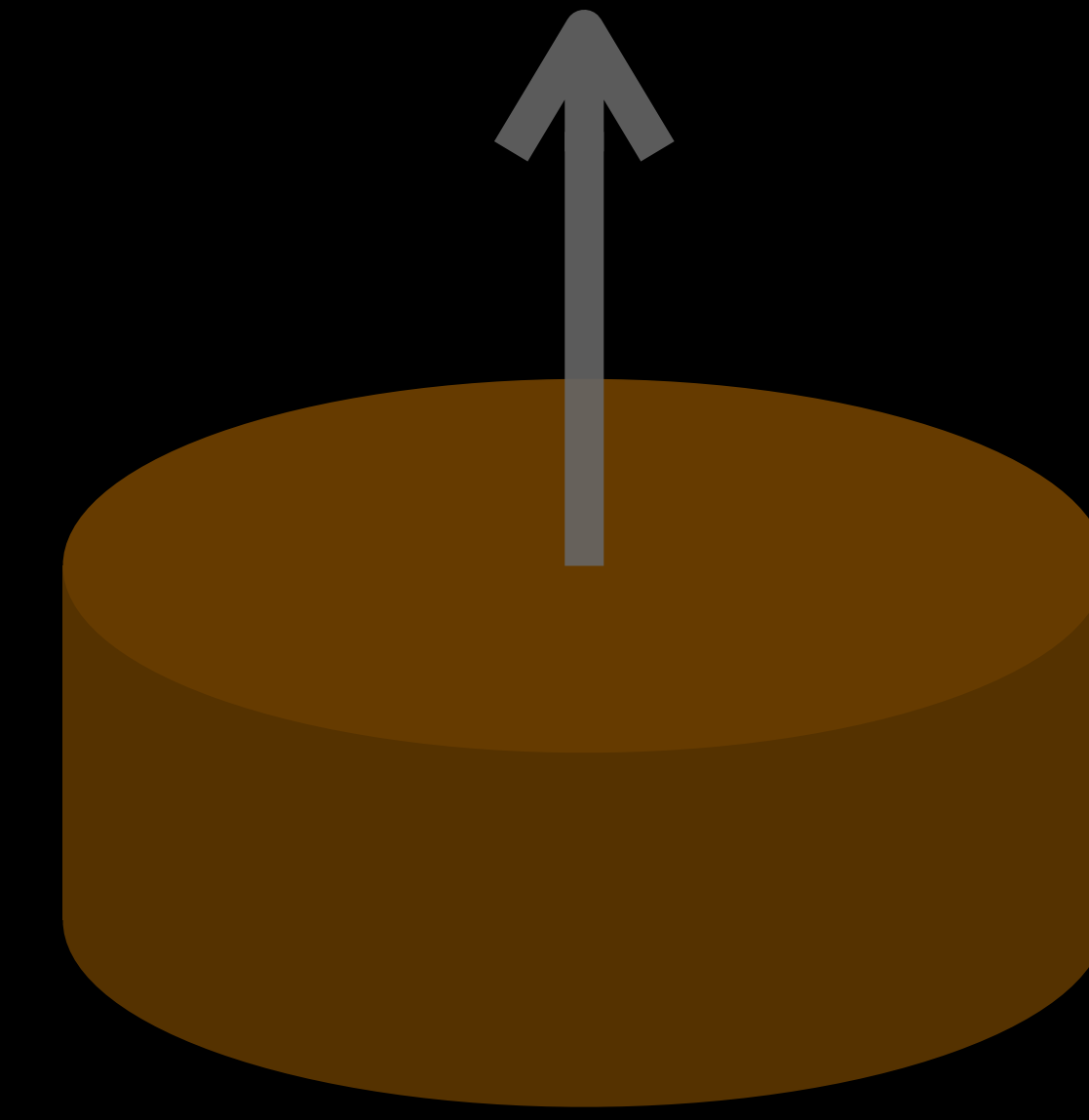
Make Toast



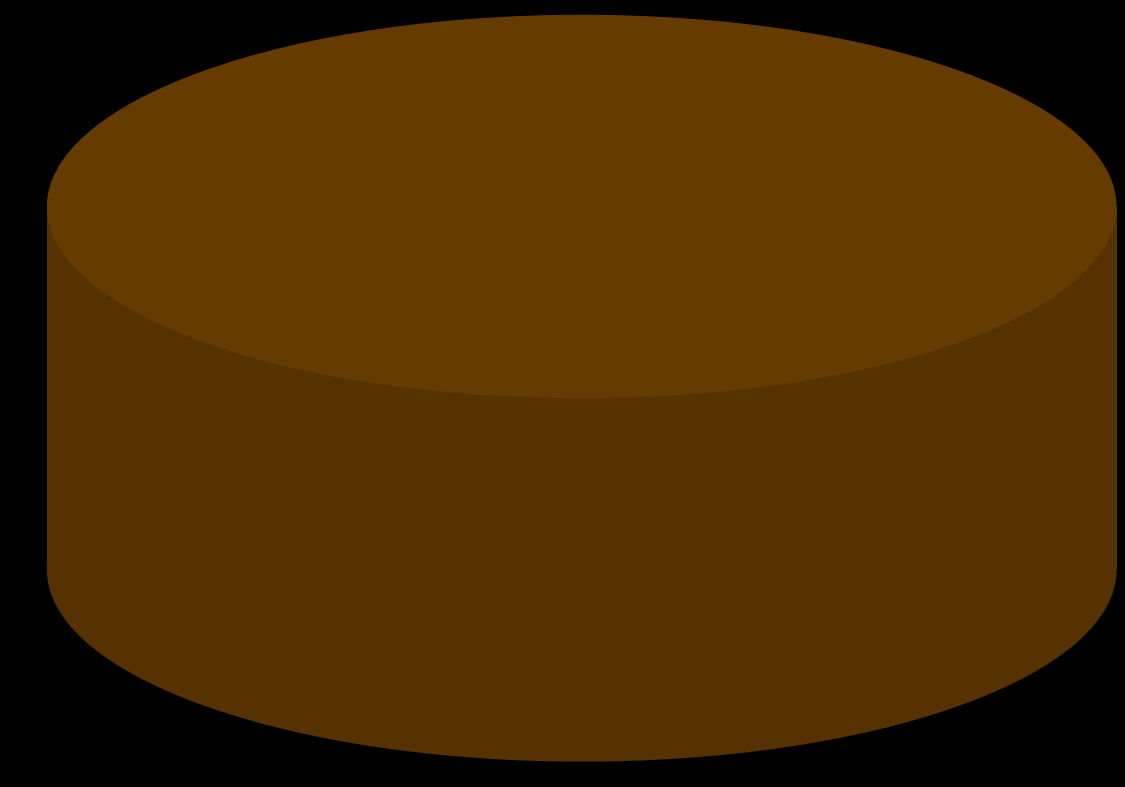
Before



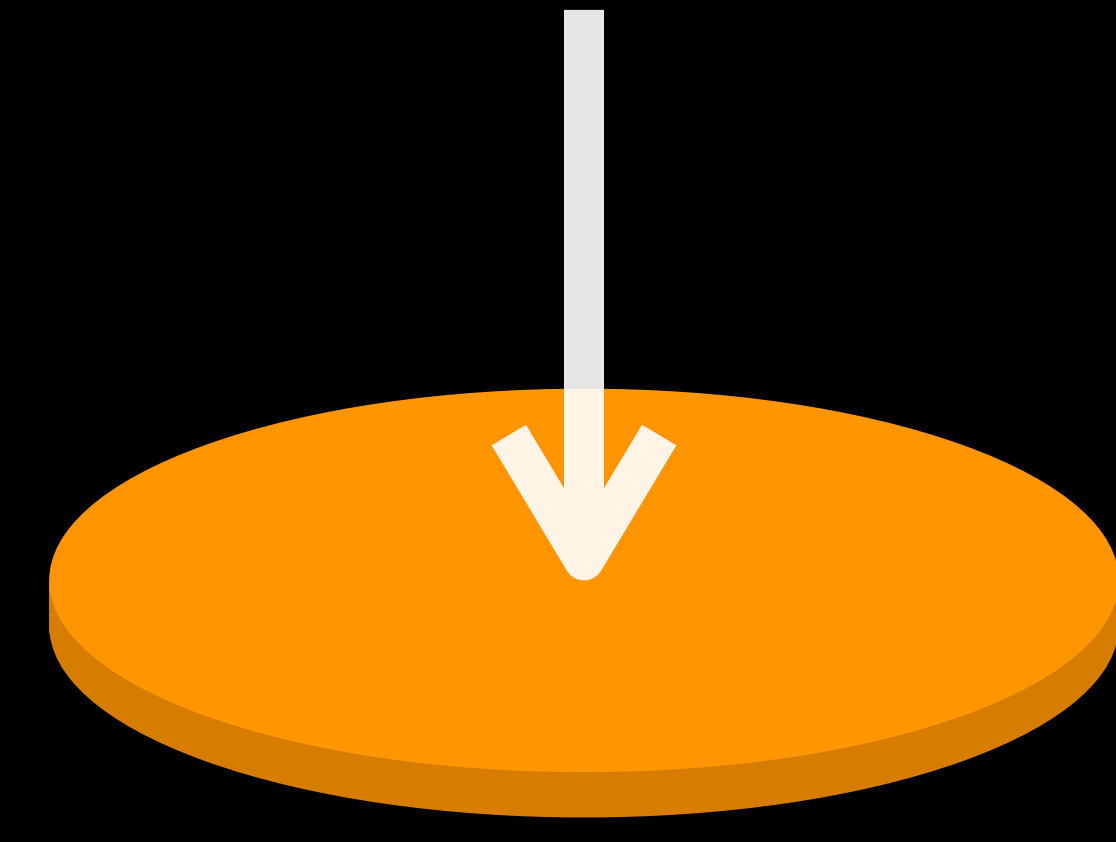
During



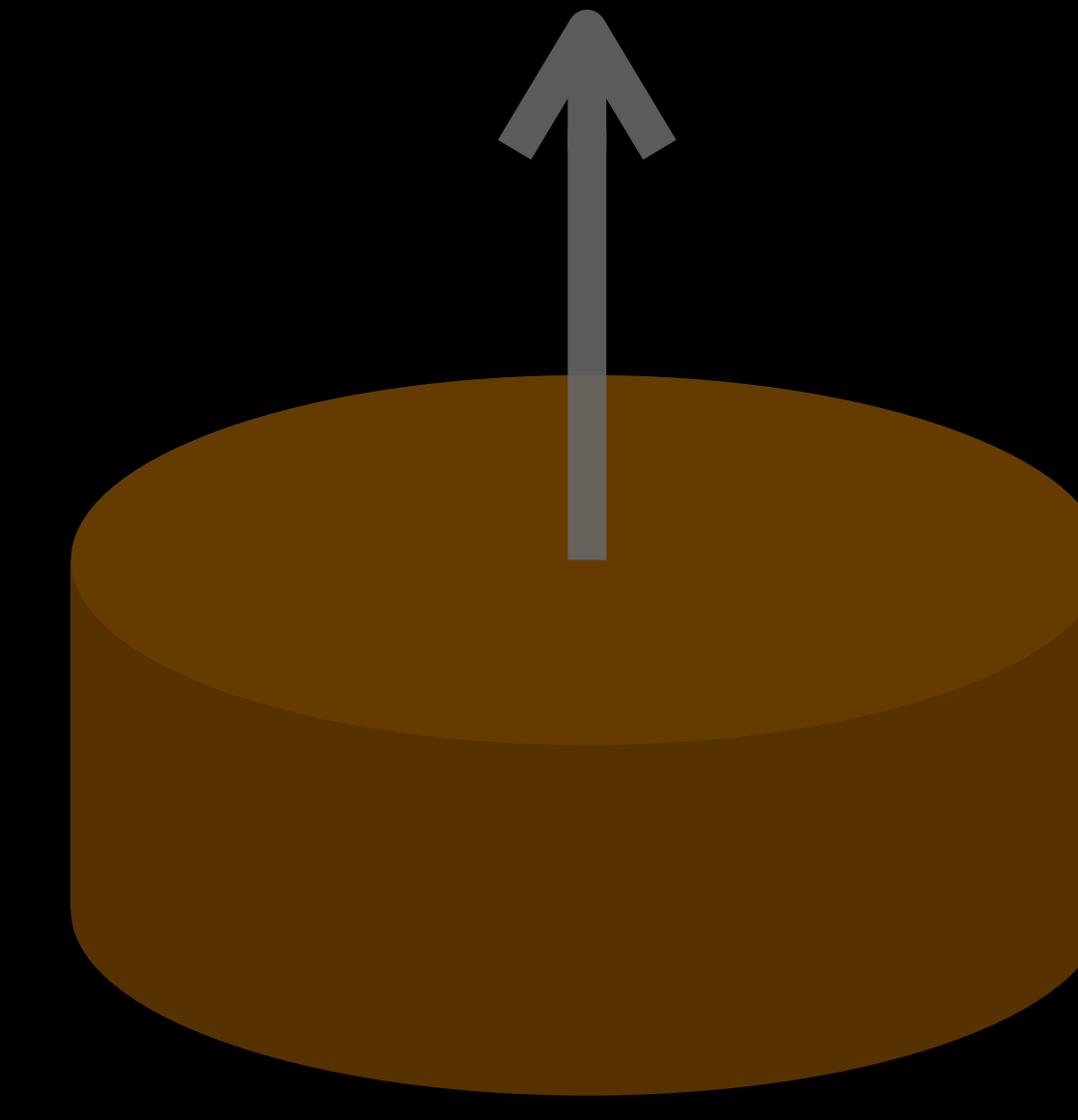
After



Before



During



After

Feedback

Before — During — After

Feedforward

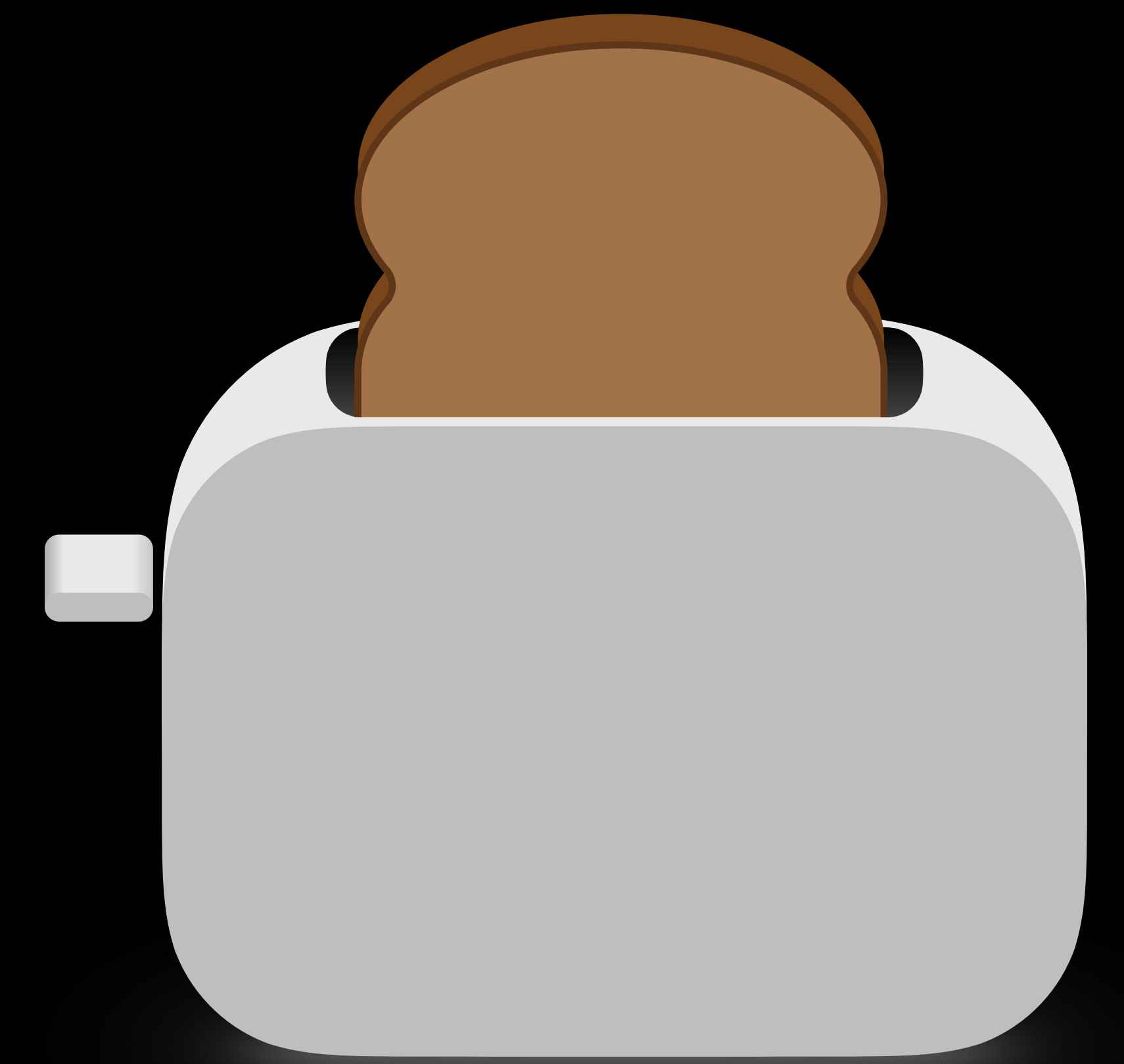
Before — During — After



Toaster
Ready



Making
Toast



Toast
Done

Cancel

Eat Toast

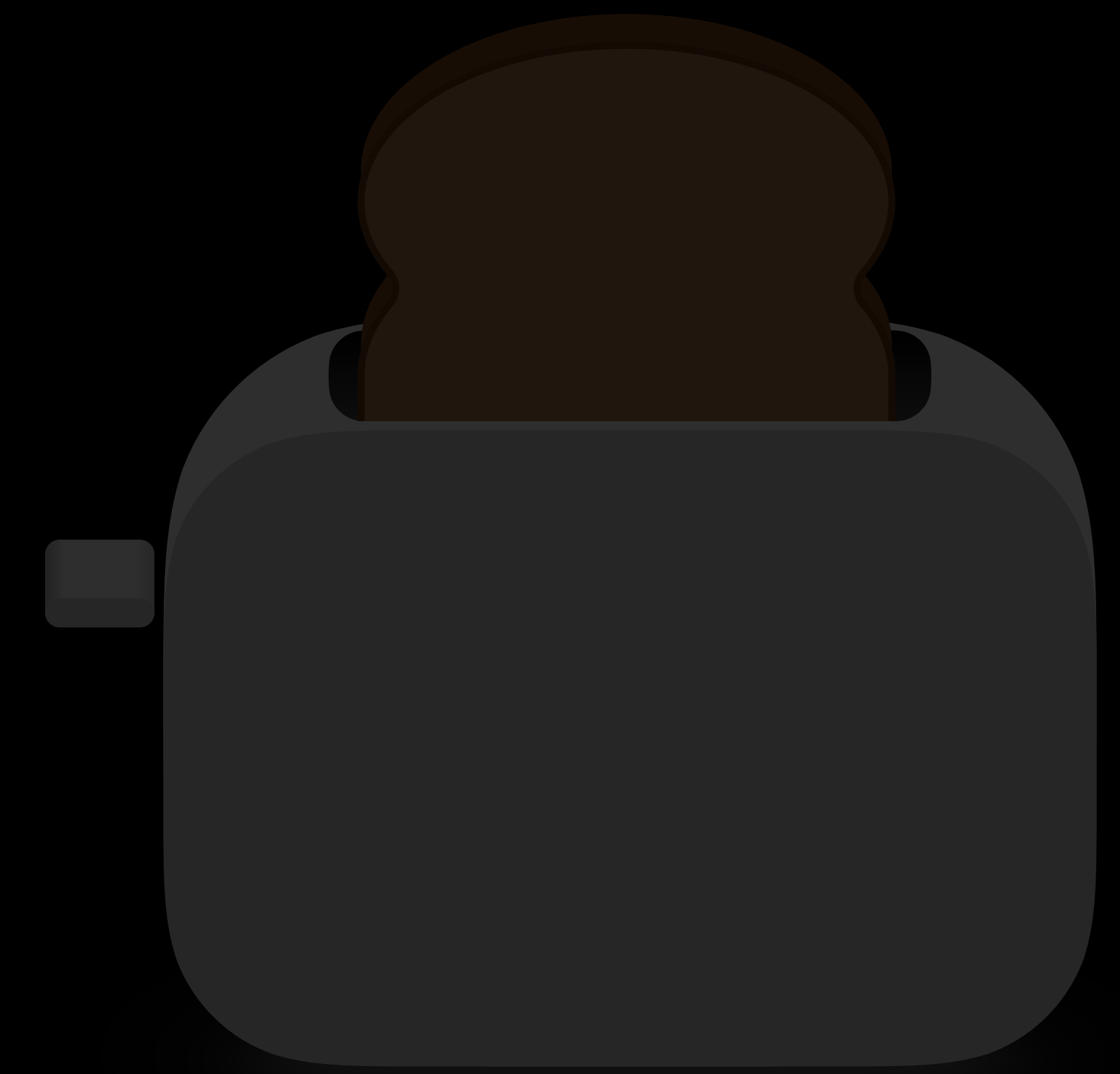
Request
Toast



Toaster
Ready



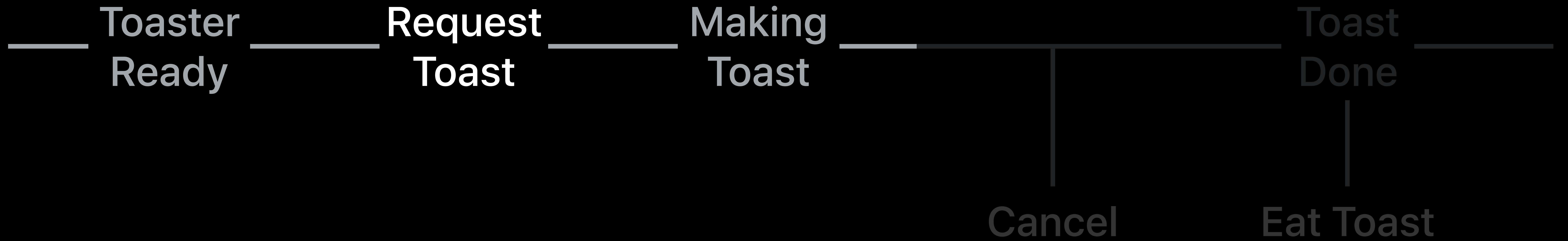
Making
Toast



Toast
Done

Cancel

Eat Toast



9:41



< Toasters

Kitchen Toaster



Make Toast

9:41



< Toasters

Kitchen Toaster



Make Toast



9:41

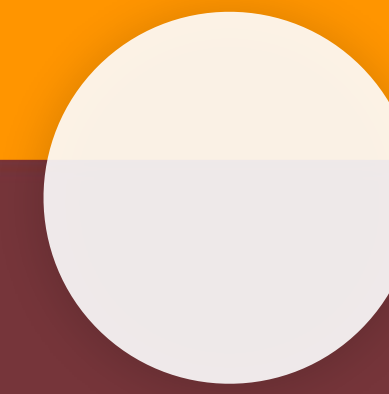


< Toasters

Kitchen Toaster



Make Toast

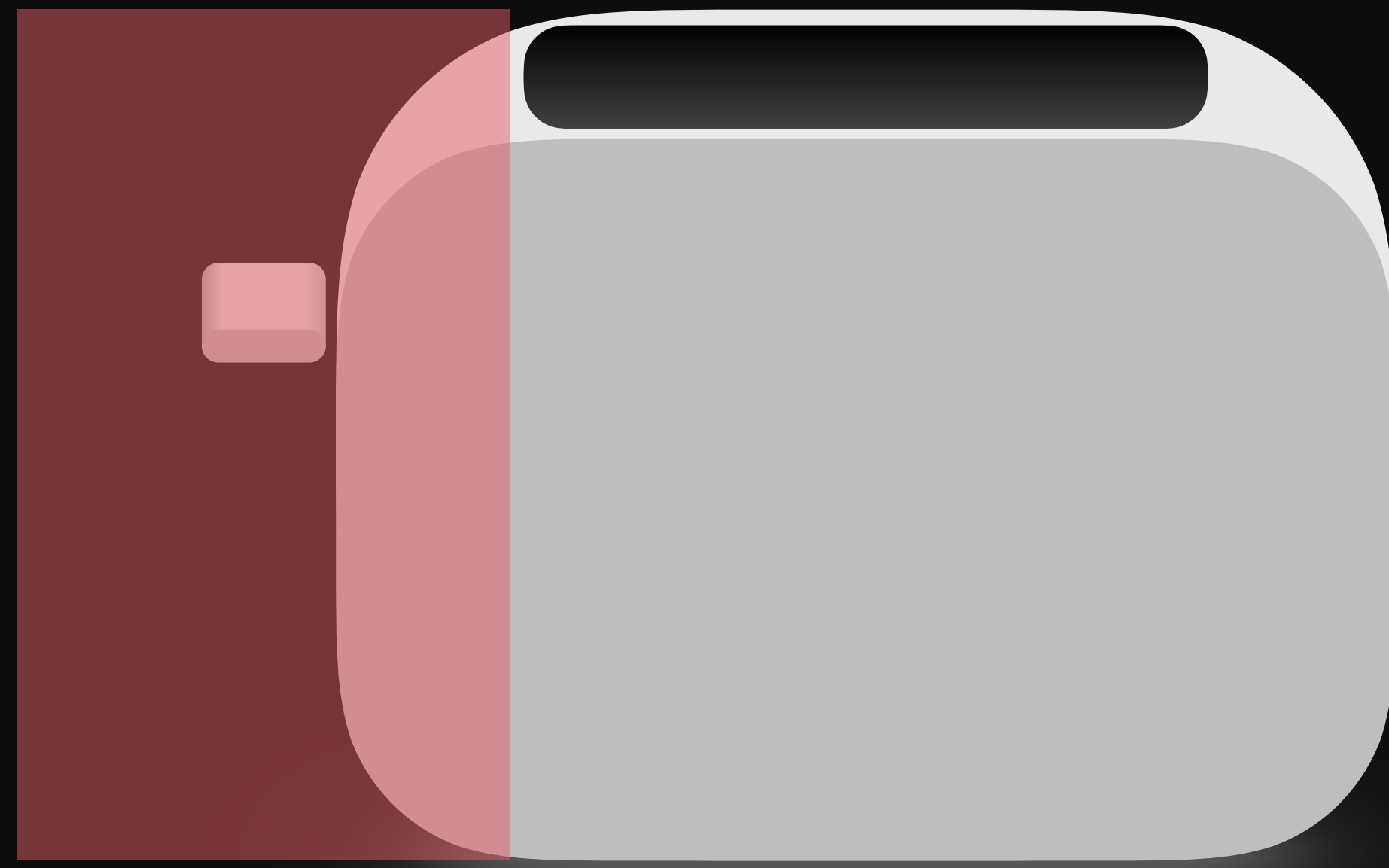


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< Toasters

Kitchen Toaster



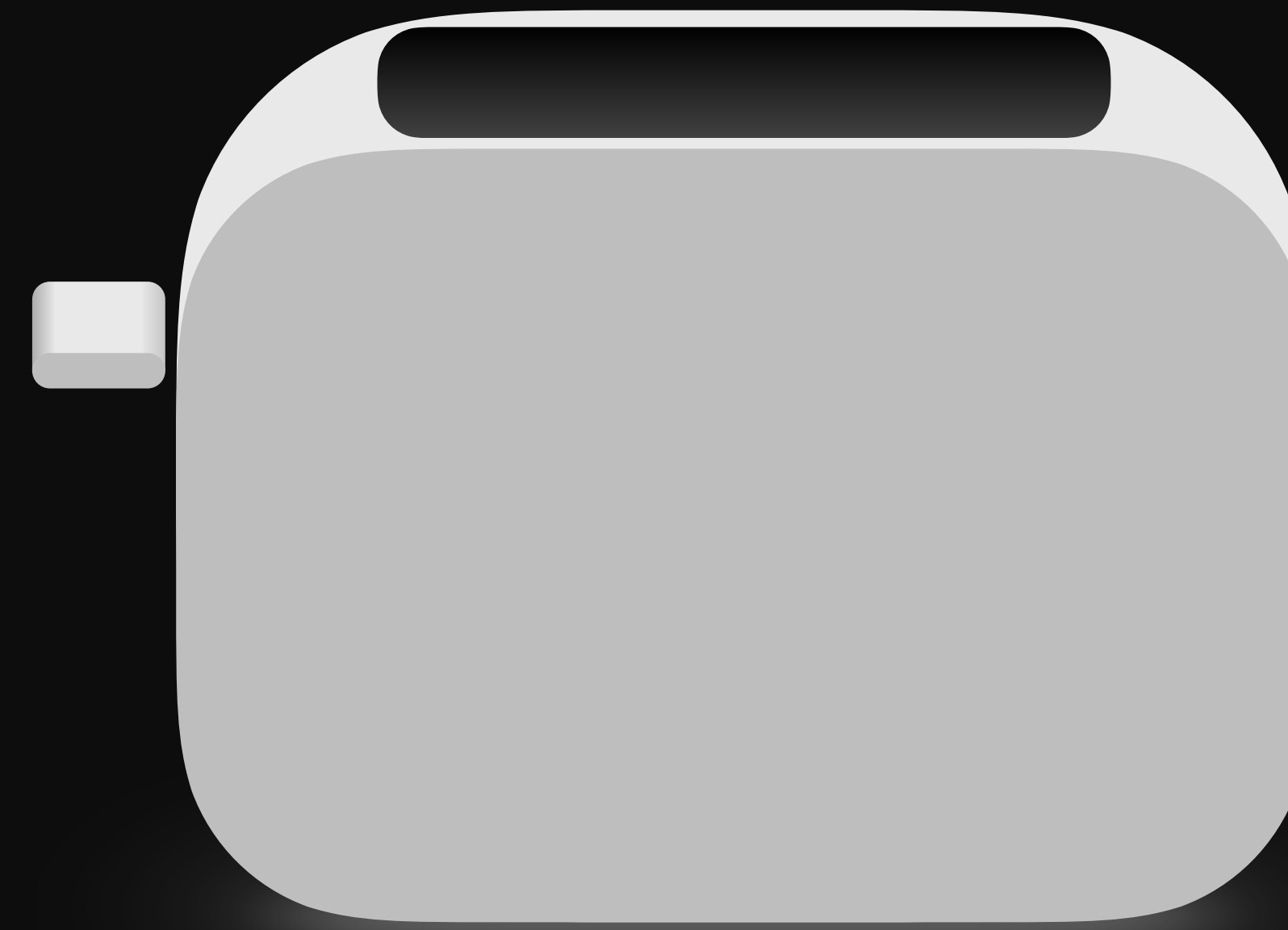
Make Toast

9:41



< Toasters

Kitchen Toaster



Make Toast

9:41



< Toasters

Kitchen Toaster



Make Toast



9:41



< Toasters

Kitchen Toaster



Make Toast

9:41



< Toasters

Kitchen Toaster



Make Toast



9:41



< Toasters

Kitchen Toaster



Make Toast

9:41

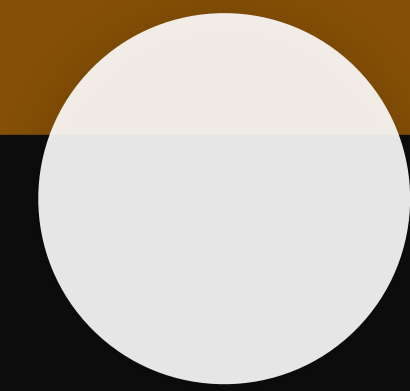


< Toasters

Kitchen Toaster



Make Toast



9:41



< Toasters

Kitchen Toaster



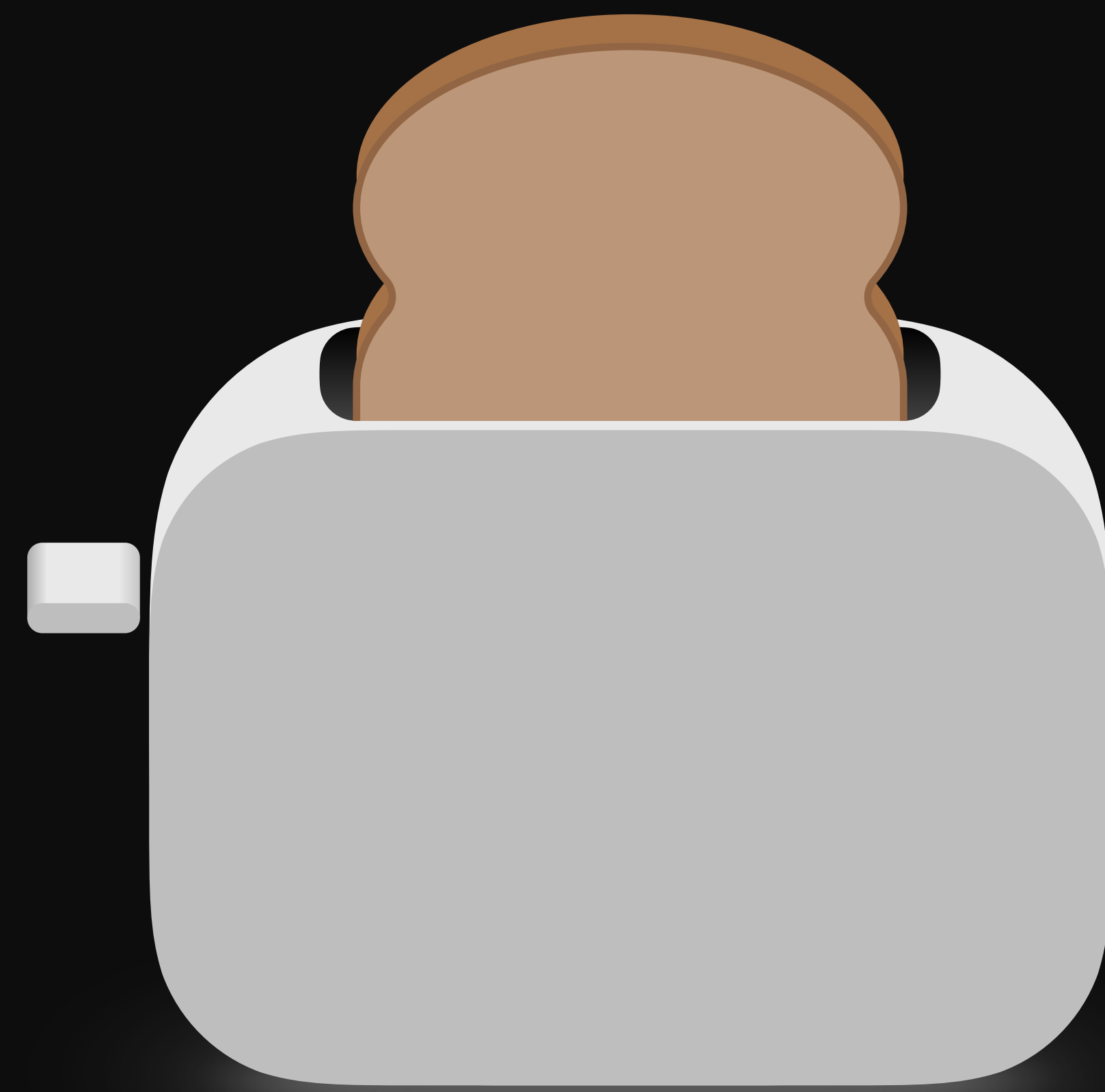
Make Toast

9:41

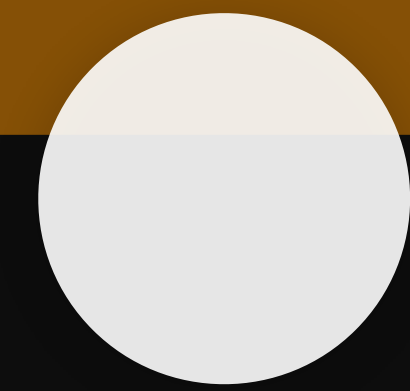


< Toasters

Kitchen Toaster



Make Toast

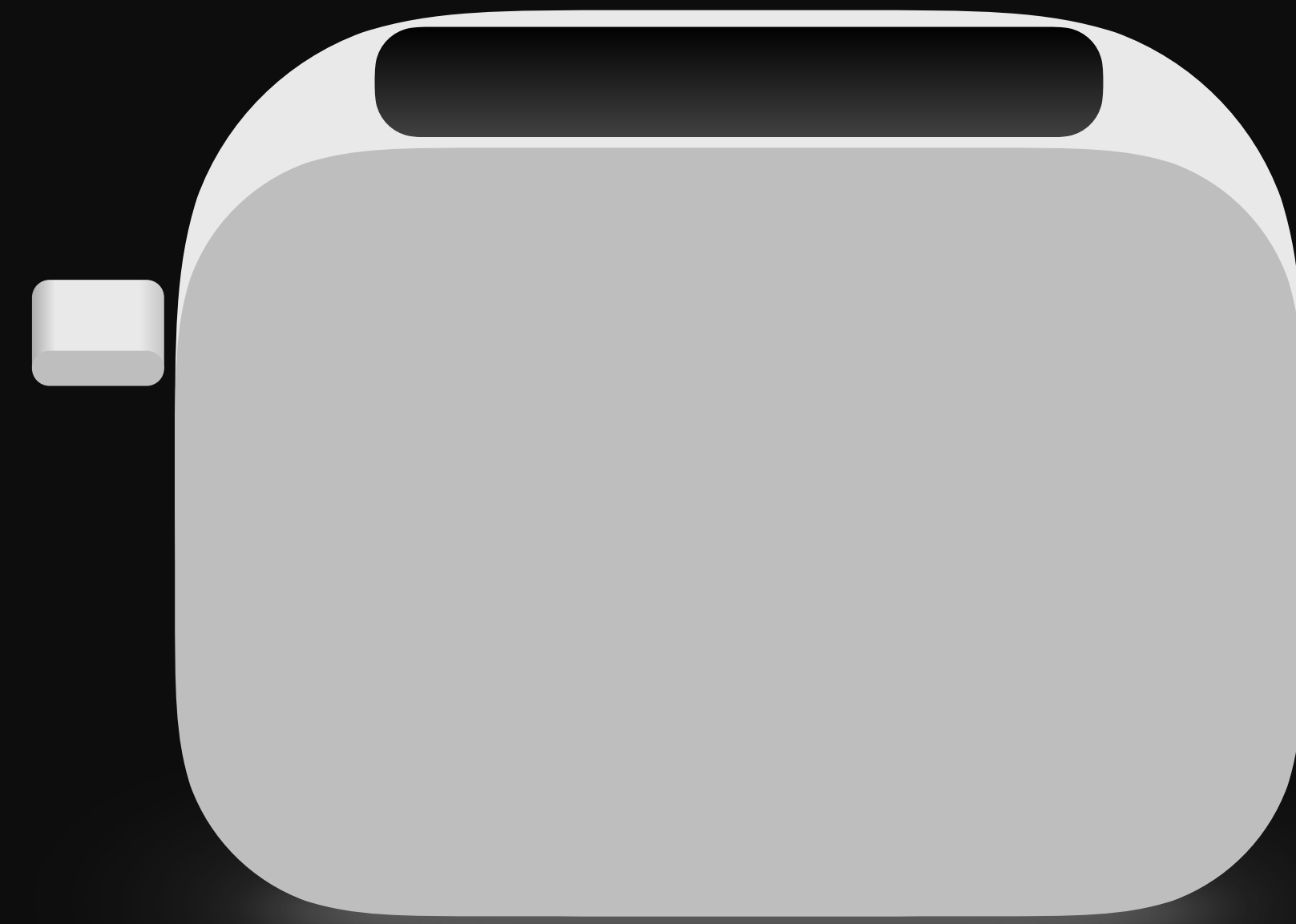


9:41



< Toasters

Kitchen Toaster



Make Toast

9:41

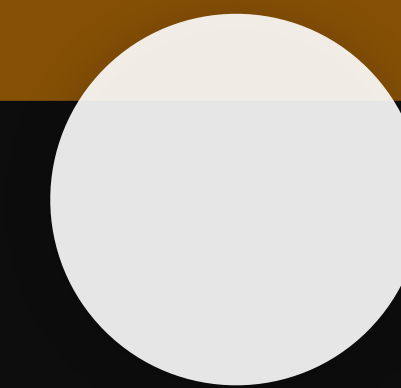


< Toasters

Kitchen Toaster



Make Toast



9:41



< Toasters

Kitchen Toaster



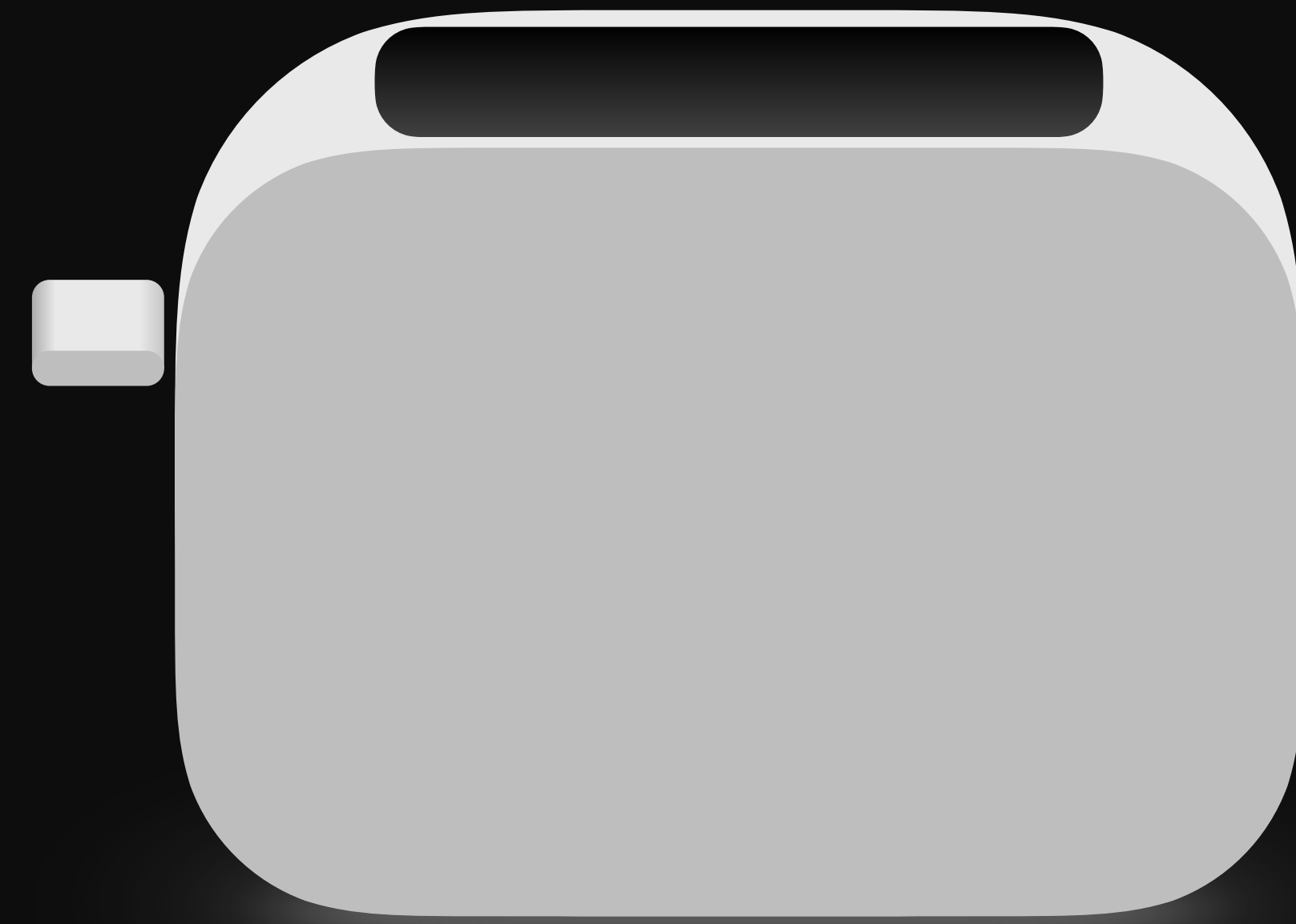
Make Toast

9:41



< Toasters

Kitchen Toaster



Make Toast

9:41



< Toasters

Kitchen Toaster



Make Toast





9:41

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Kitchen Toaster



Make Toast



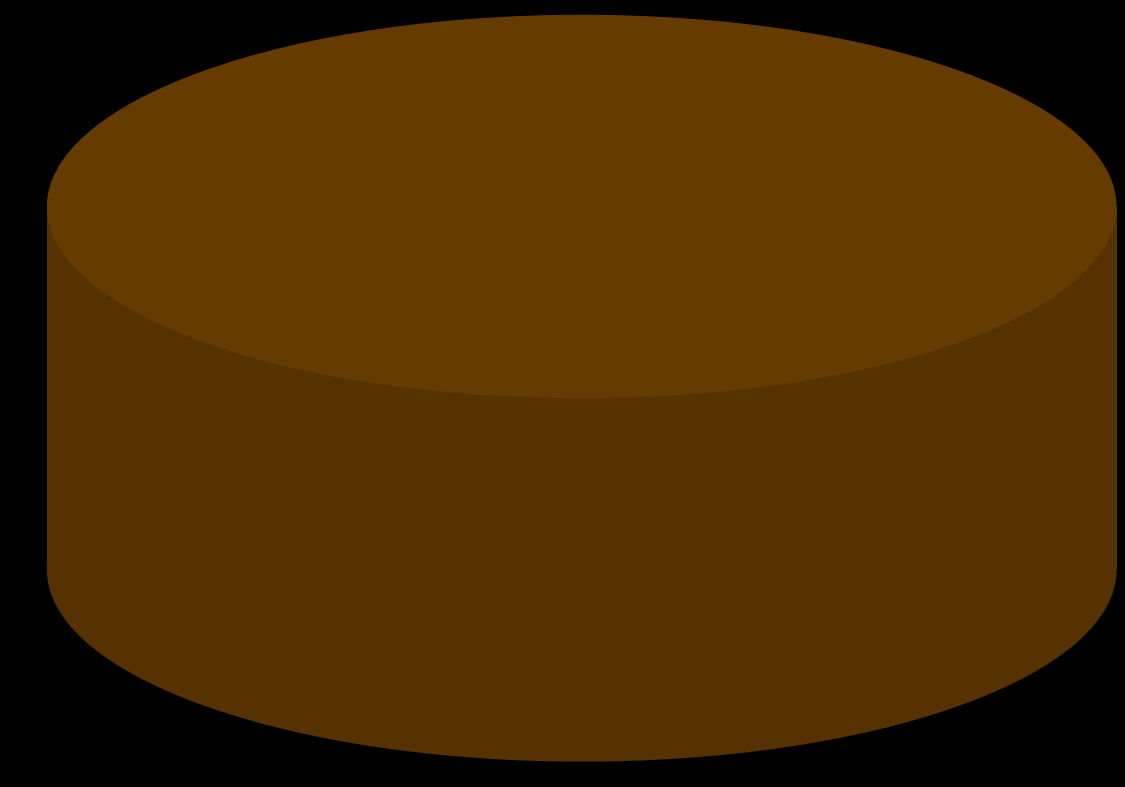
9:41

< Toasters

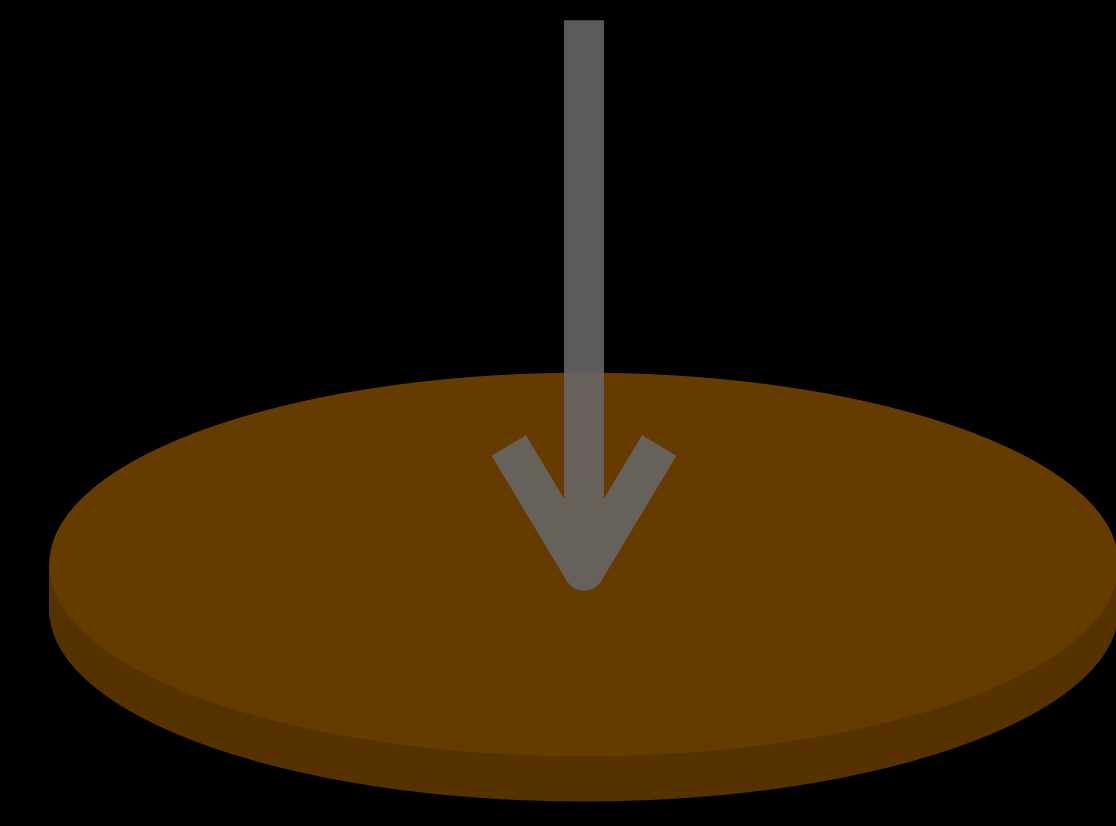
Kitchen Toaster



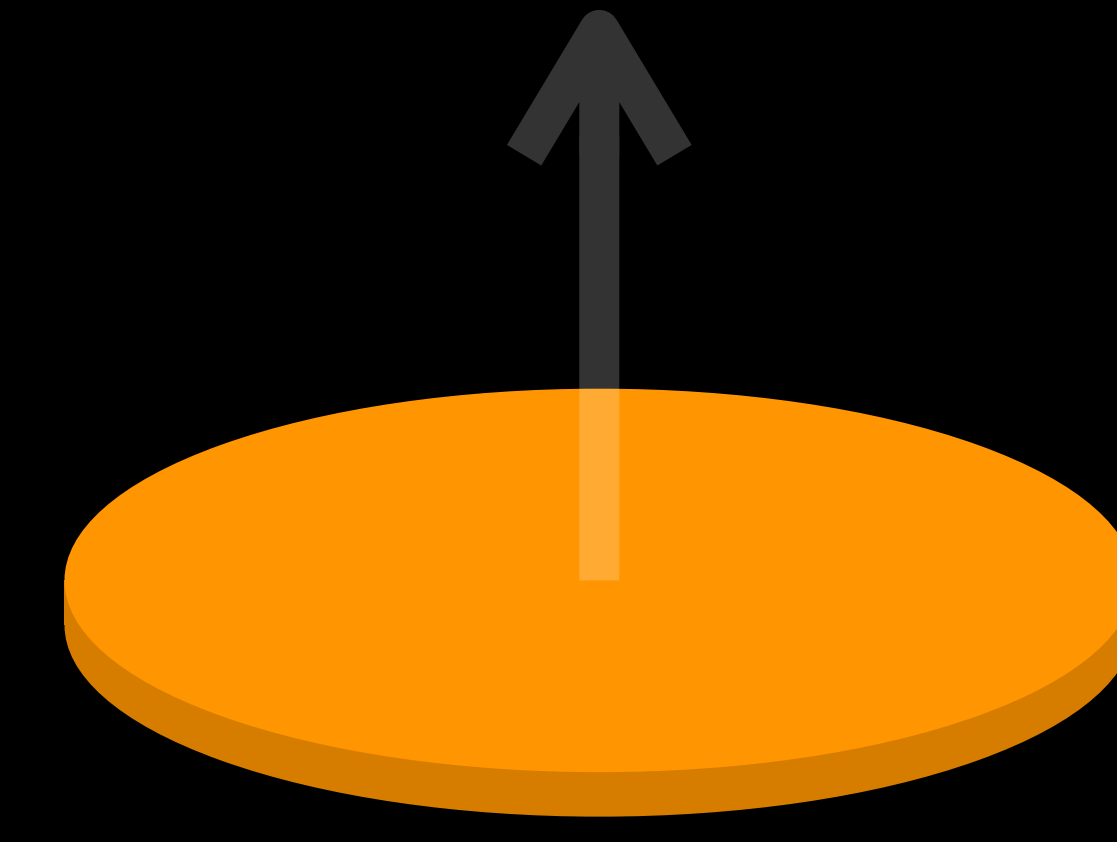
Make Toast



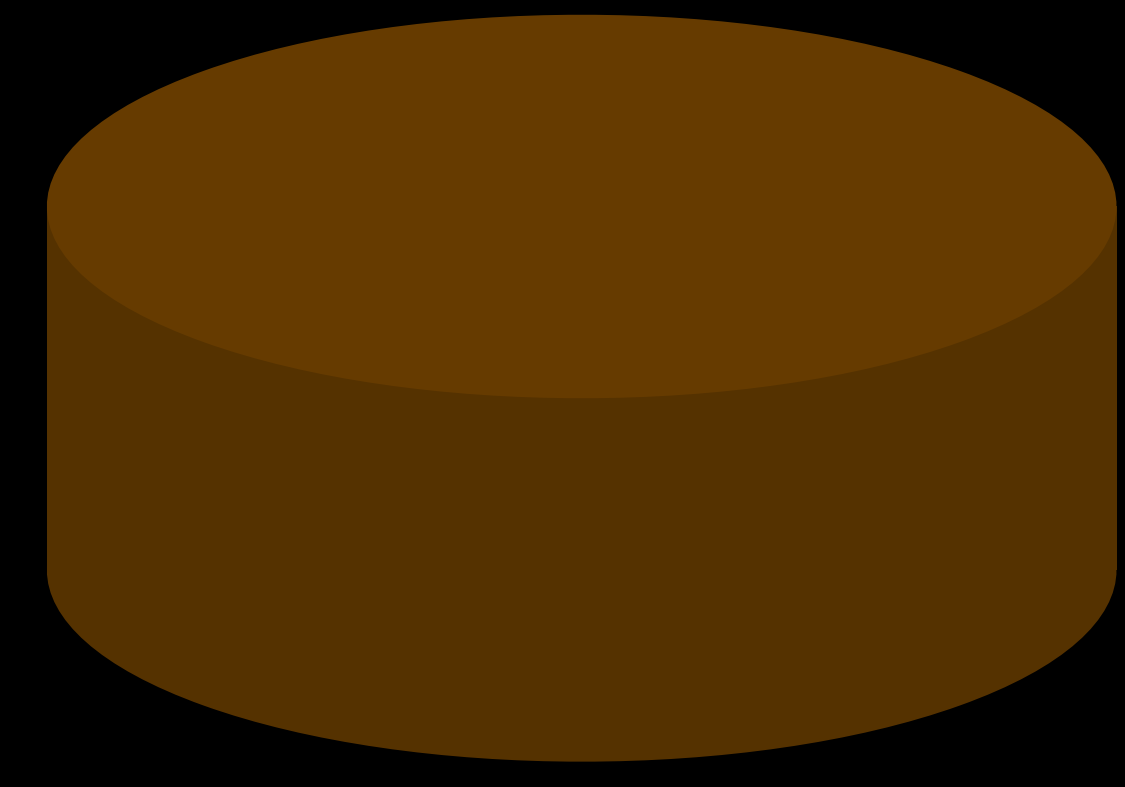
Before



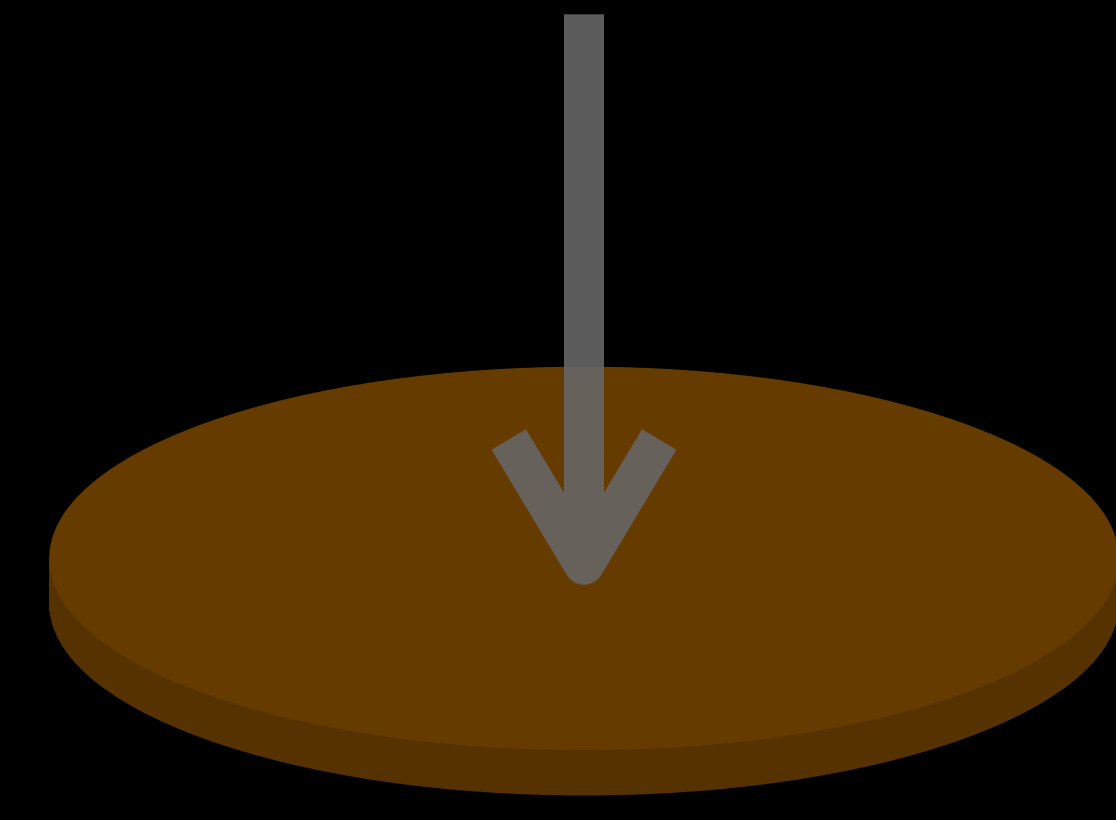
During



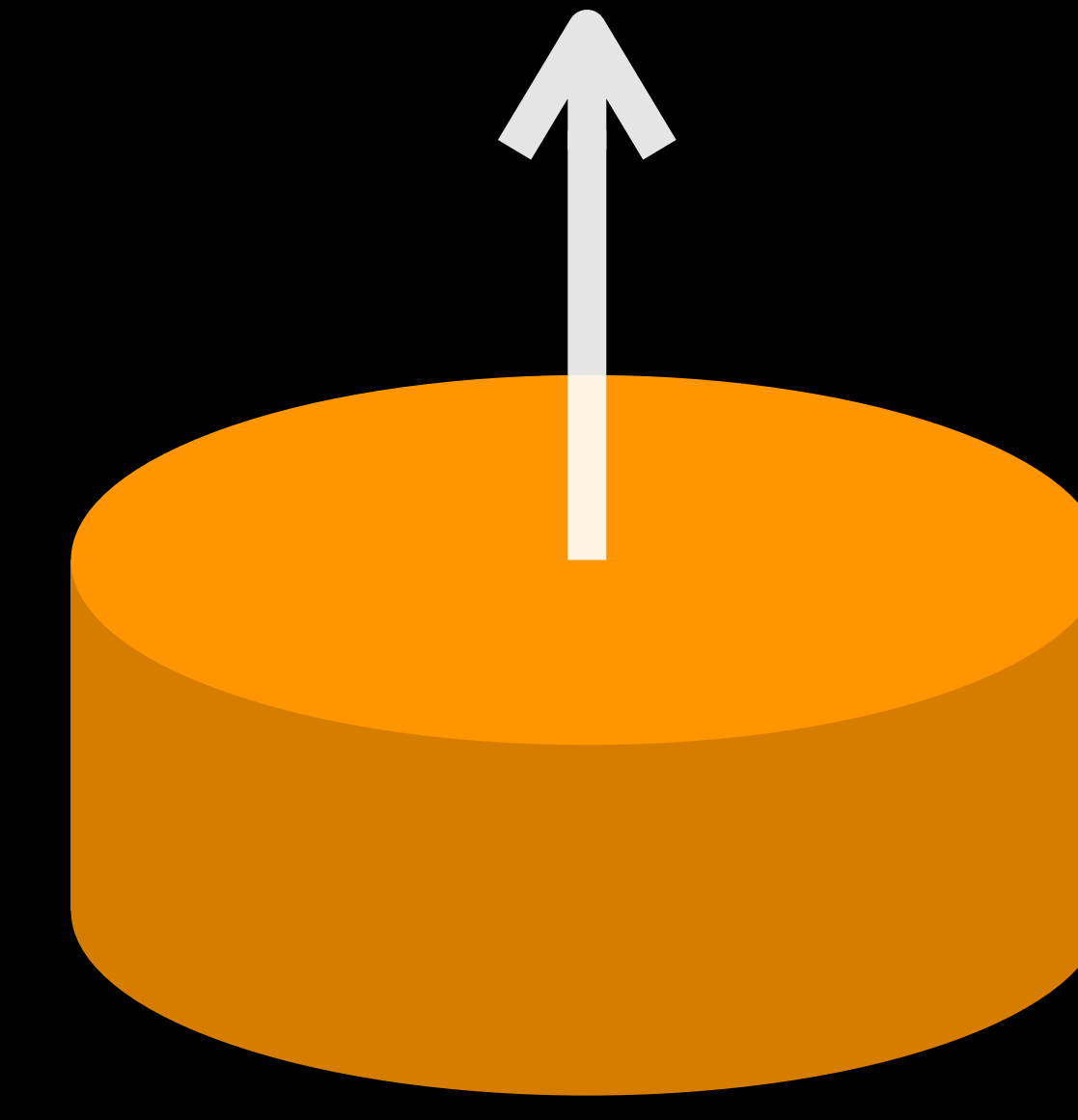
After



Before



During



After

Feedback

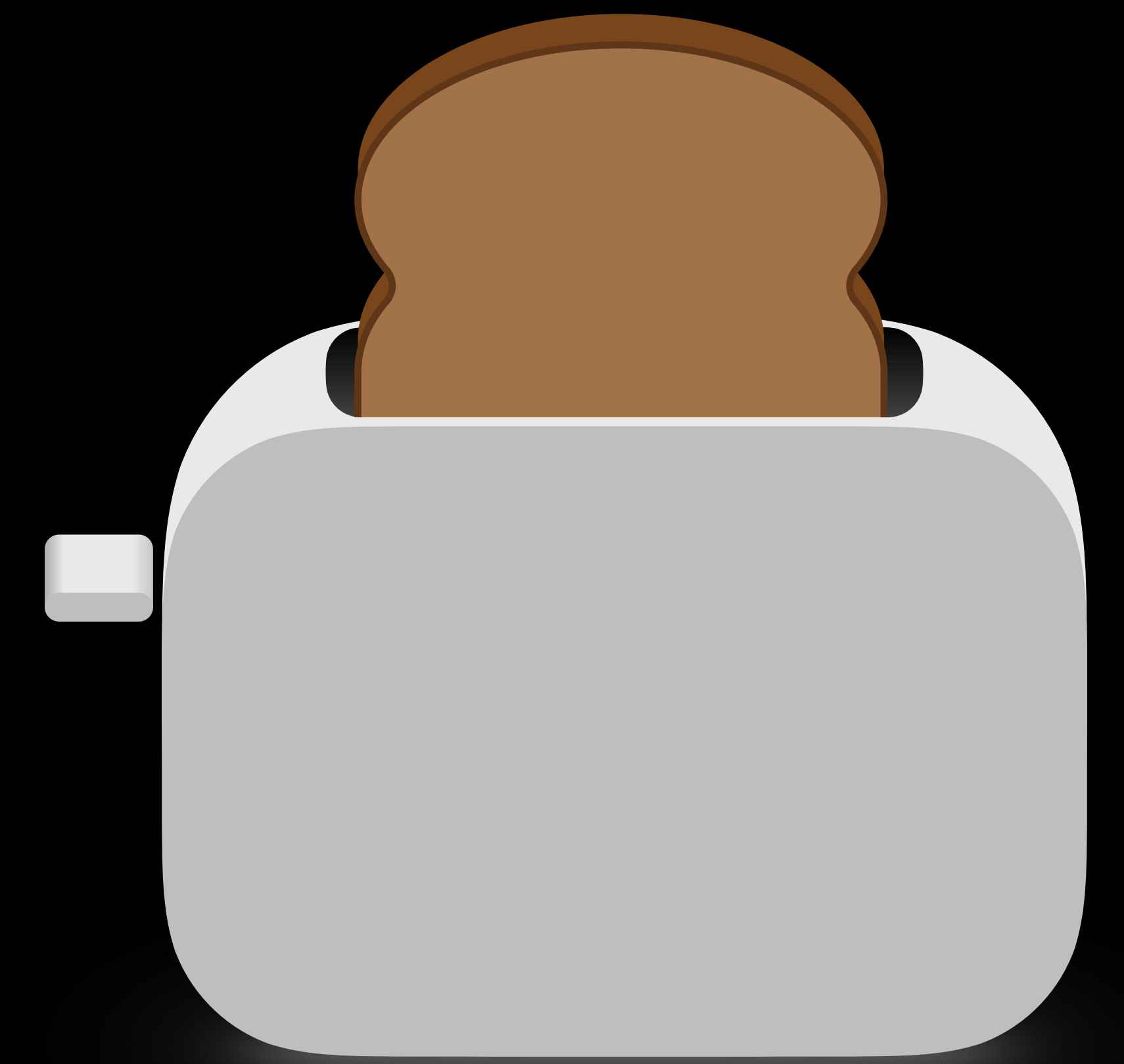
Before — During — After



Toaster
Ready



Making
Toast



Toast
Done

Cancel

Eat Toast

Request
Toast

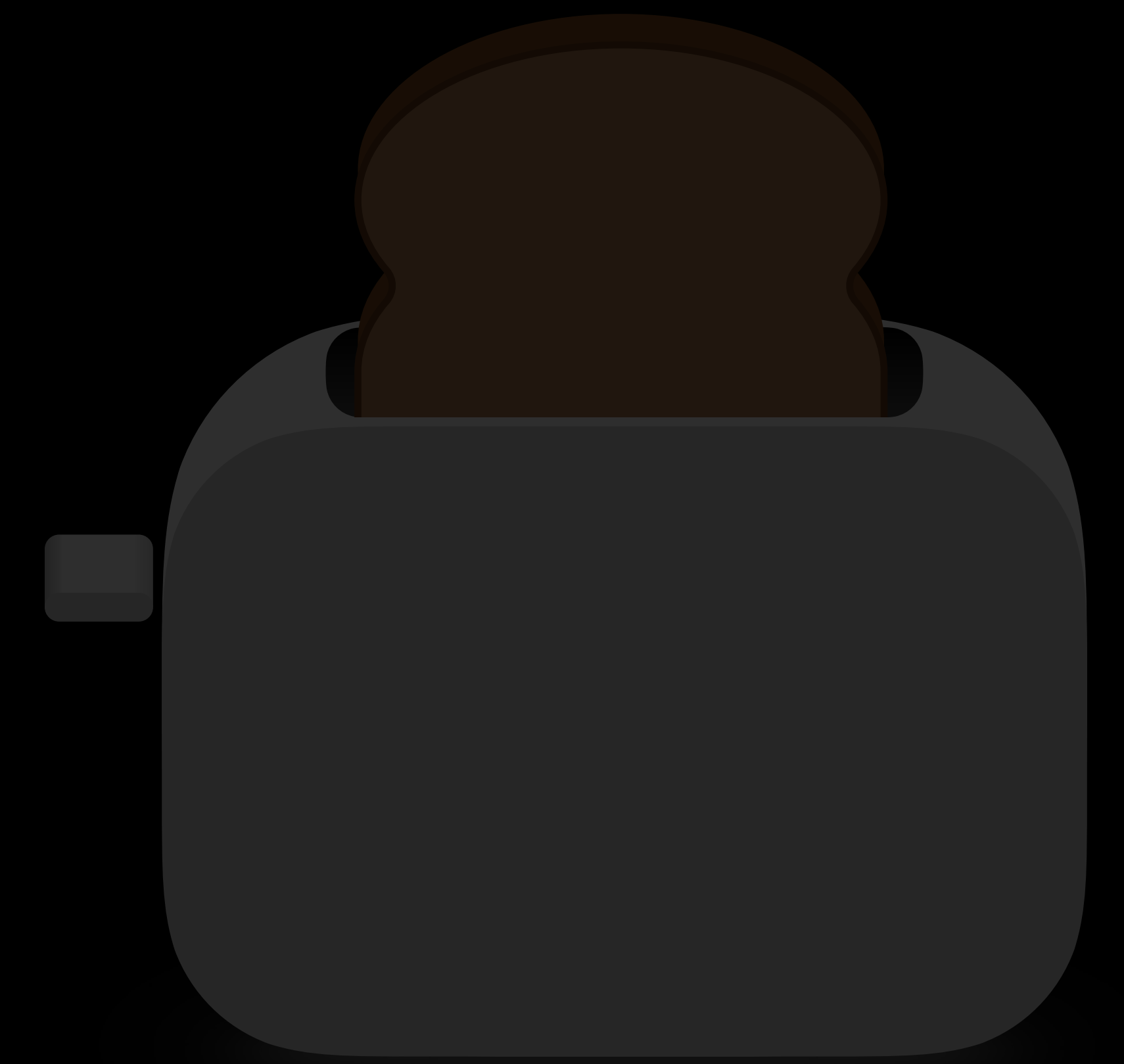




Toaster
Ready



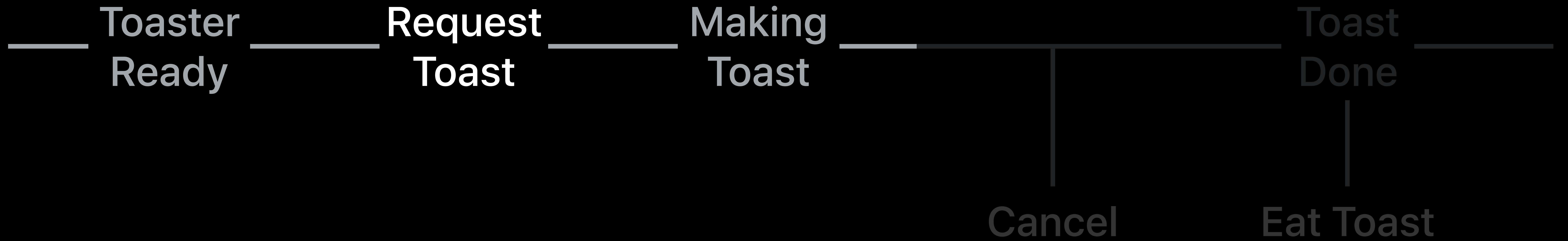
Making
Toast



Toast
Done

Cancel

Eat Toast



9:41

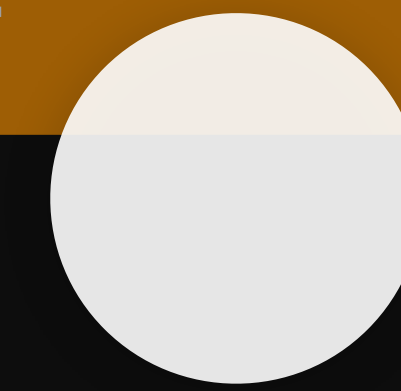


< Toasters

Kitchen Toaster



Make Toast



9:41



< Toasters

Kitchen Toaster



Make Toast

9:41

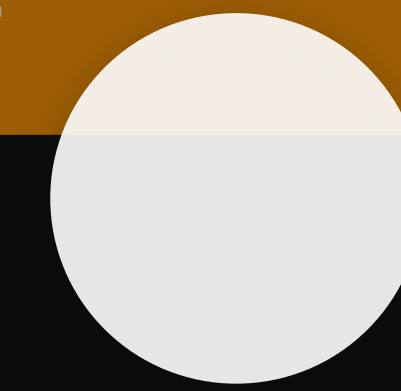


< Toasters

Kitchen Toaster



Make Toast

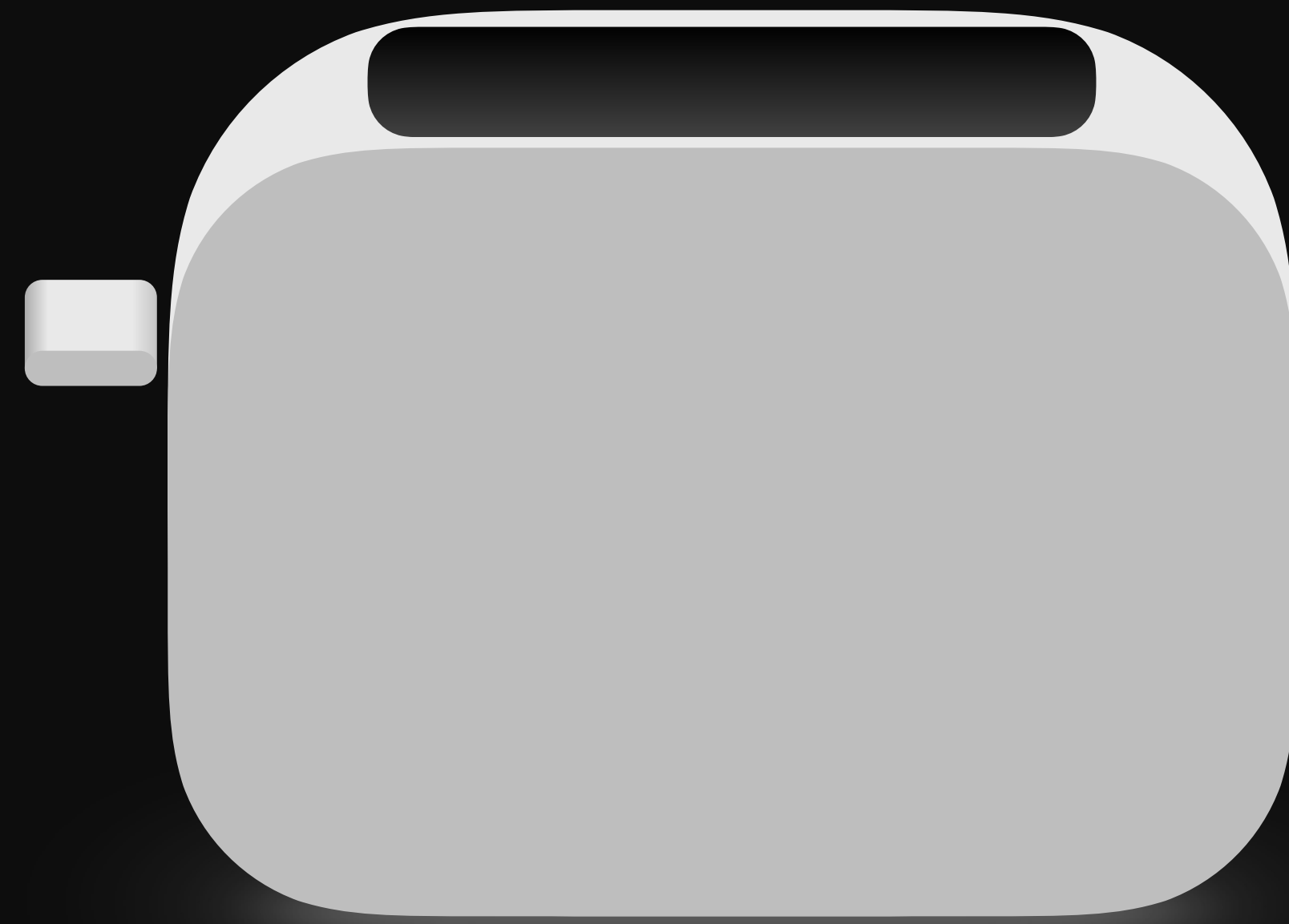


9:41



< Toasters

Kitchen Toaster



Toasting...

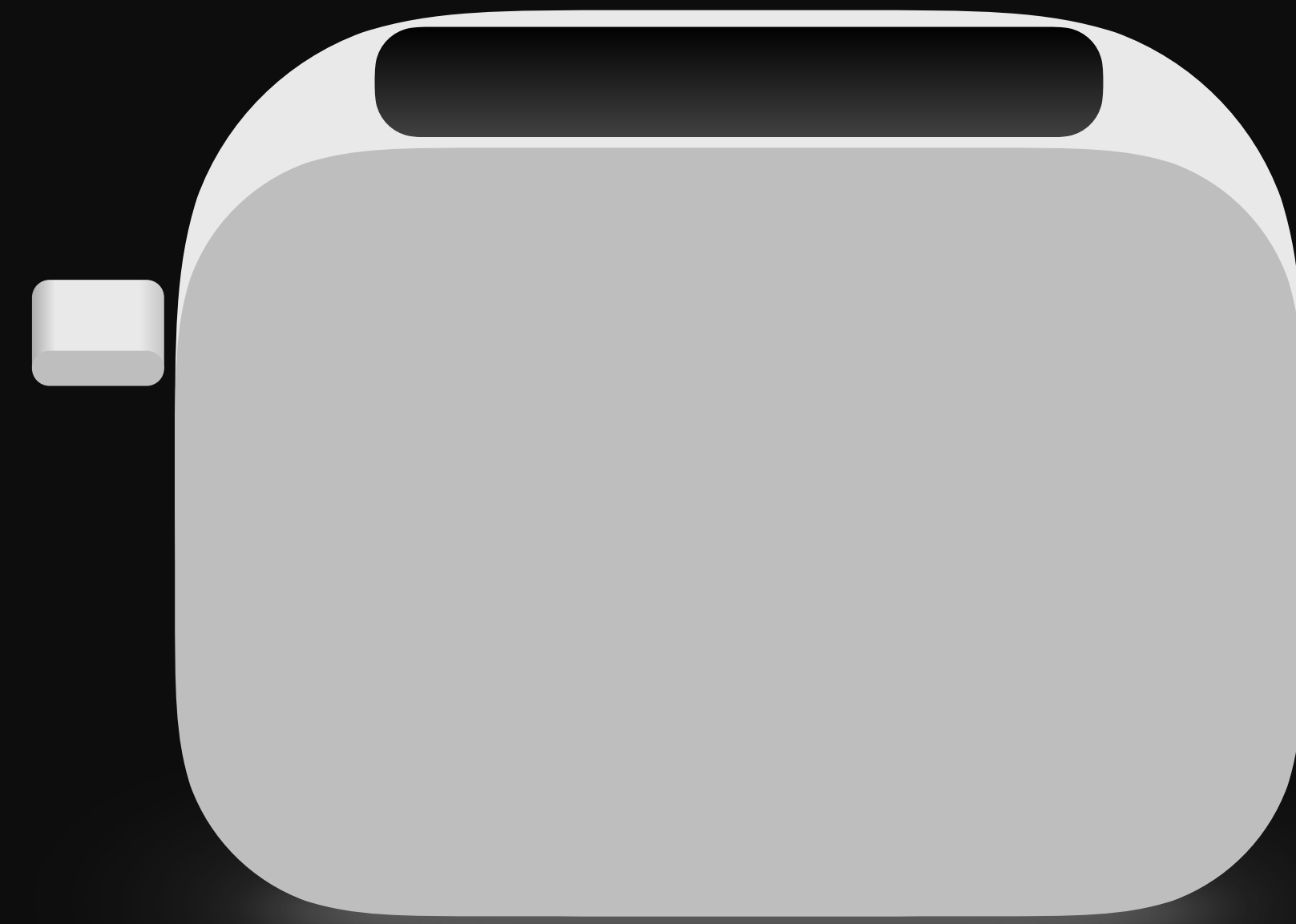
Make Toast

9:41

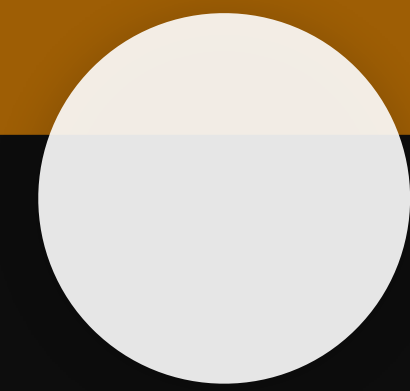


< Toasters

Kitchen Toaster



Make Toast

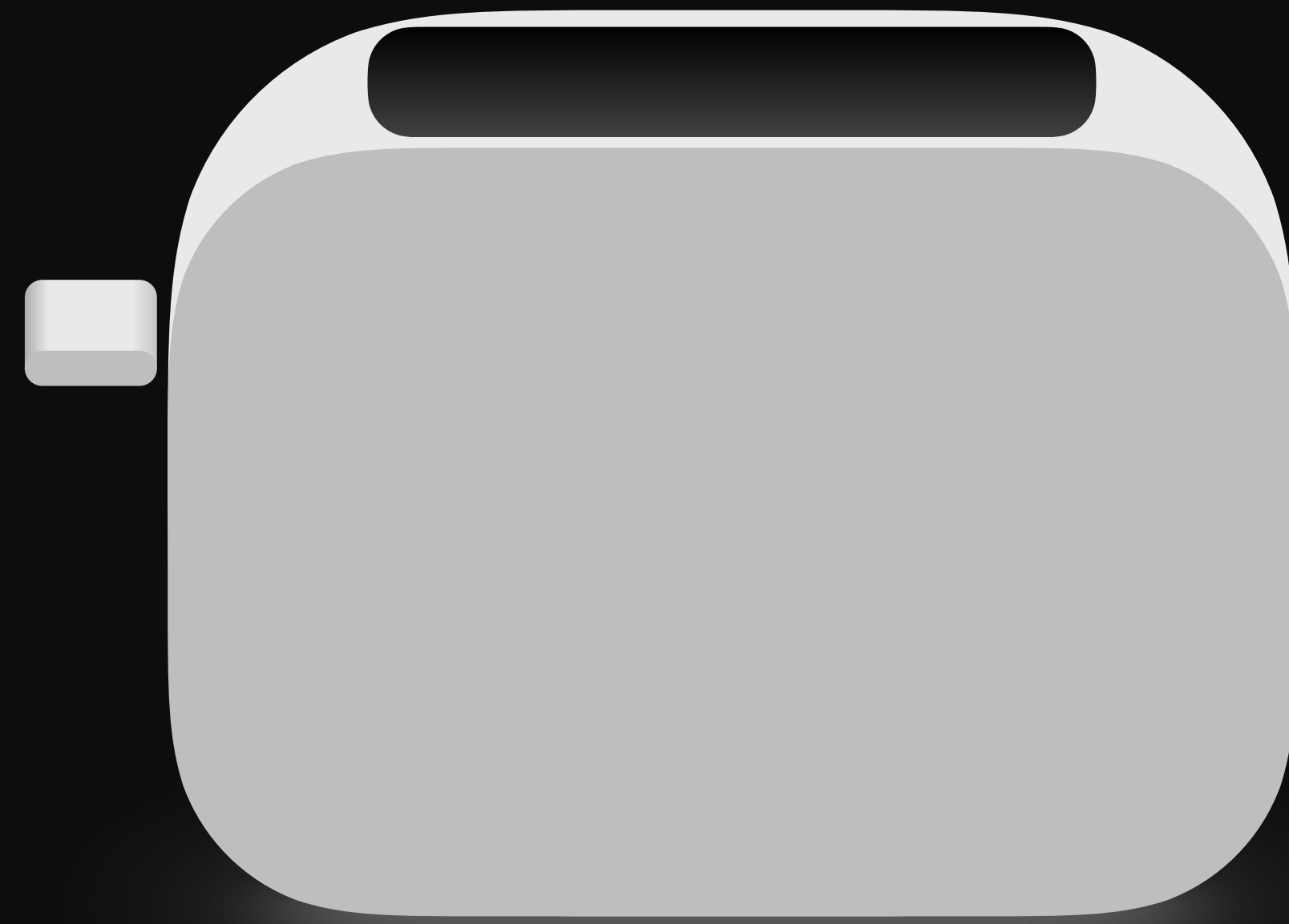


9:41



< Toasters

Kitchen Toaster



Make Toast

9:41

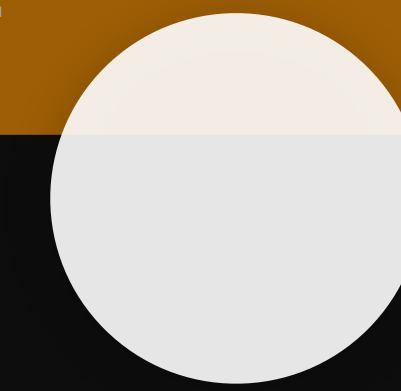


< Toasters

Kitchen Toaster



Make Toast

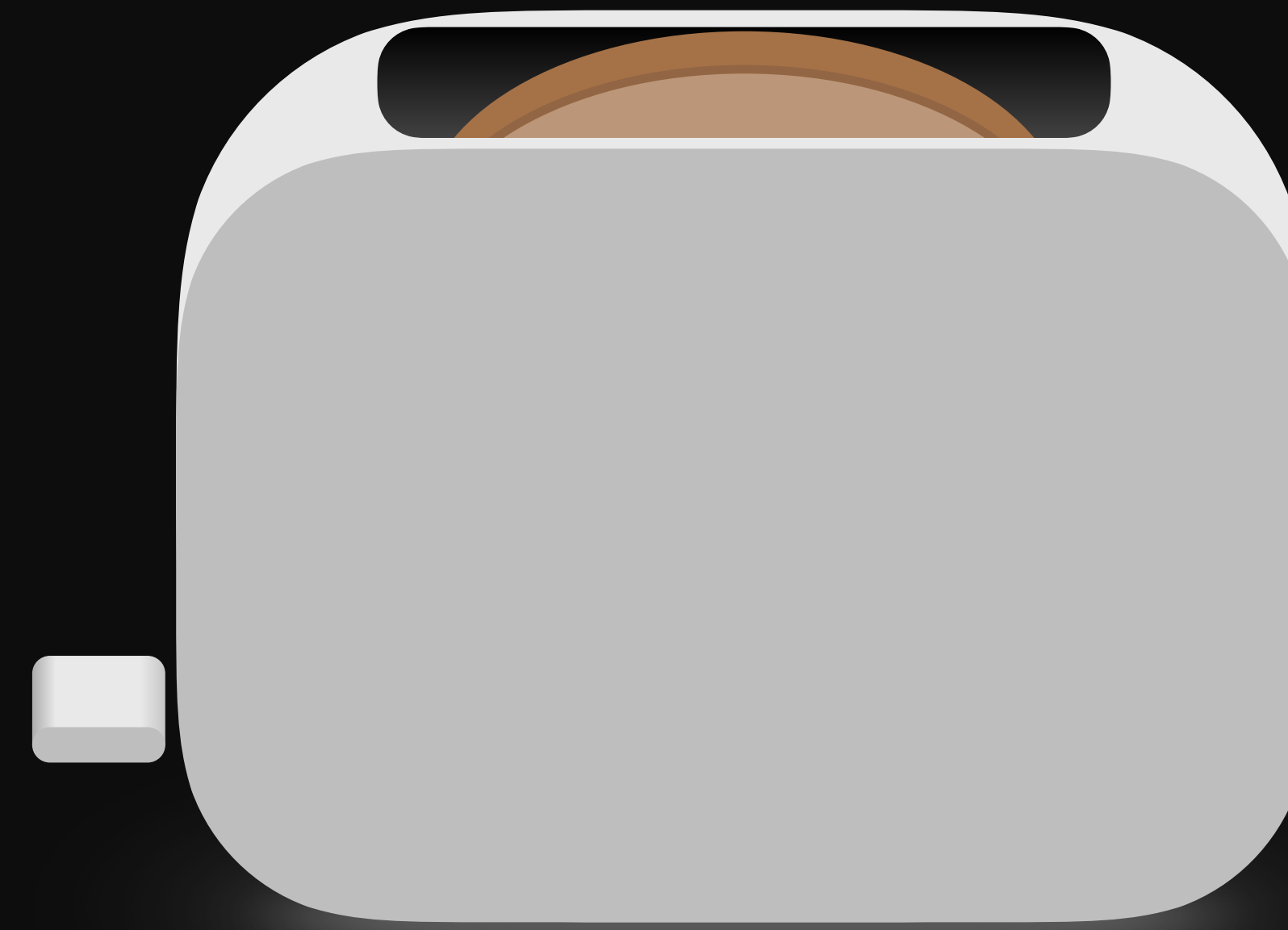


9:41



< Toasters

Kitchen Toaster



Make Toast

9:41

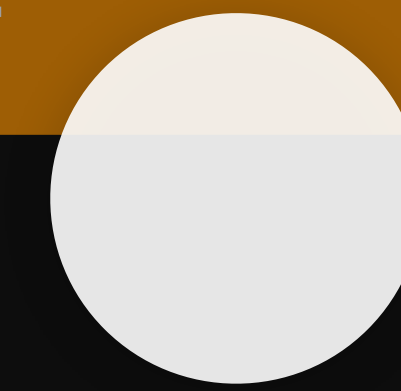


< Toasters

Kitchen Toaster



Make Toast

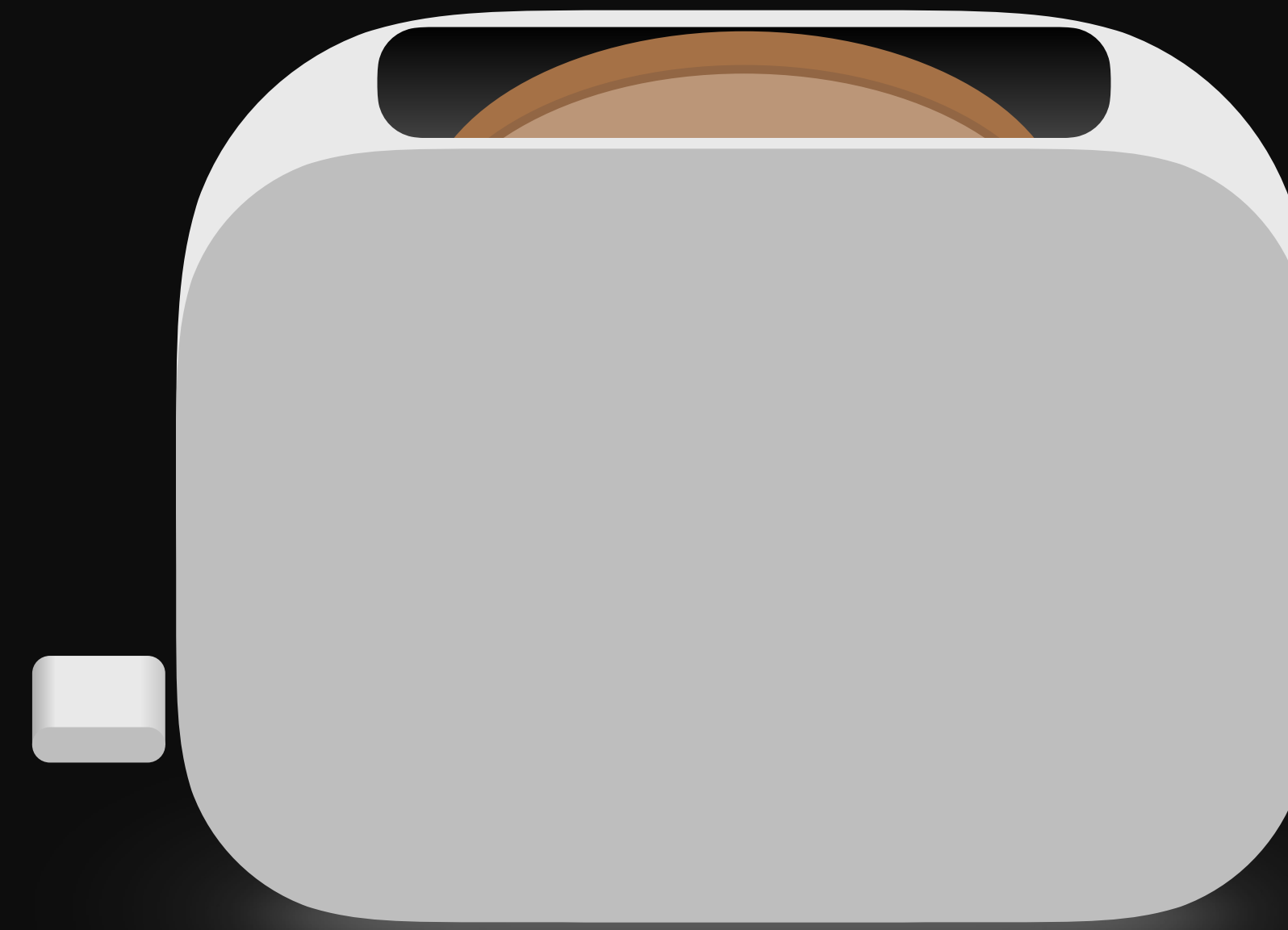


9:41



< Toasters

Kitchen Toaster



Toasting...

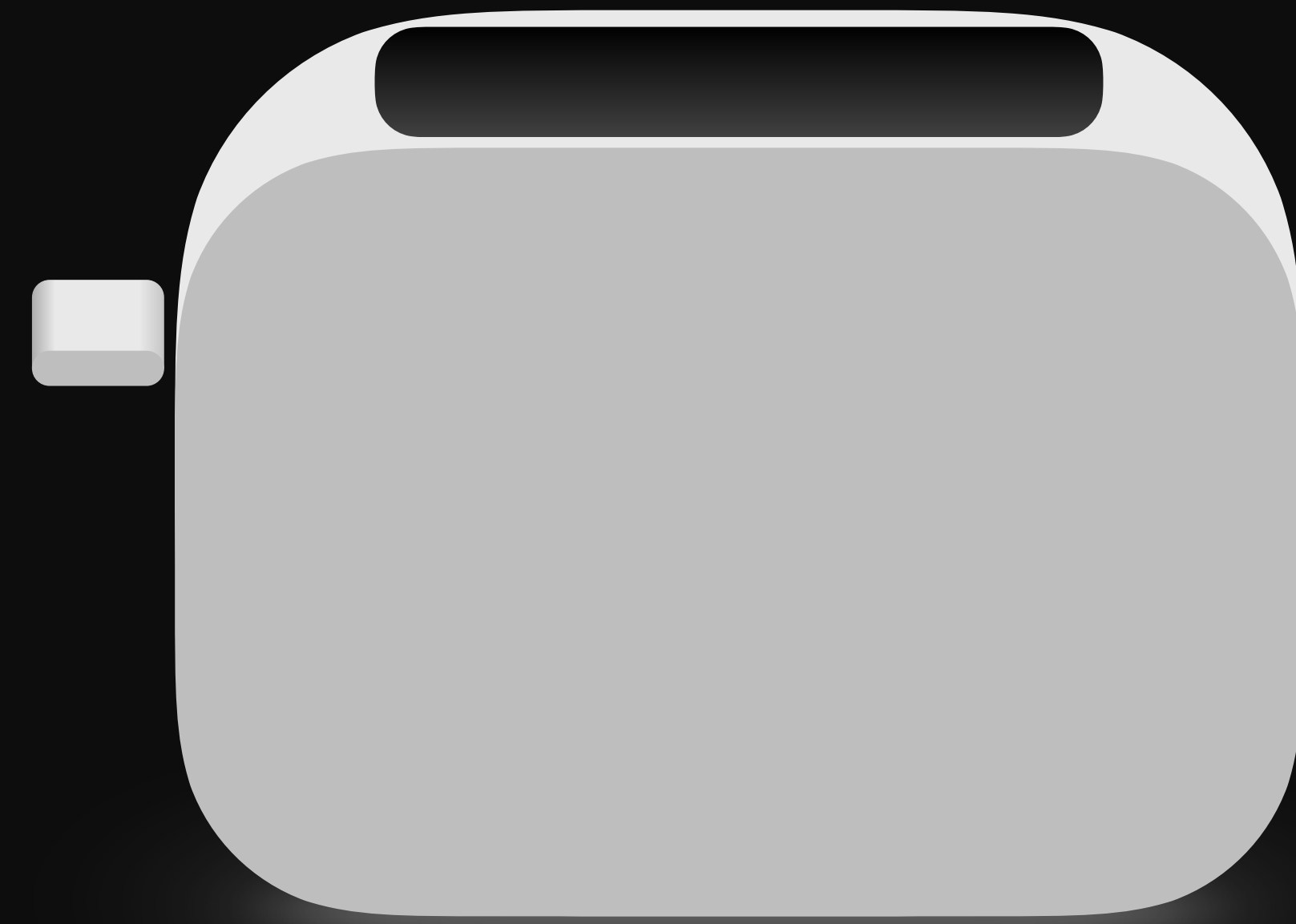
Make Toast

9:41

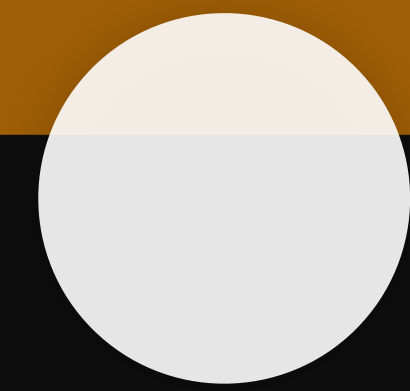


< Toasters

Kitchen Toaster



Make Toast

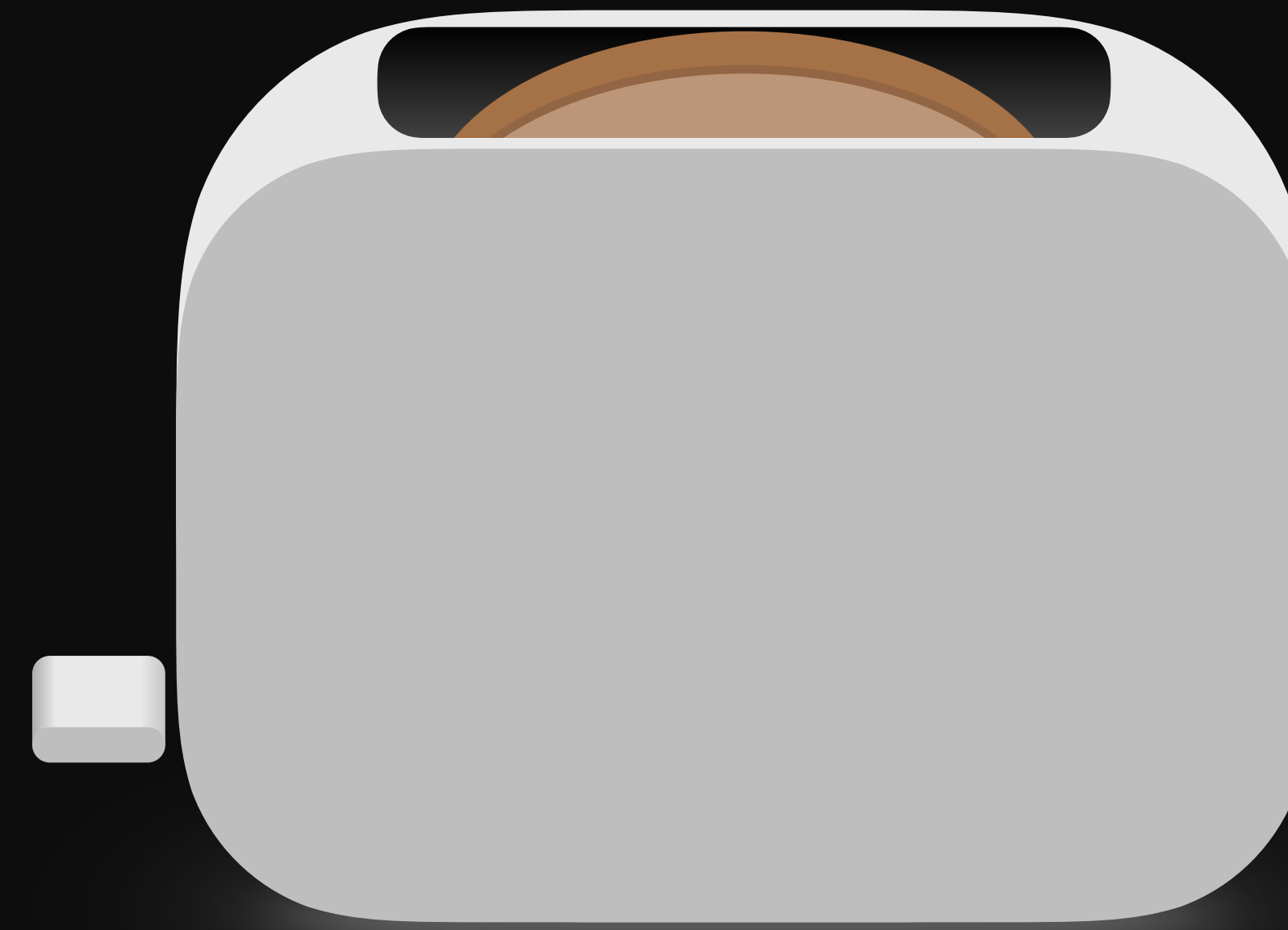


9:41



< Toasters

Kitchen Toaster



Toasting...

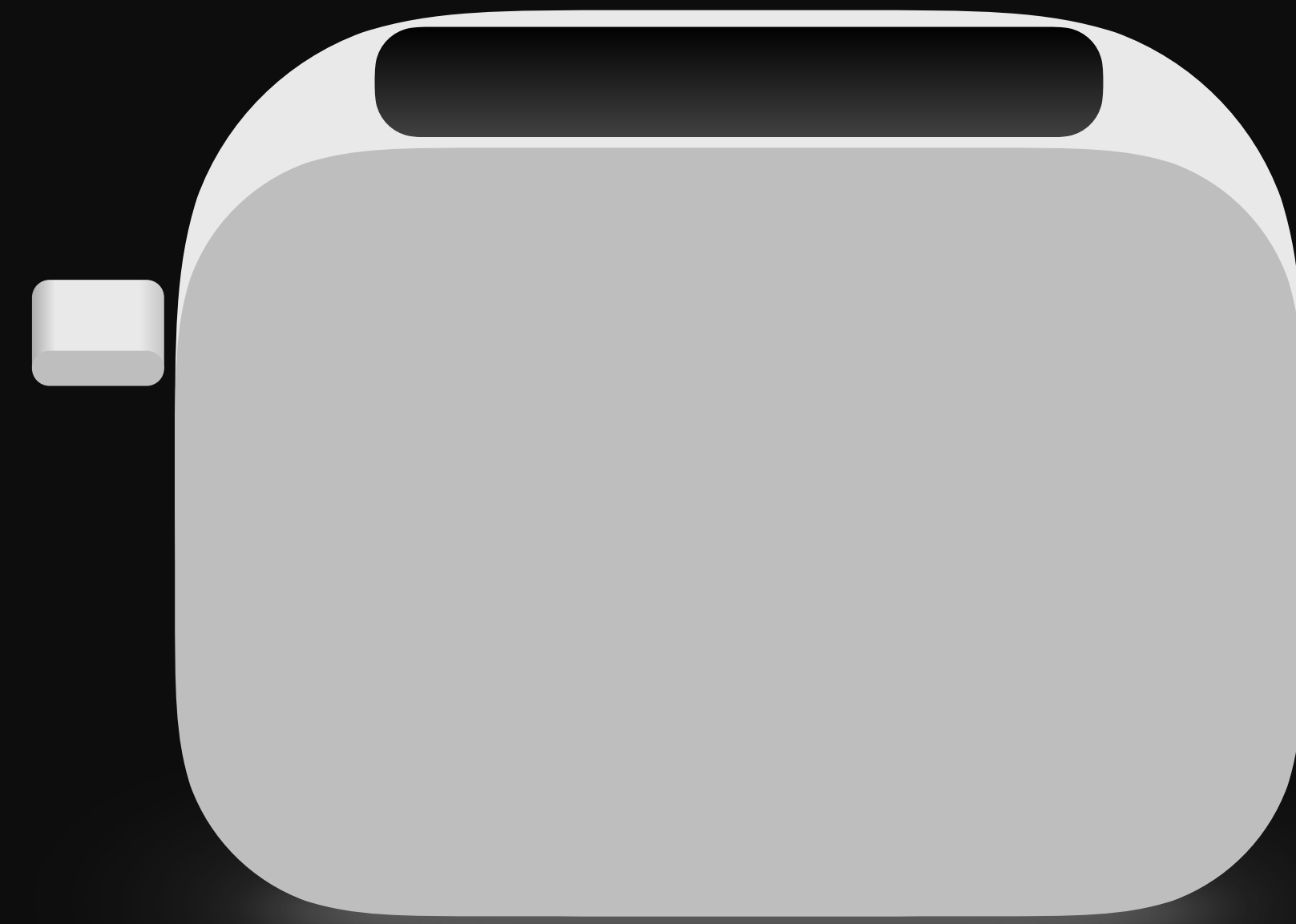
Stop Toasting

9:41

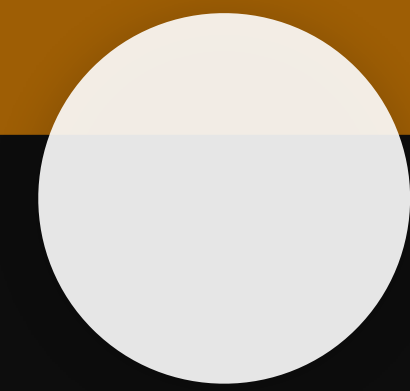


< Toasters

Kitchen Toaster



Make Toast

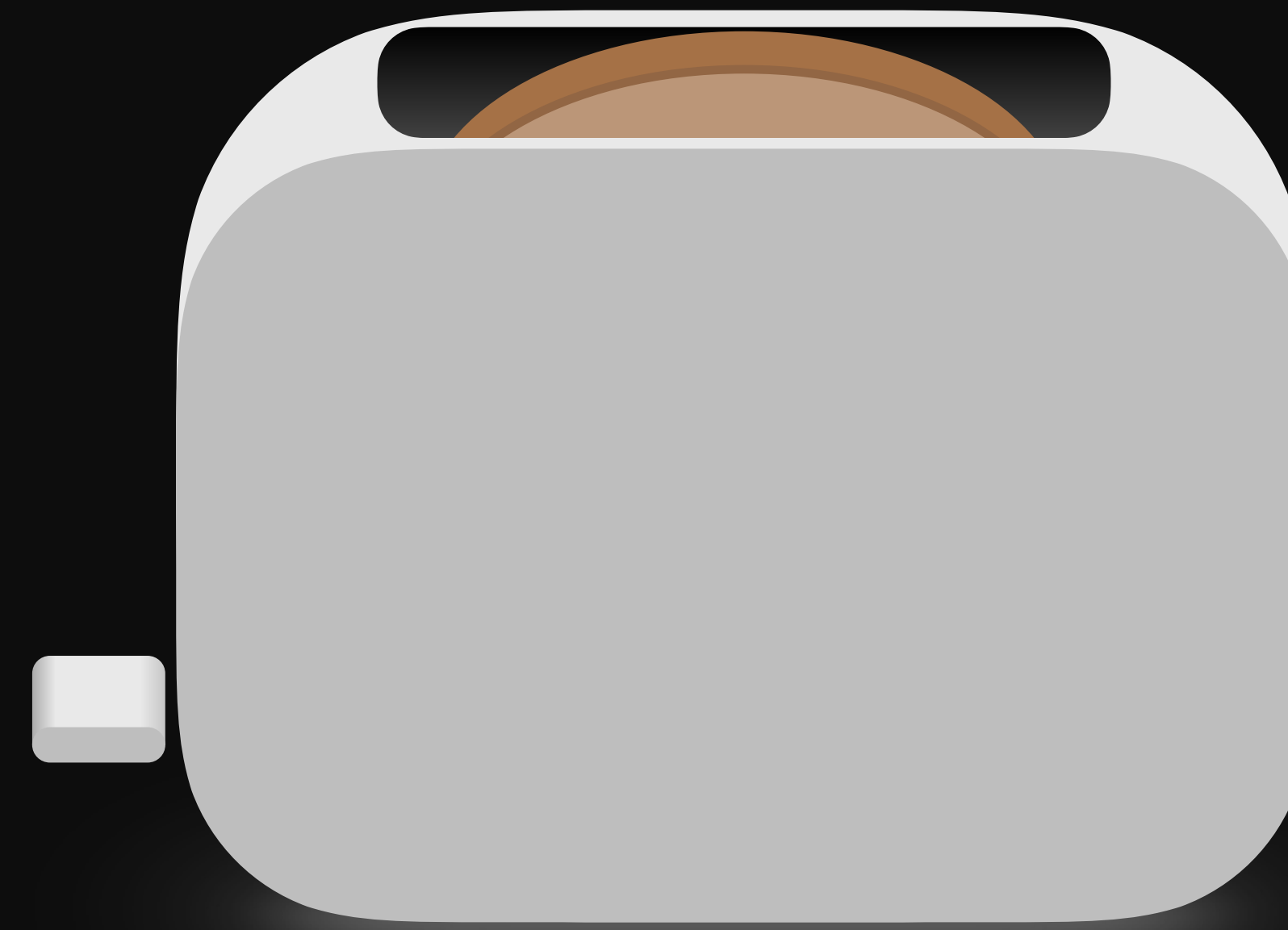


9:41



< Toasters

Kitchen Toaster



Toasting...

Make Toast

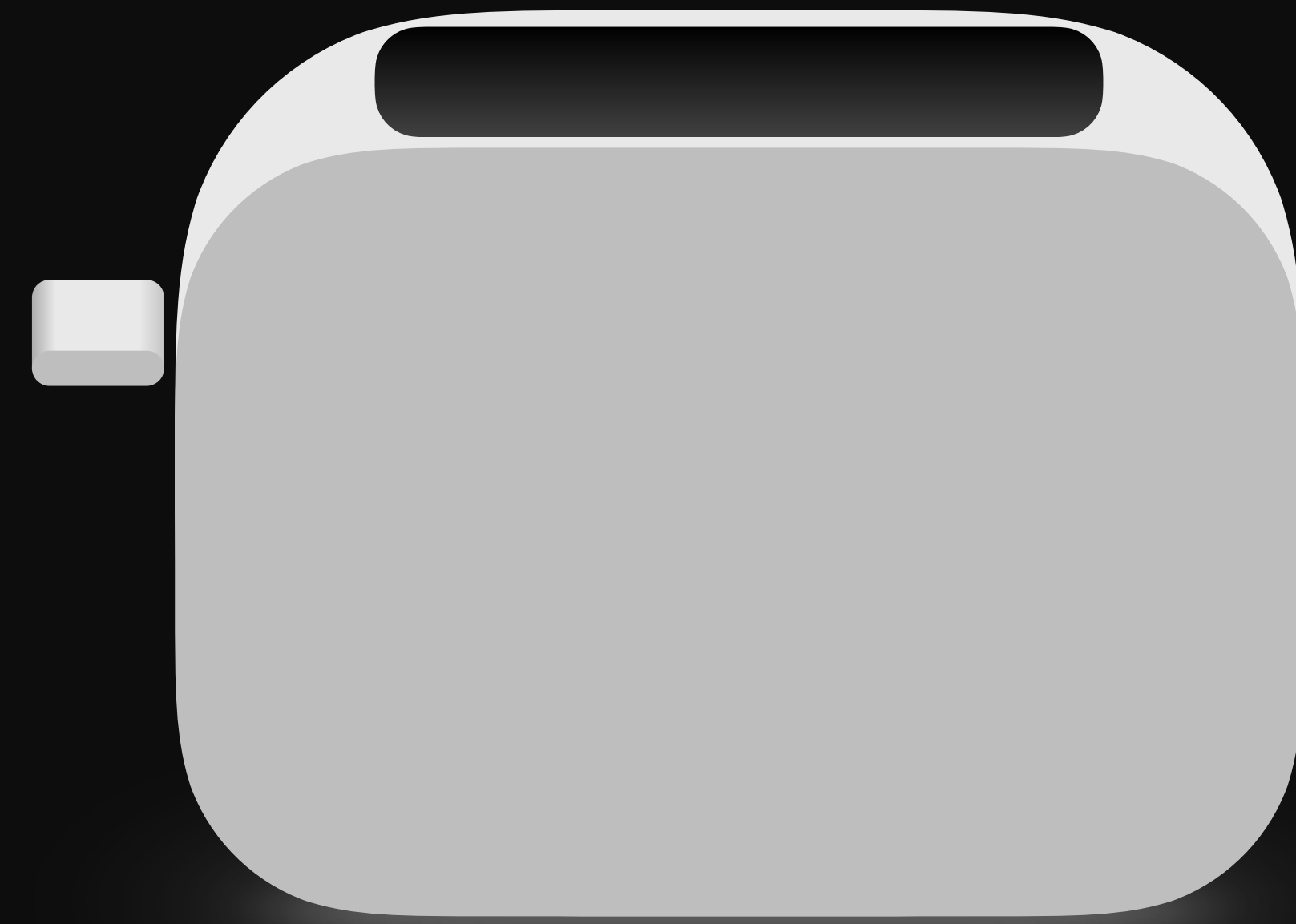
Stop Toasting

9:41

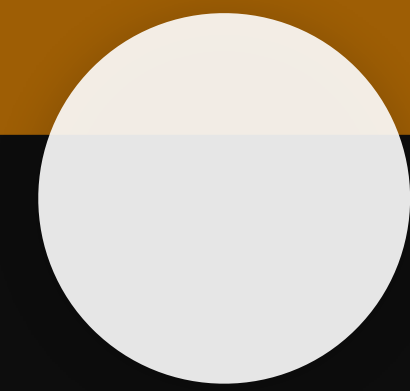


< Toasters

Kitchen Toaster



Make Toast

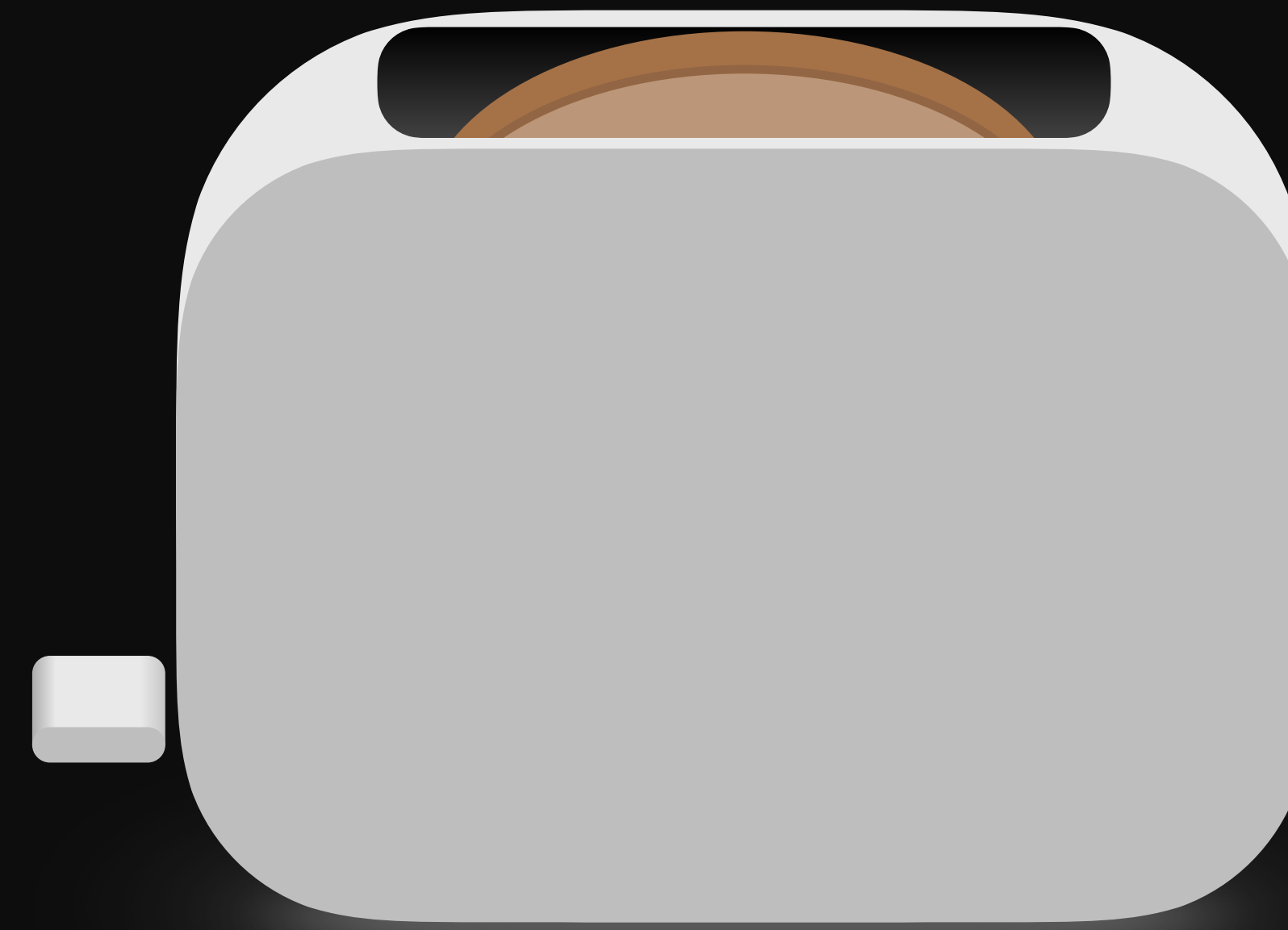


9:41



< Toasters

Kitchen Toaster



Toasting...

Make Toast

Stop Toasting



9:41

< Toasters

Kitchen Toaster



Make Toast



9:41

< Toasters

Kitchen Toaster



Make Toast

Recap

Recap

Feedback: Tell or Show

Recap

Feedback: Tell or Show

Interactions: Before, During, and After

Recap

Feedback: Tell or Show

Interactions: Before, During, and After

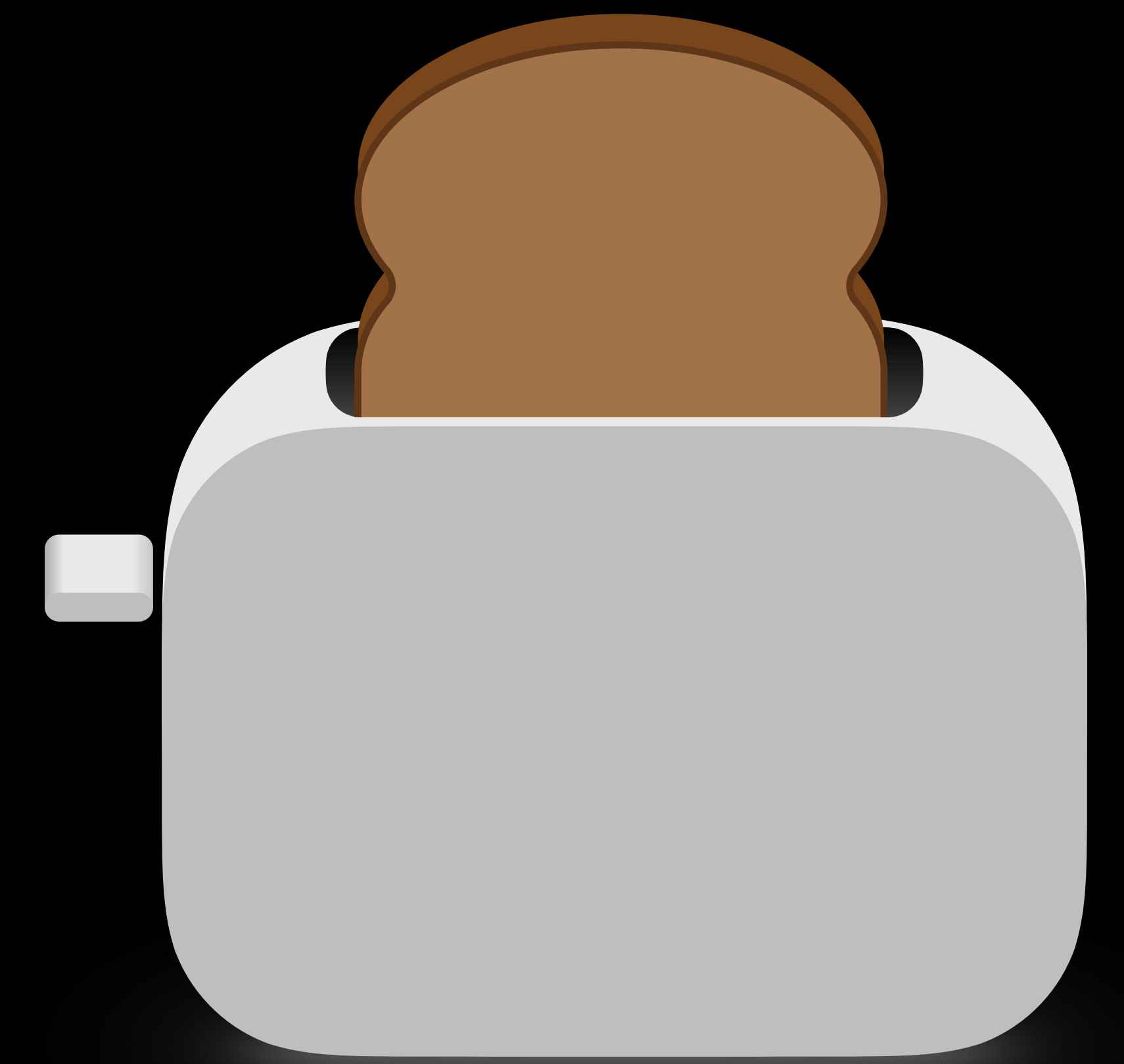
Try options to understand what's too little and too much



Toaster
Ready



Making
Toast



Toast
Done

Cancel

Eat Toast

Request
Toast



Making It Click

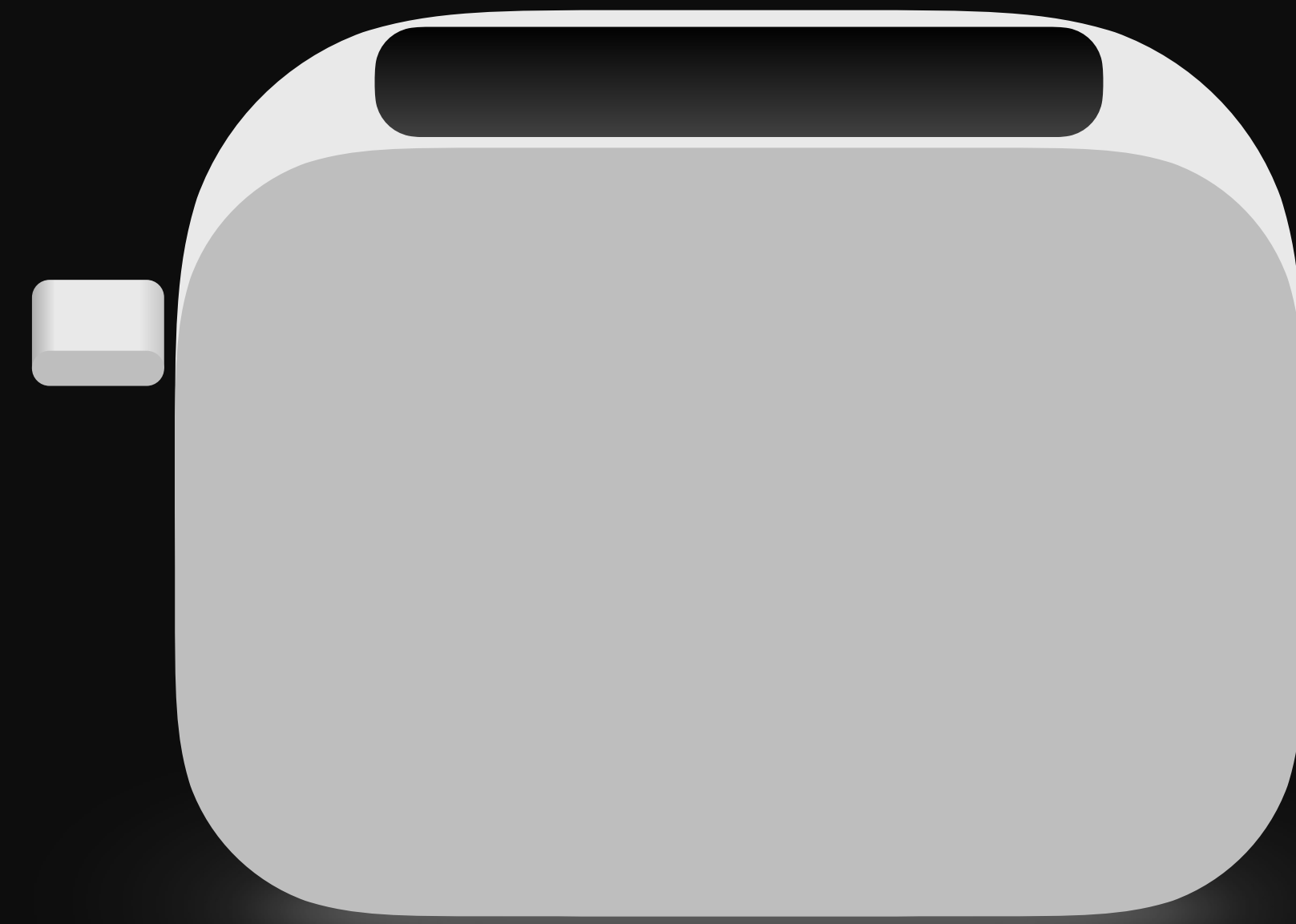
Hugo Verweij, Sound Designer

9:41

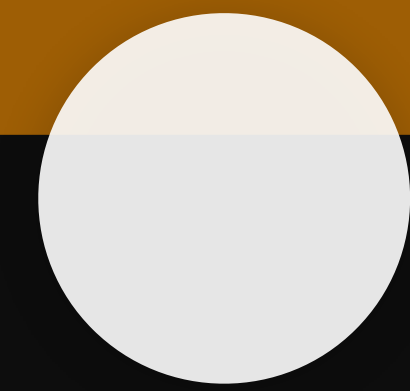


< Toasters

Kitchen Toaster



Make Toast

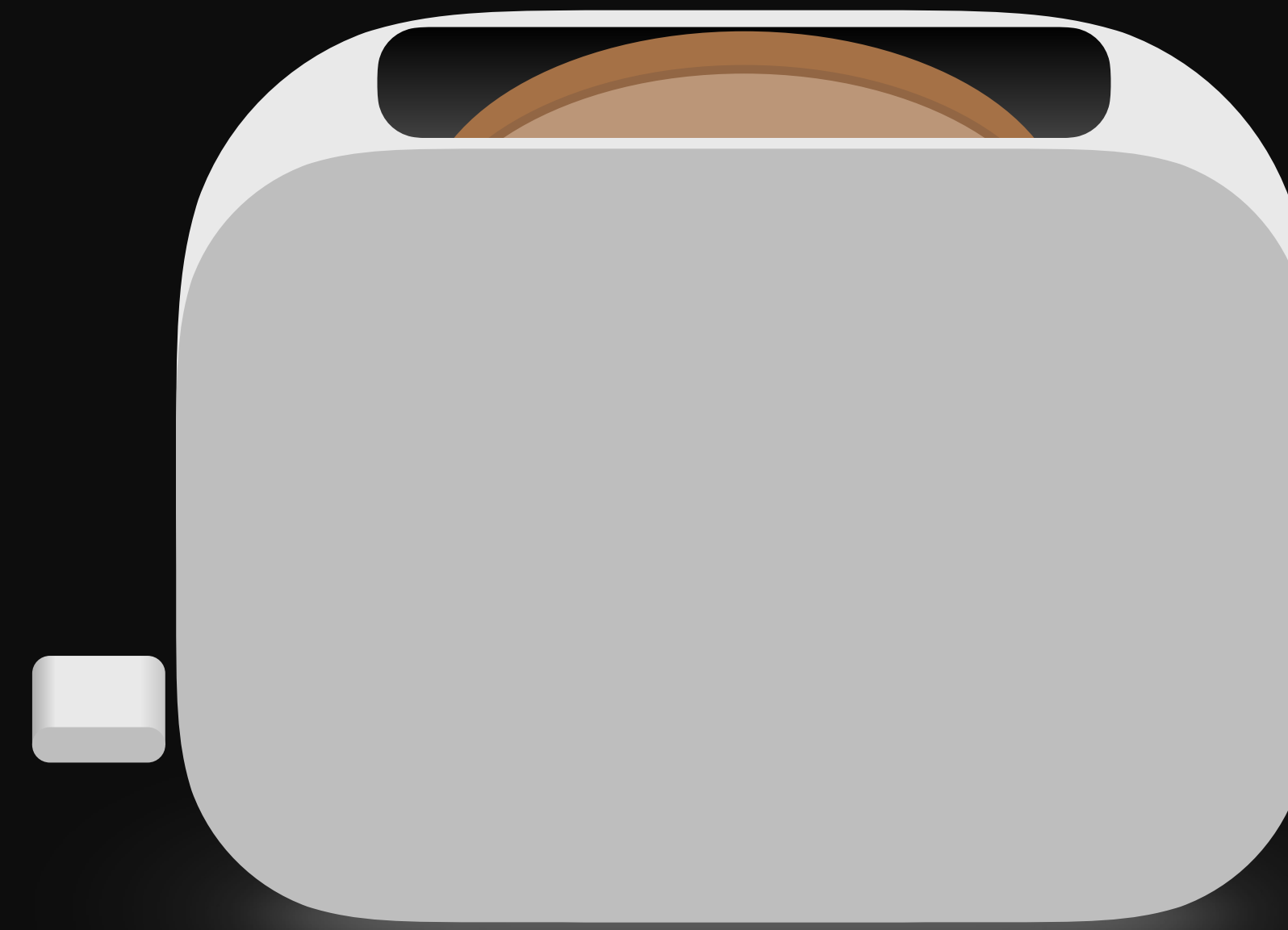


9:41



< Toasters

Kitchen Toaster



Toasting...

Make Toast

Stop Toasting

Agenda

Agenda

Inspiration

Agenda

Inspiration

Designing sound

Agenda

Inspiration

Designing sound

Building blocks



50%

of the experience of a movie

Why Care?

Why Care?

Sound is everywhere

Why Care?

Sound is everywhere

Sound is useful

Why Care?

Sound is everywhere

Sound is useful

Sound shapes experiences

Why Care?

Sound is everywhere

Sound is useful

Sound shapes experiences

Sound helps define your brand

Inspiration

Designing sound

Building blocks









To click or not to click?

To Click or Not to Click?

To Click or Not to Click?

Category

To Click or Not to Click?

Category

Audience

To Click or Not to Click?

Category

Audience

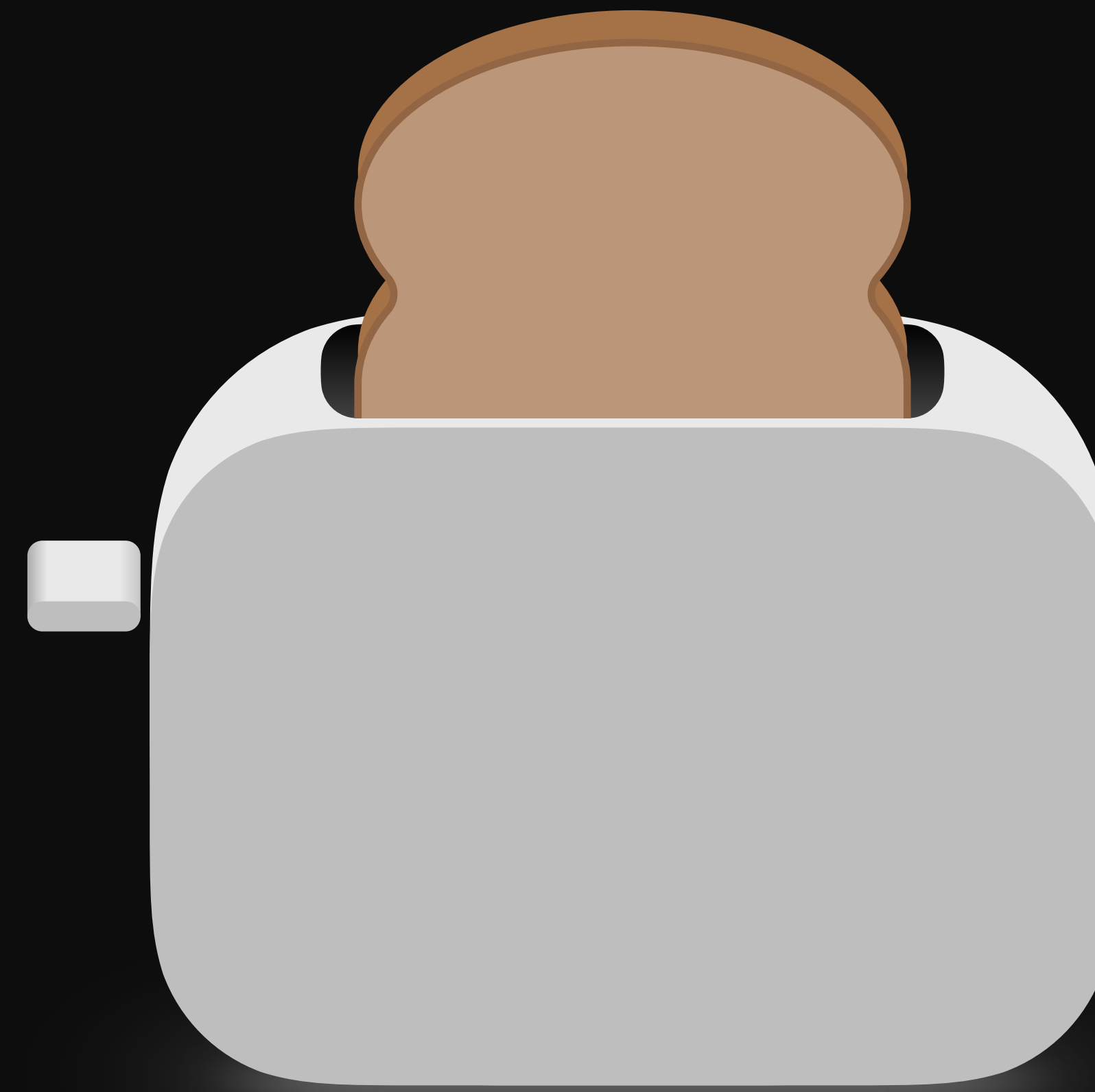
Context

9:41



< Toasters

Kitchen Toaster



Make Toast

Deconstructing the Process

Deconstructing the Process

What makes a sound?

Deconstructing the Process

What makes a sound?

Is the sound helpful?

Deconstructing the Process

What makes a sound?

Is the sound helpful?

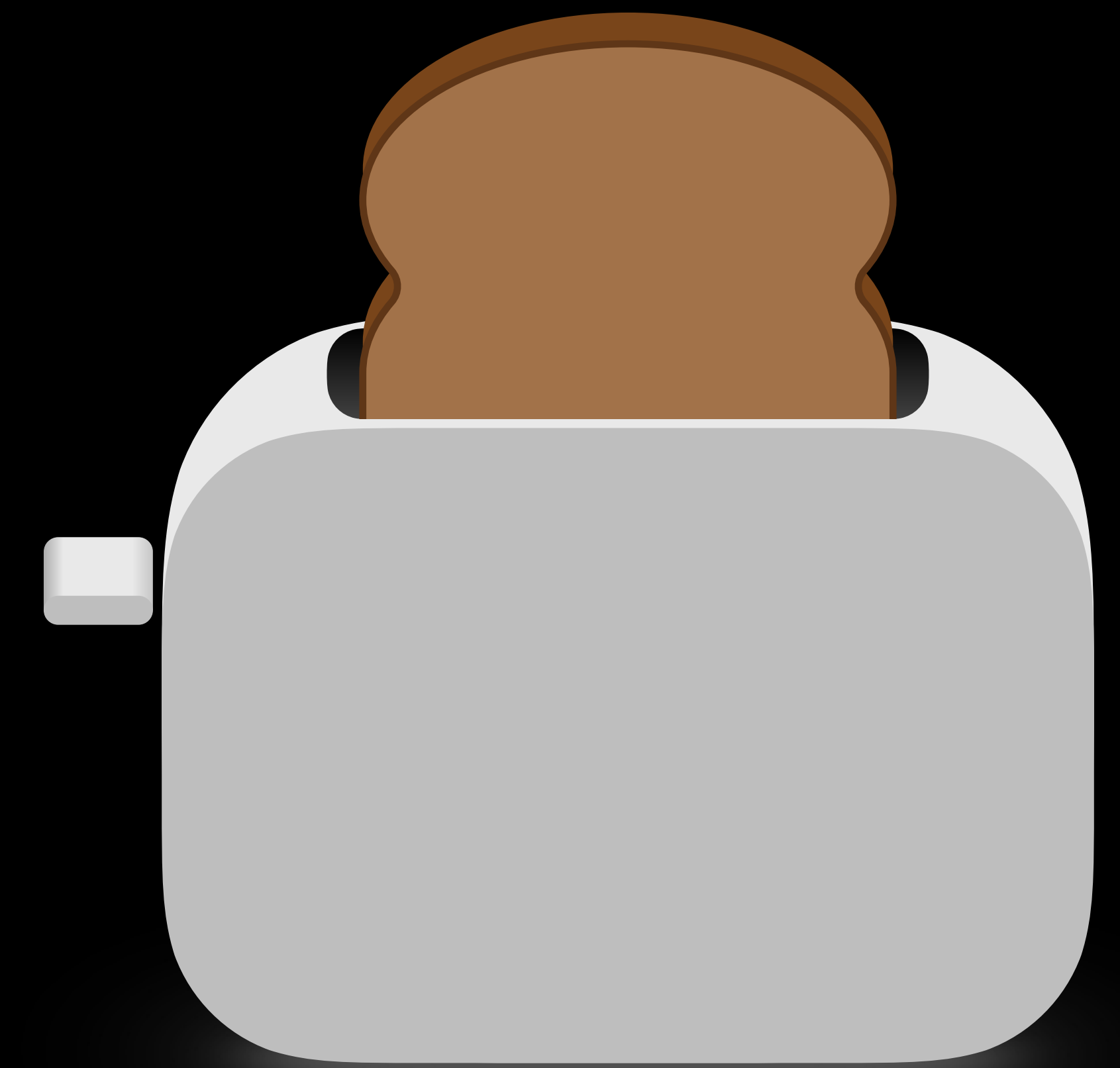
How can we use this?



Toaster
Ready



Making
Toast



Toast
Done

Request
Toast

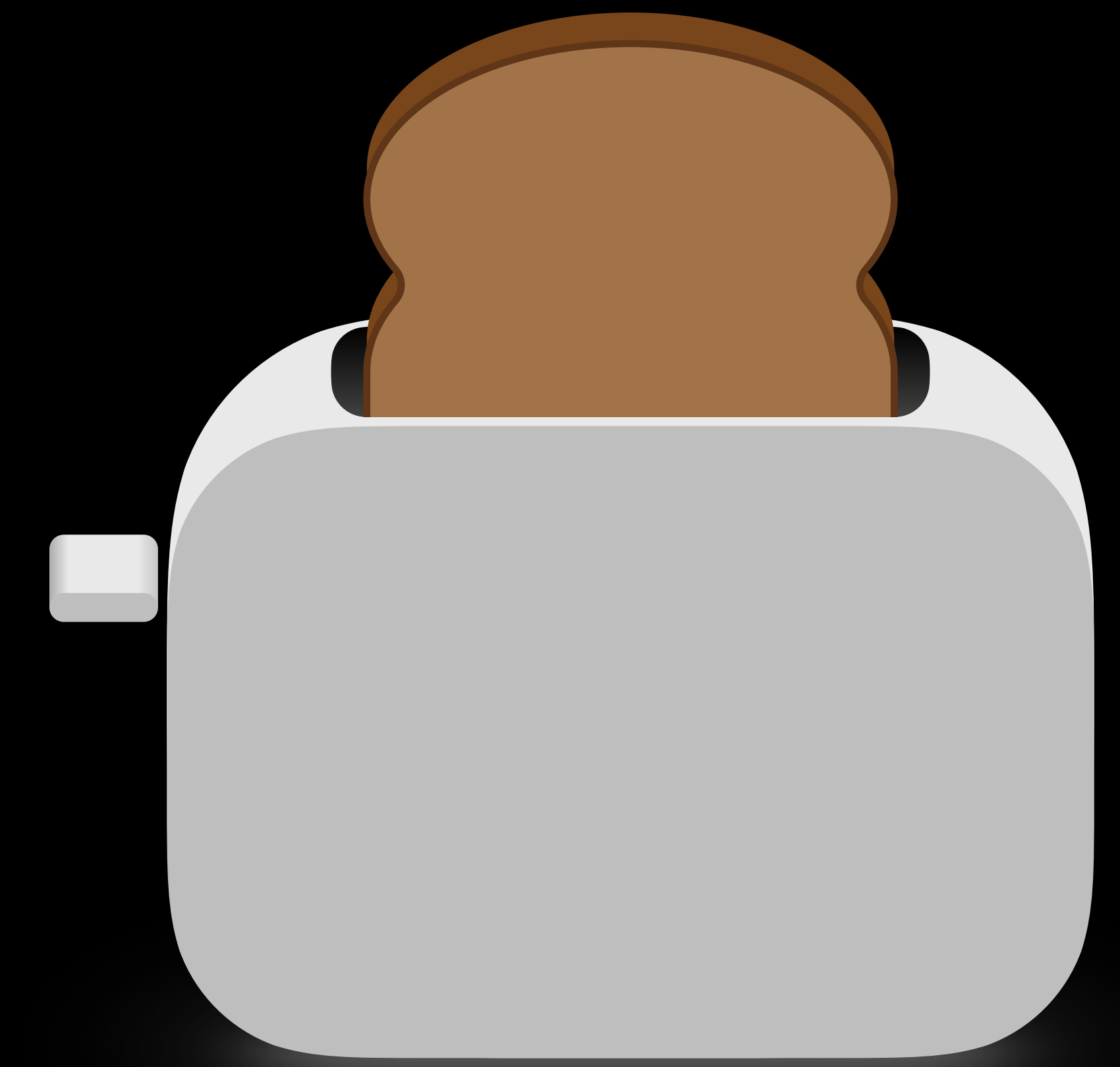




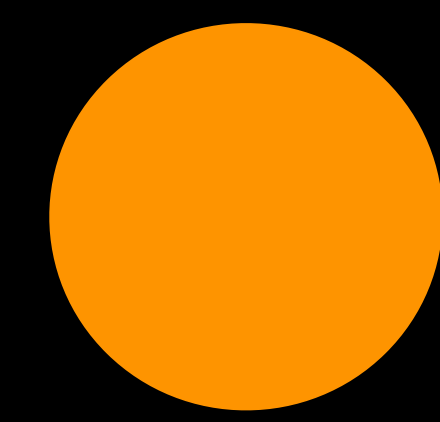
Toaster
Ready



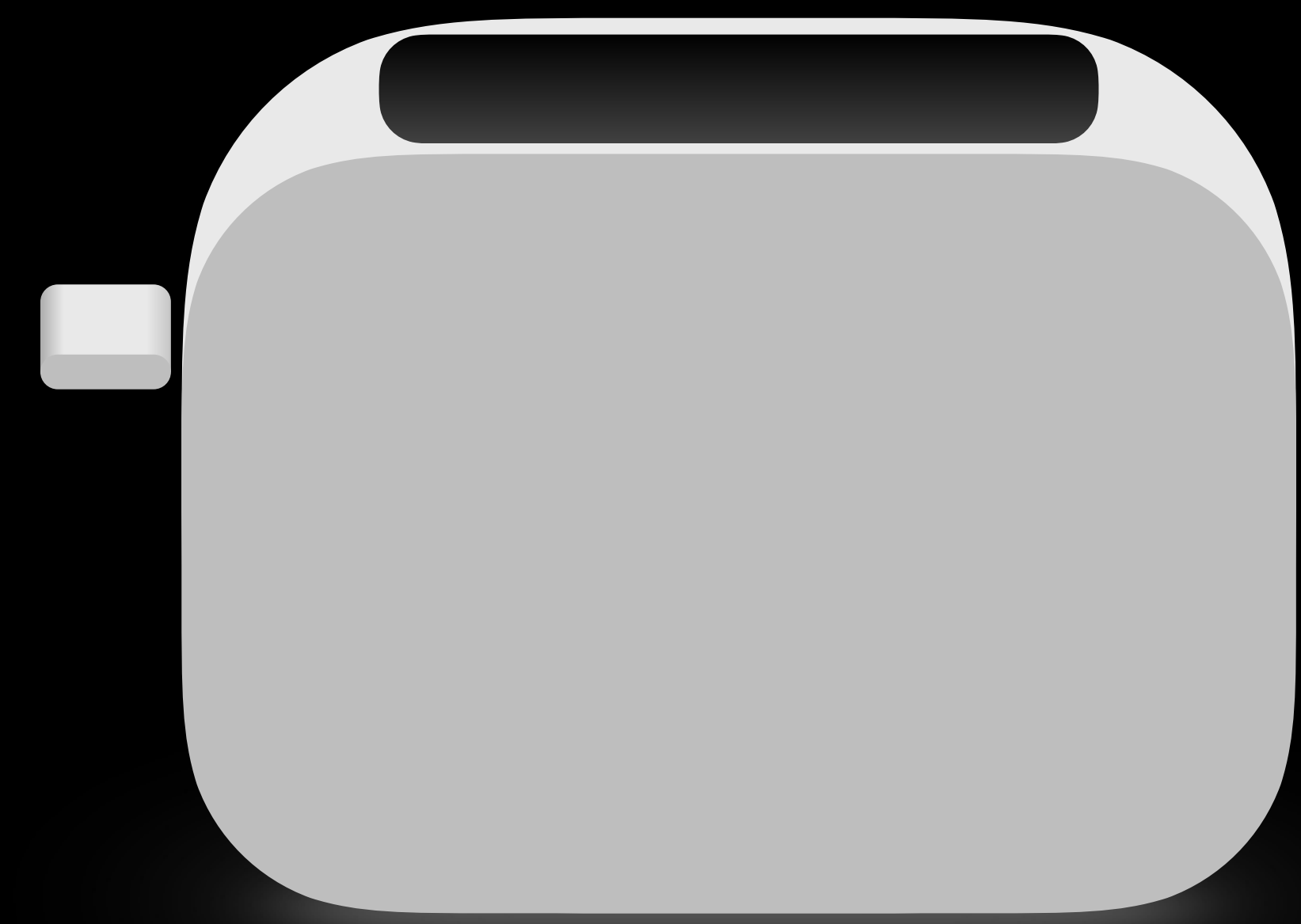
Making
Toast



Toast
Done



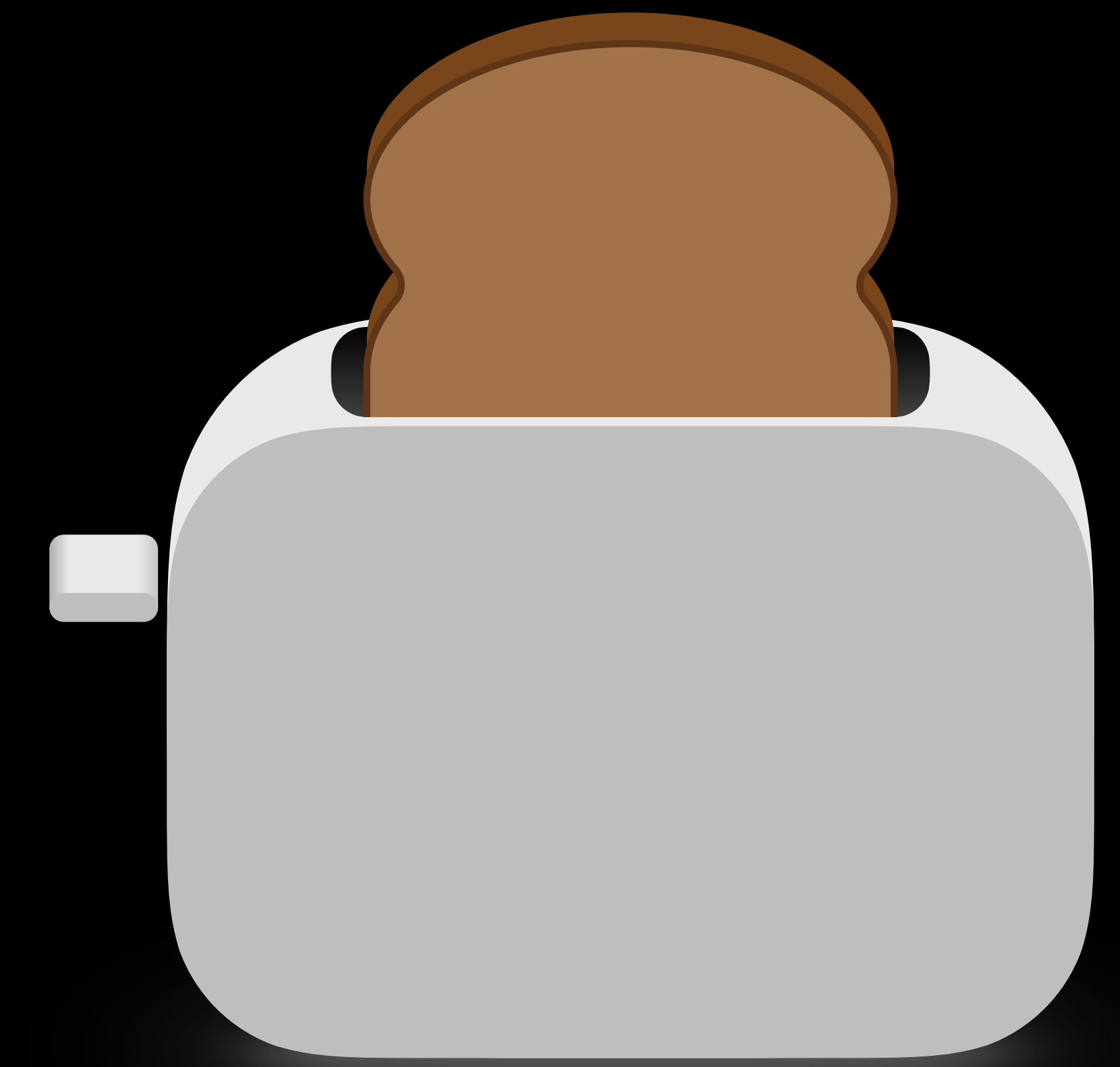
Request
Toast



Toaster
Ready

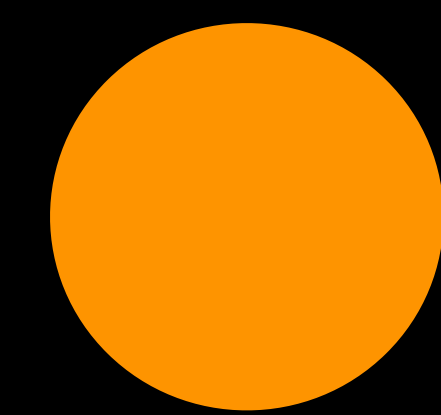


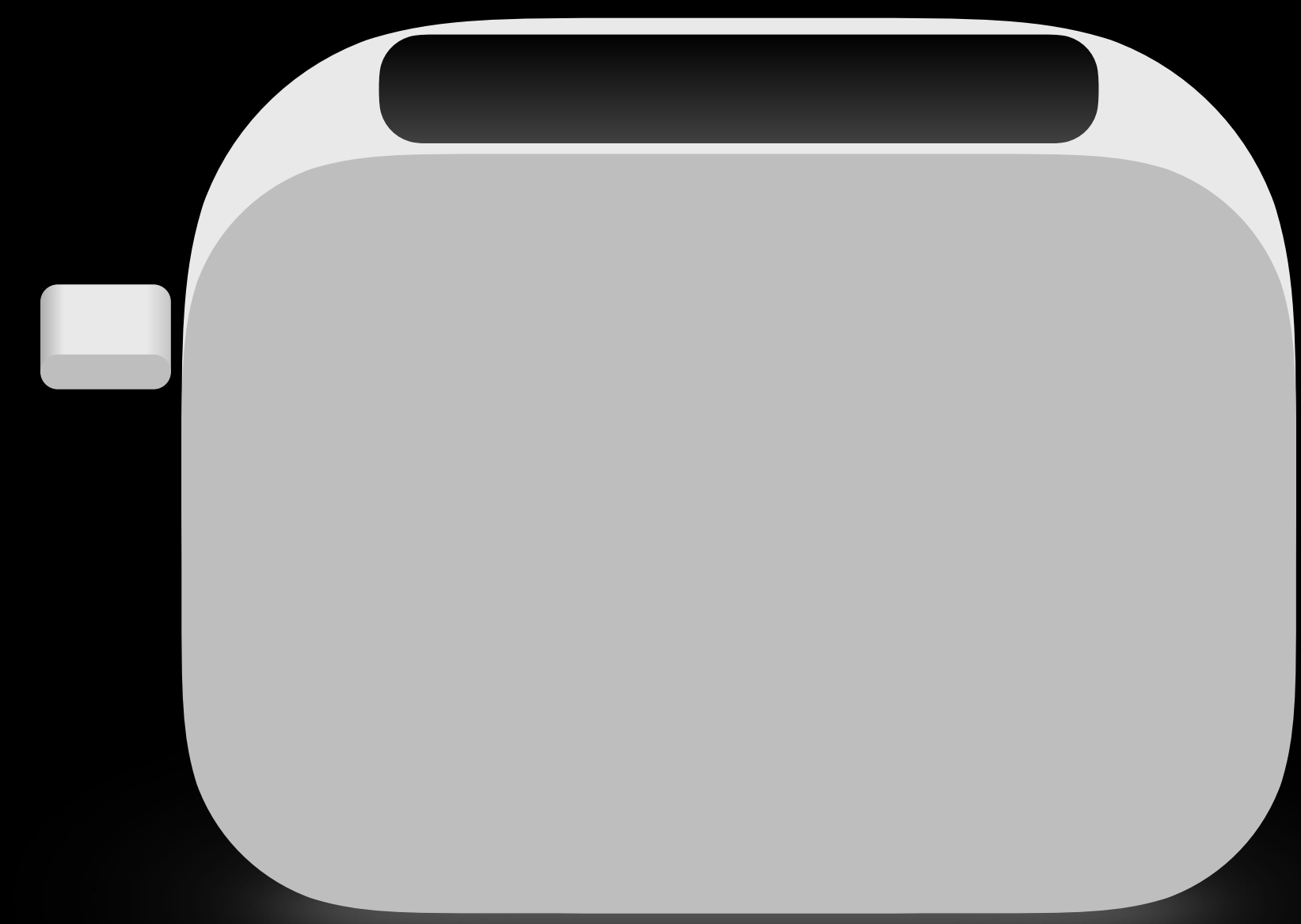
Making
Toast



Toast
Done

Request
Toast

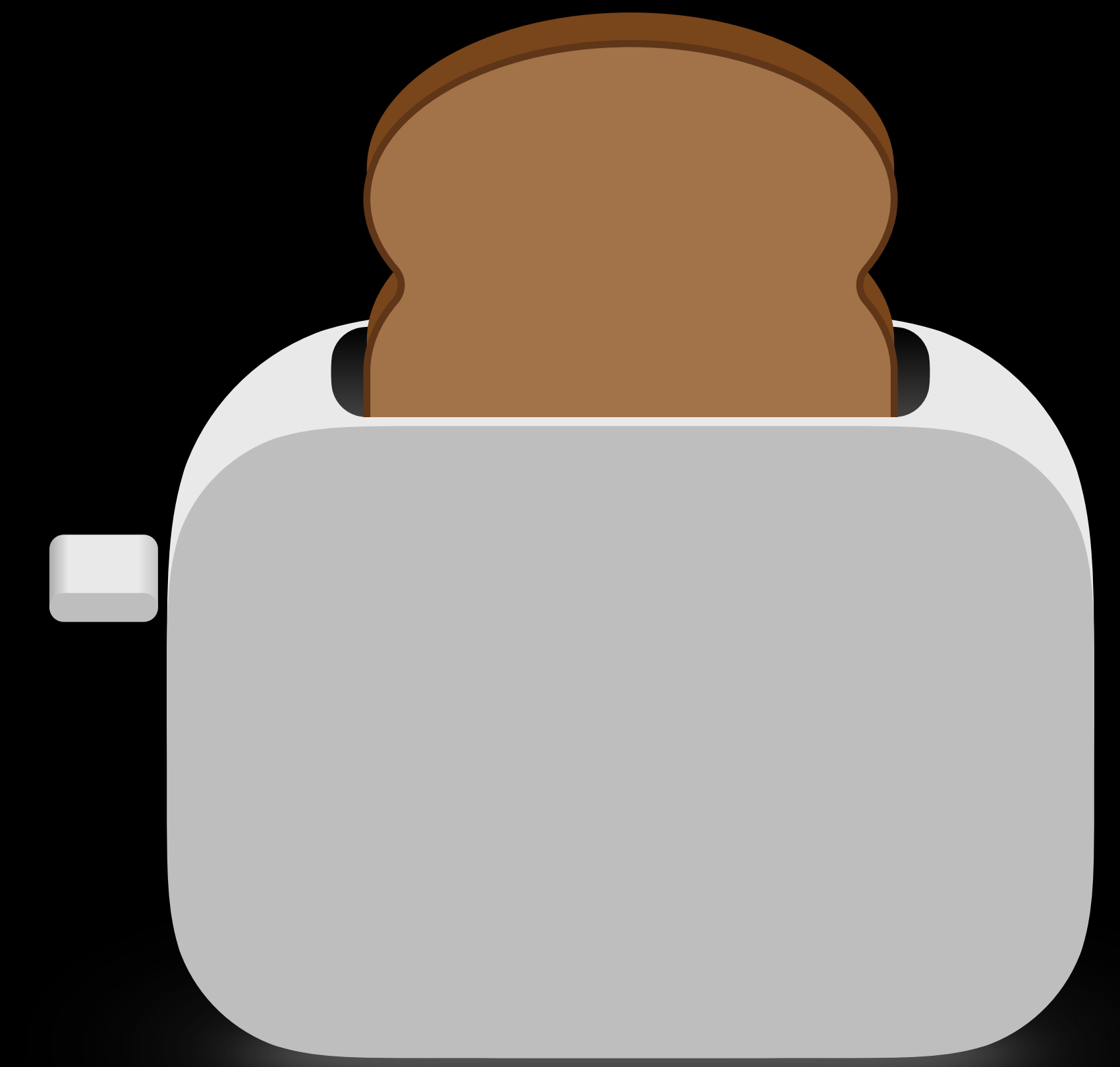




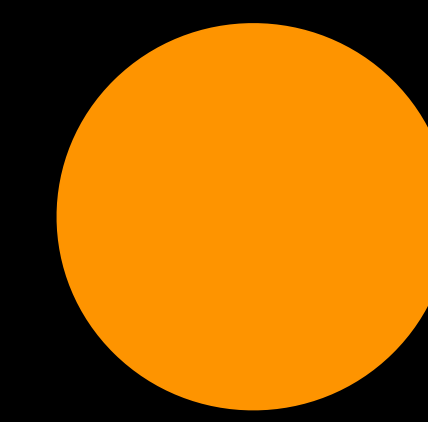
Toaster
Ready



Making
Toast



Toast
Done

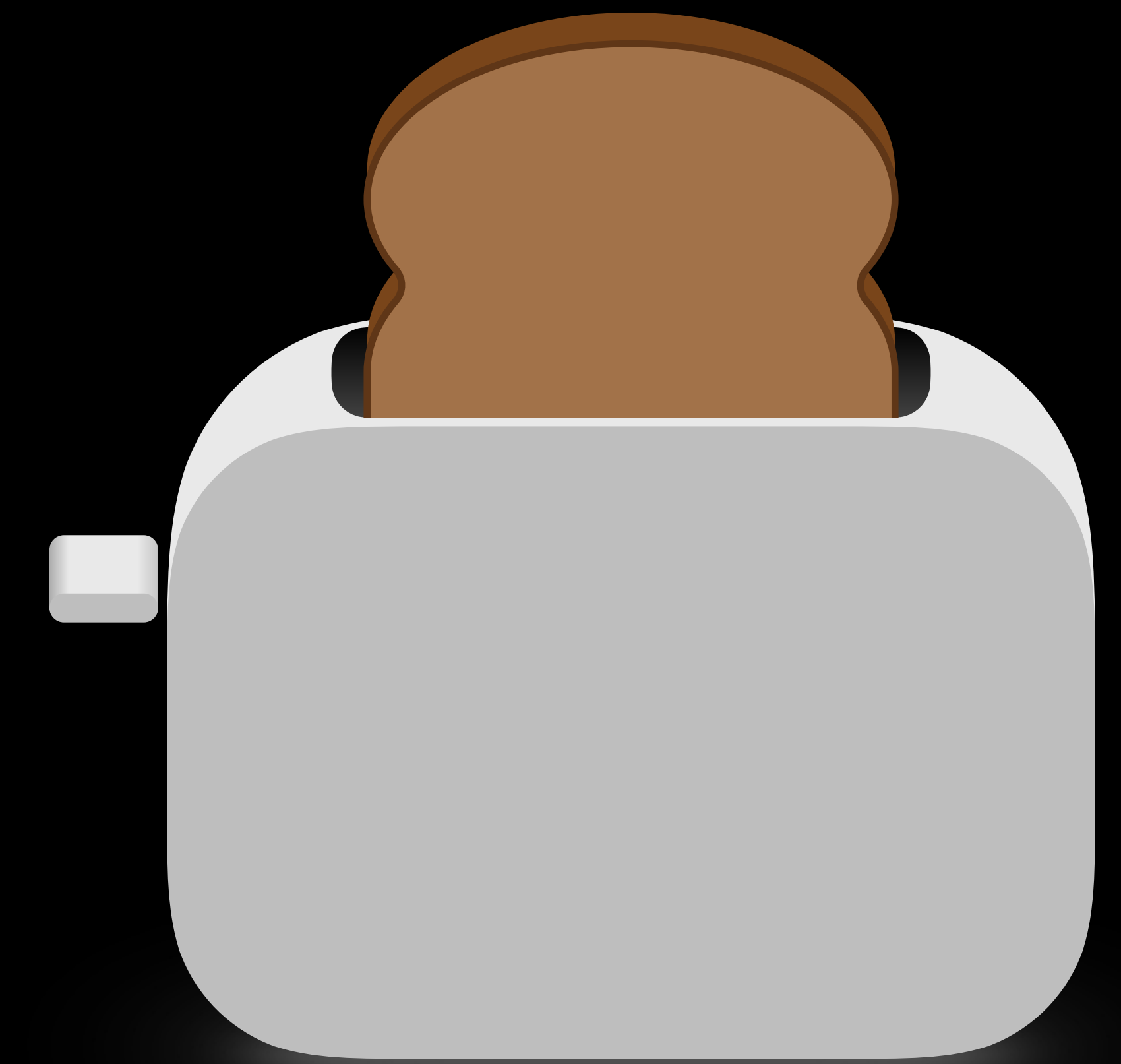




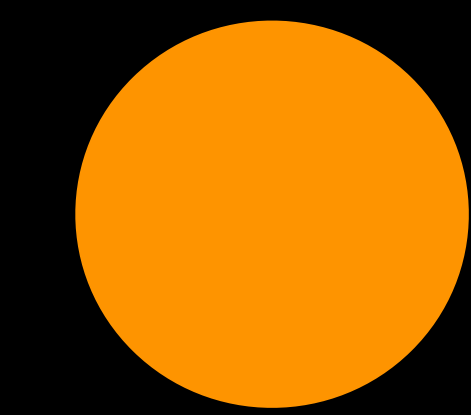
Toaster
Ready



Making
Toast



Toast
Done



Inspiration

Designing sound

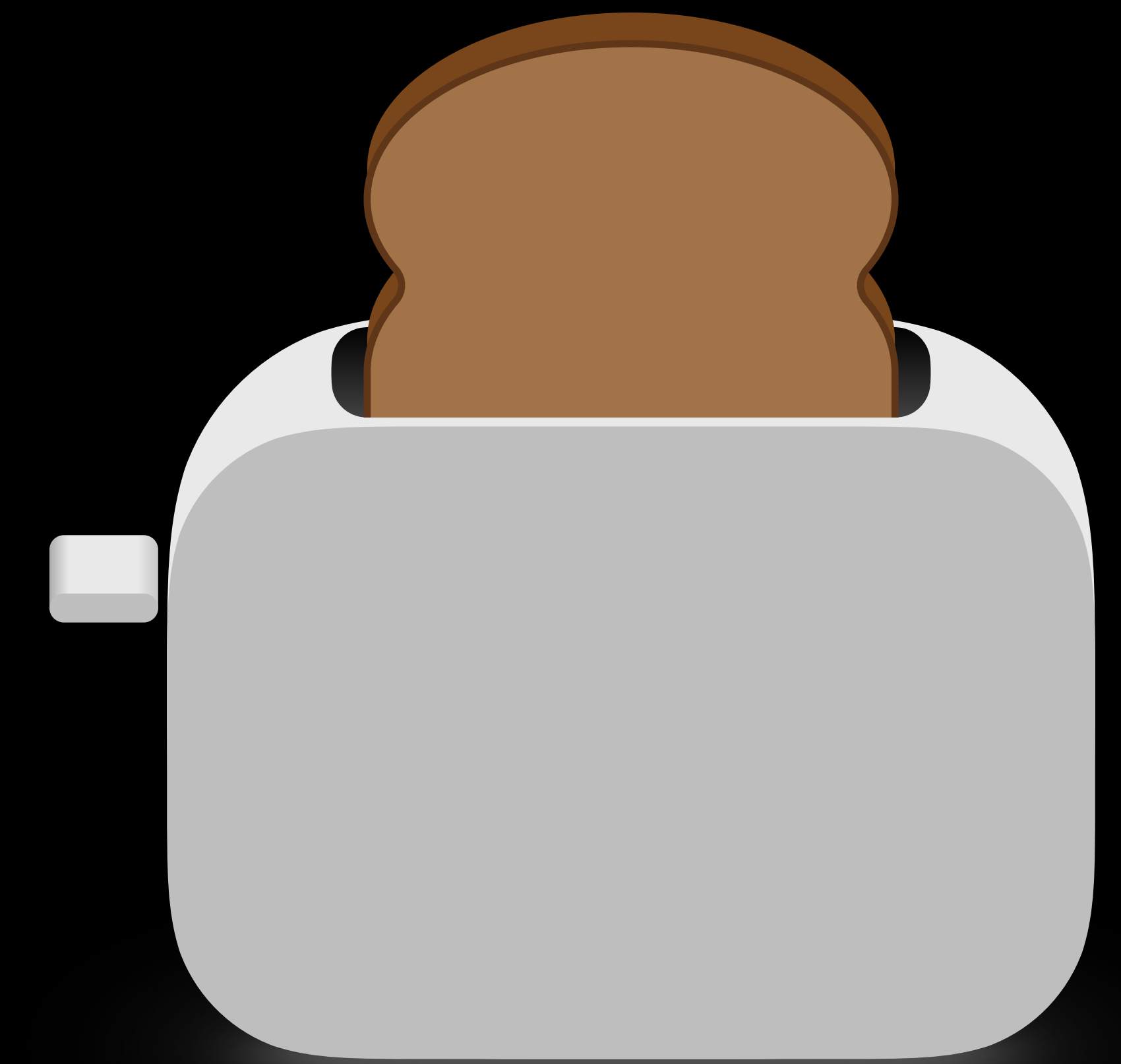
Building blocks



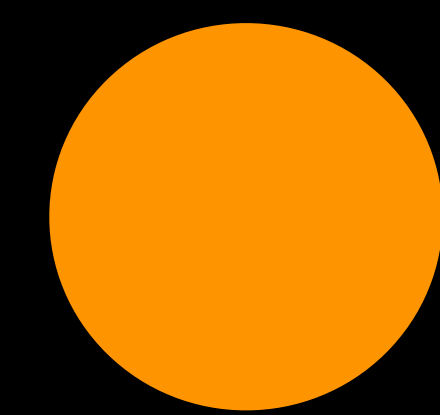
Toaster
Ready



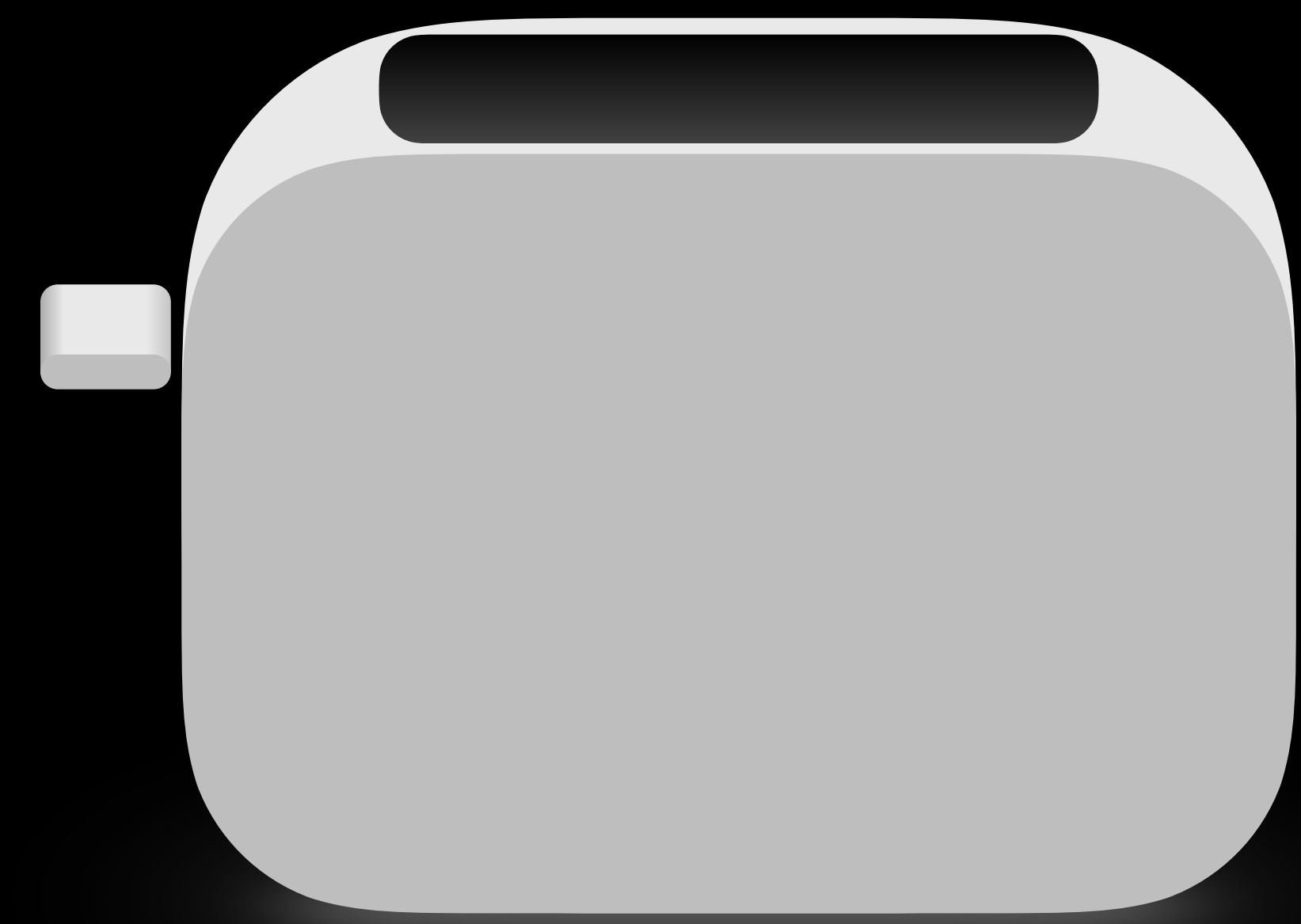
Making
Toast



Toast
Done



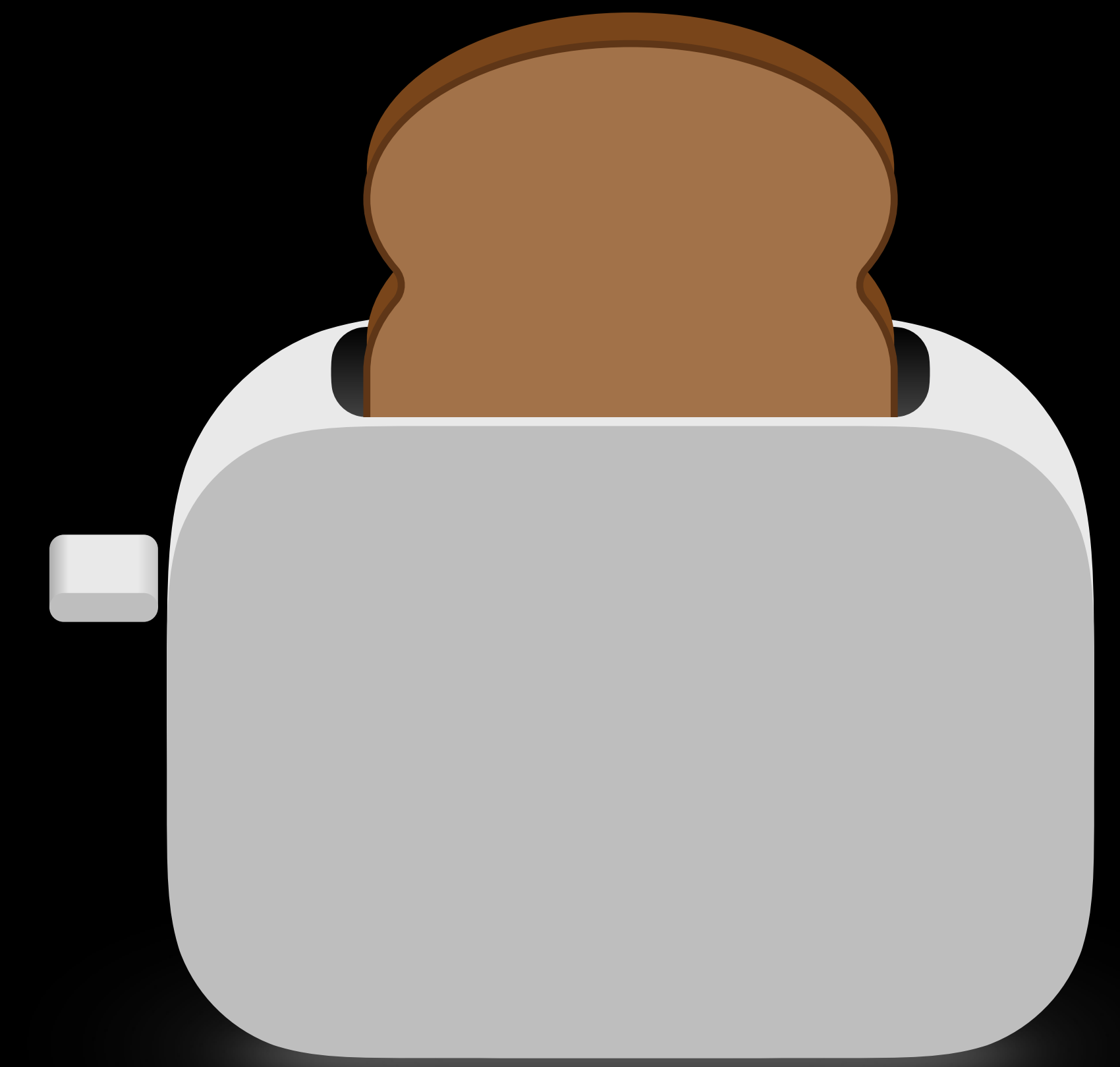
Request
Toast



Toaster
Ready

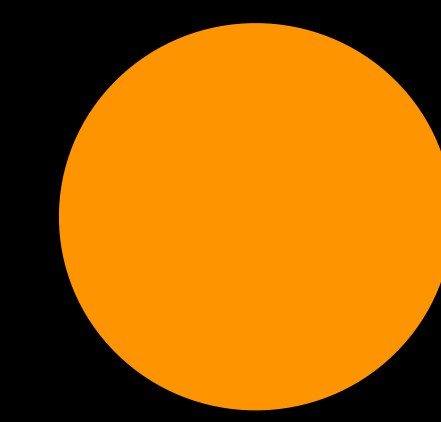


Making
Toast



Toast
Done

Request
Toast

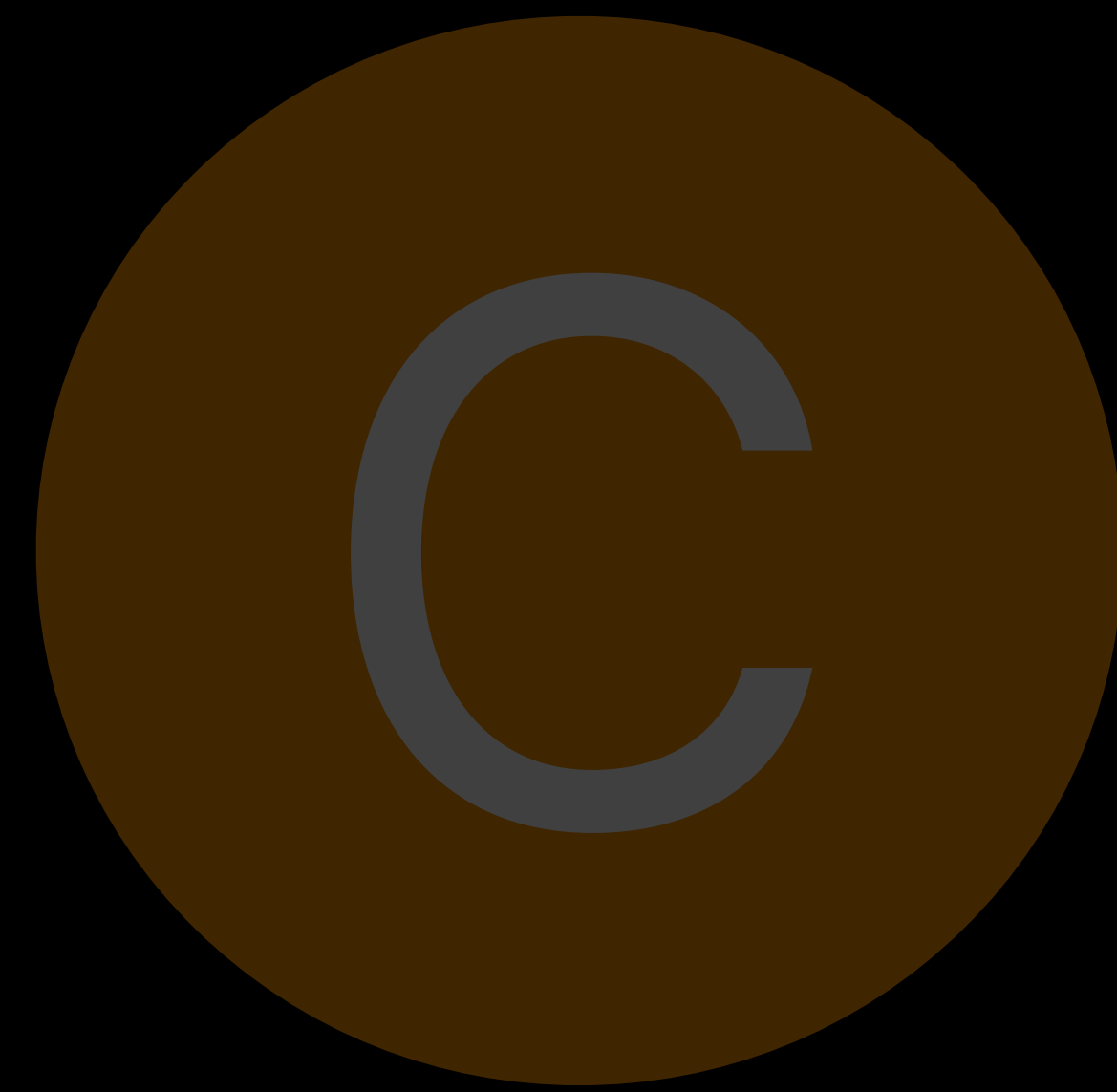


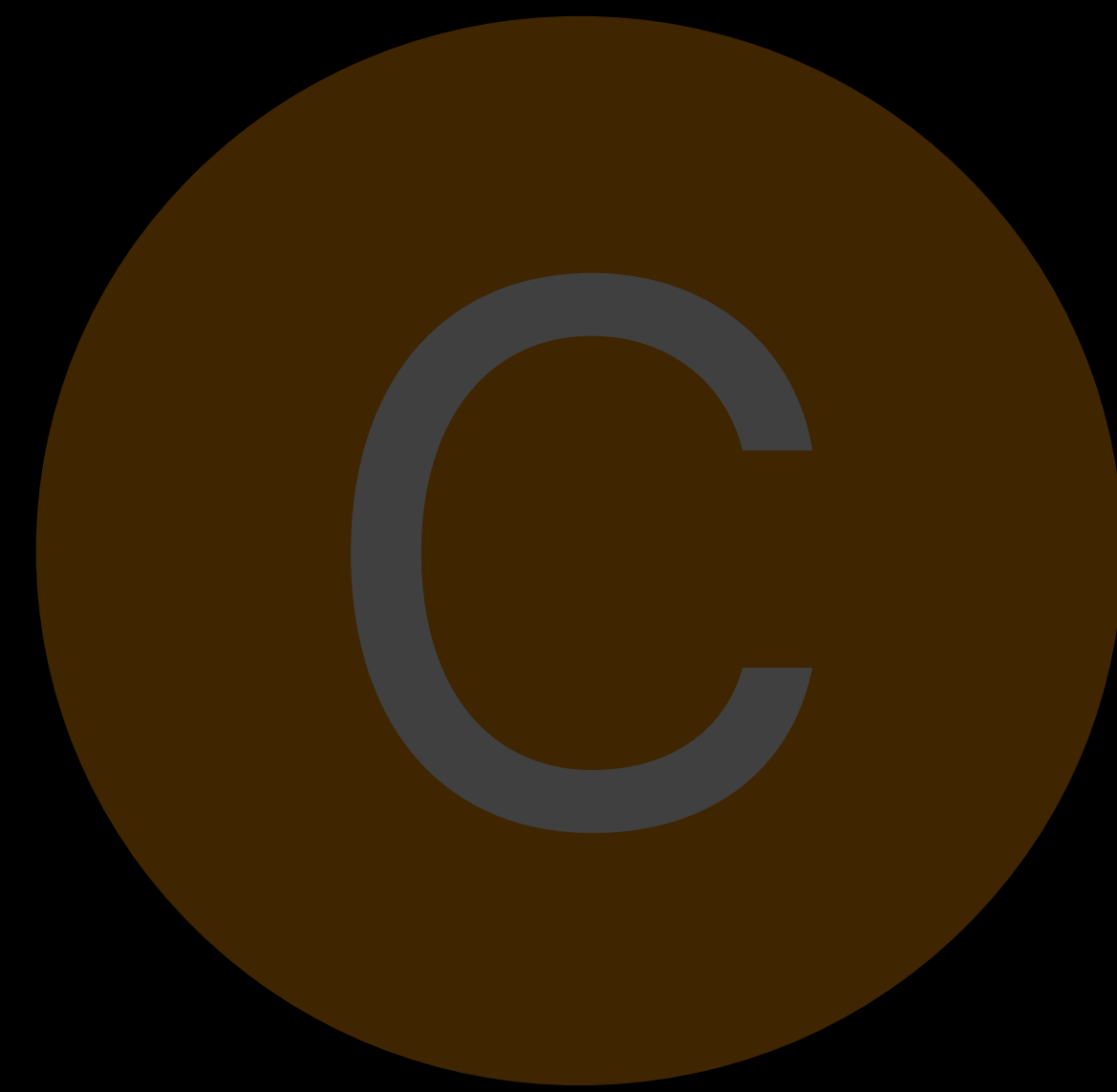


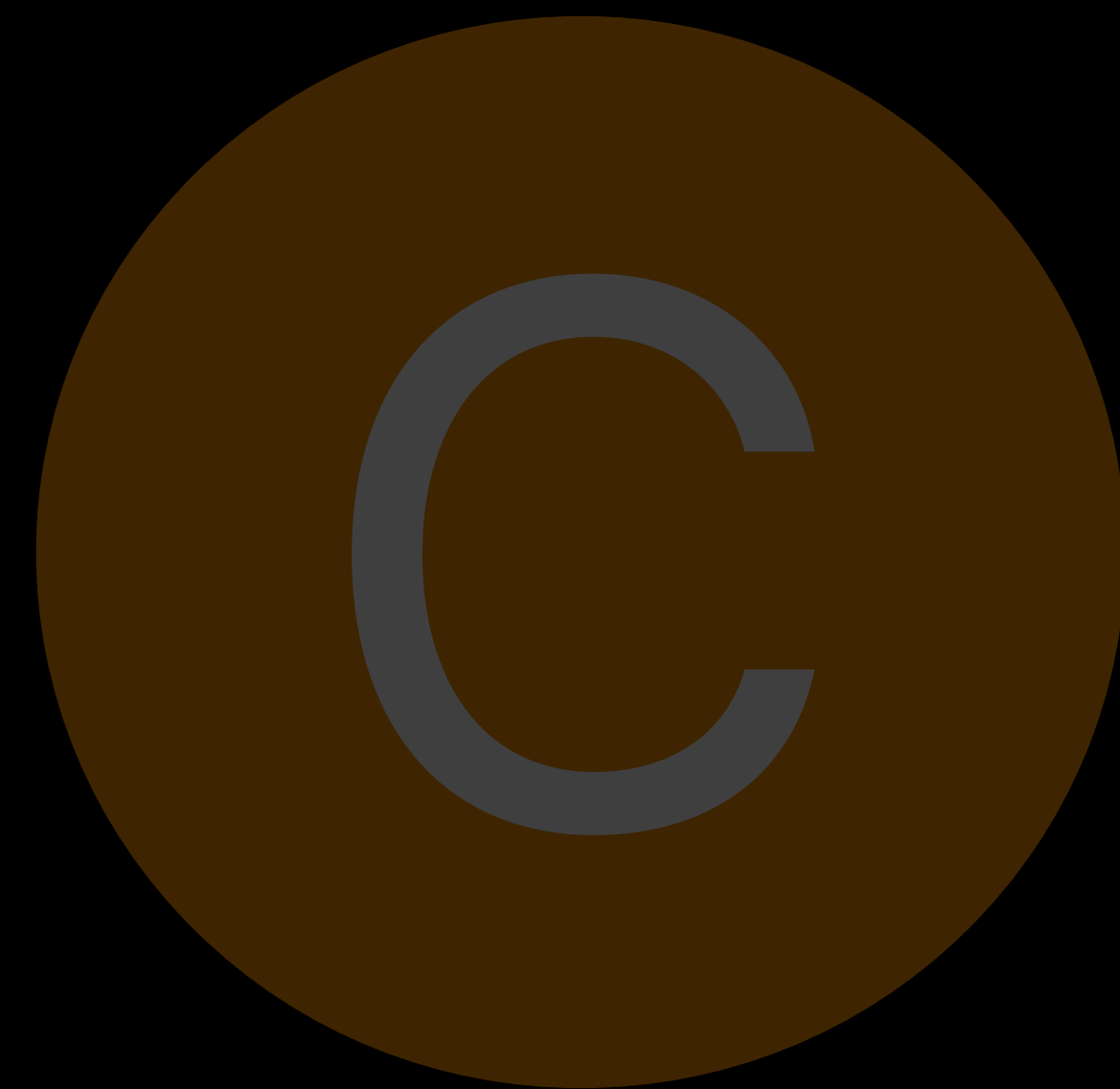


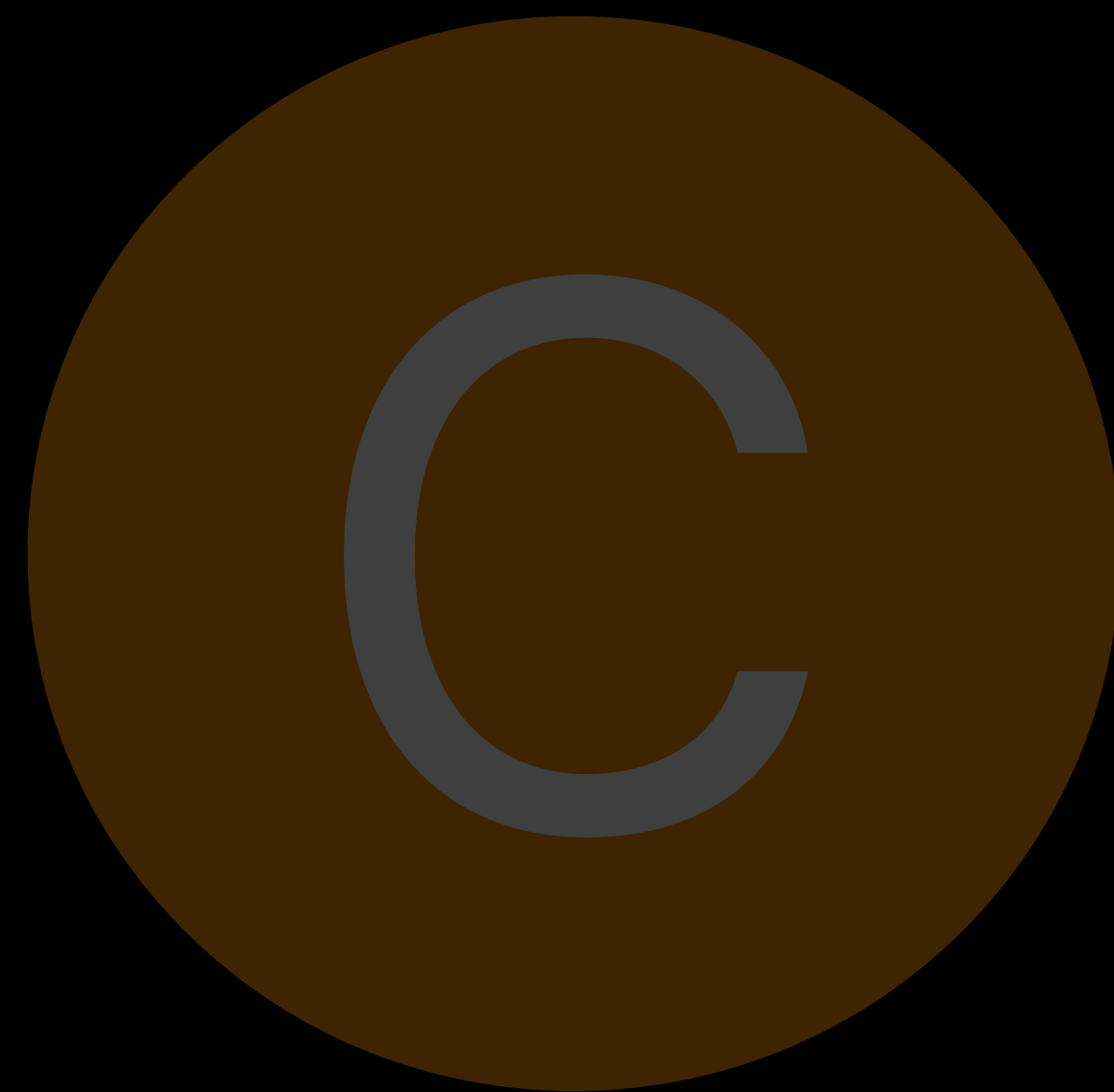


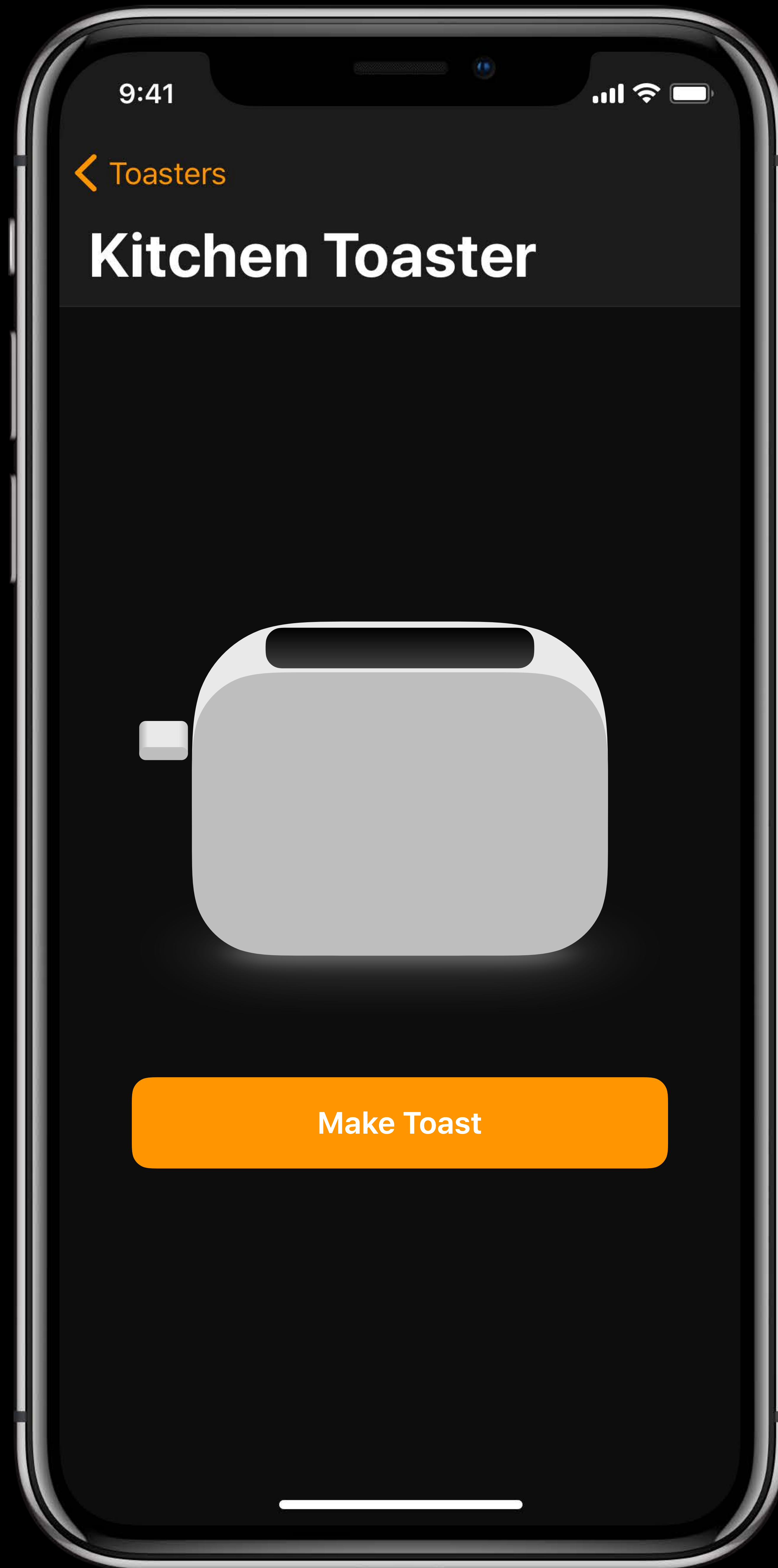




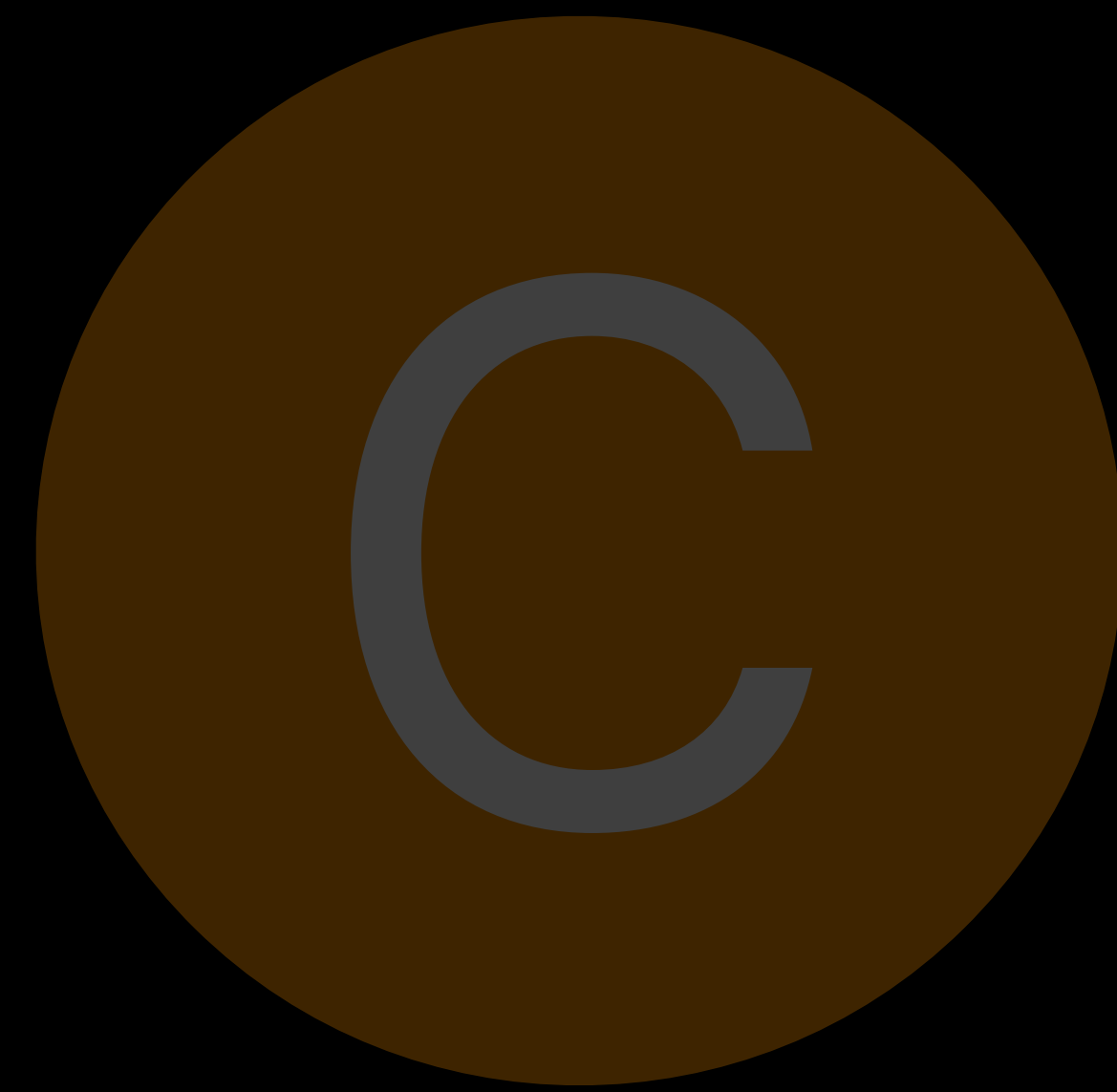


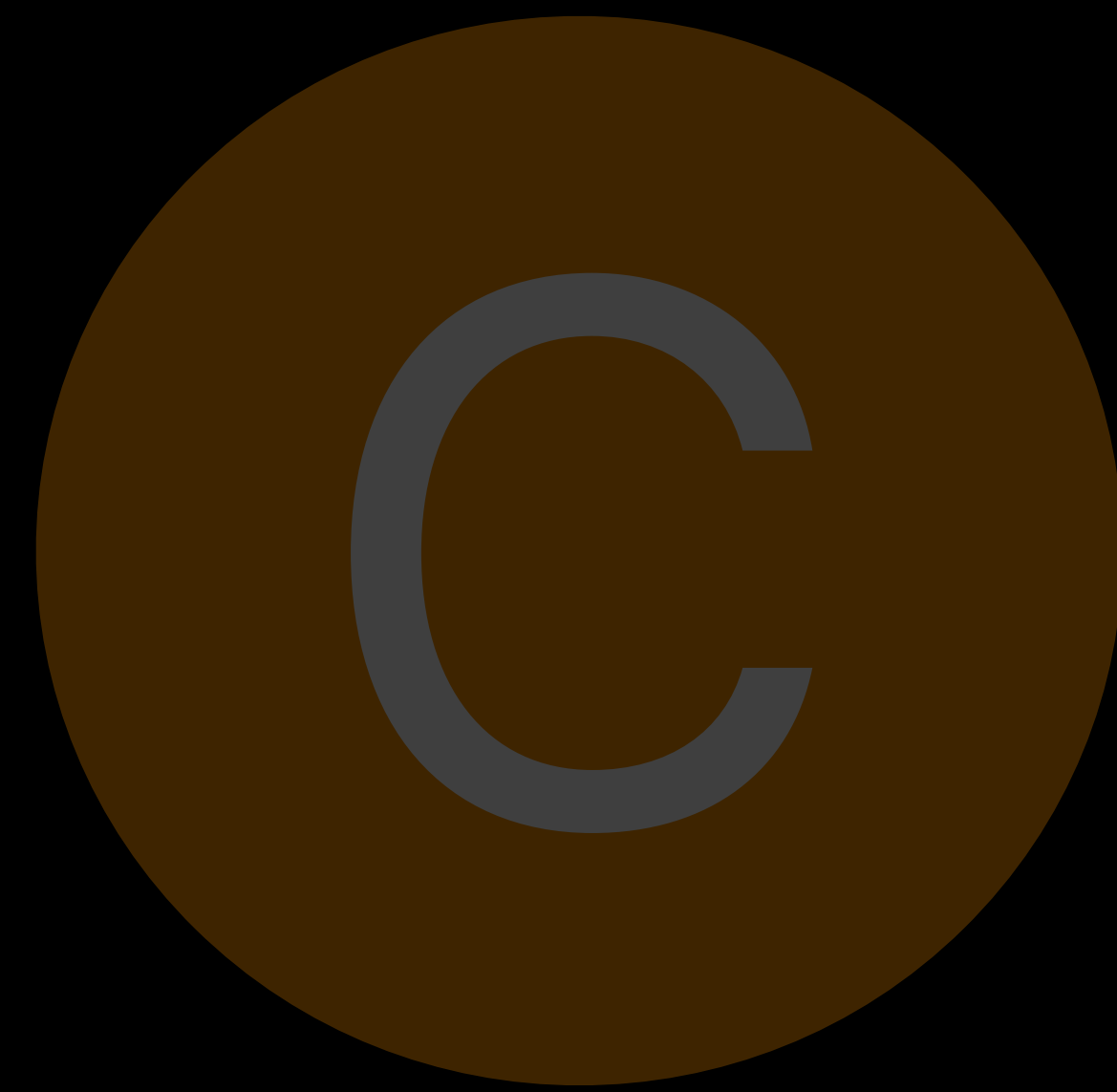


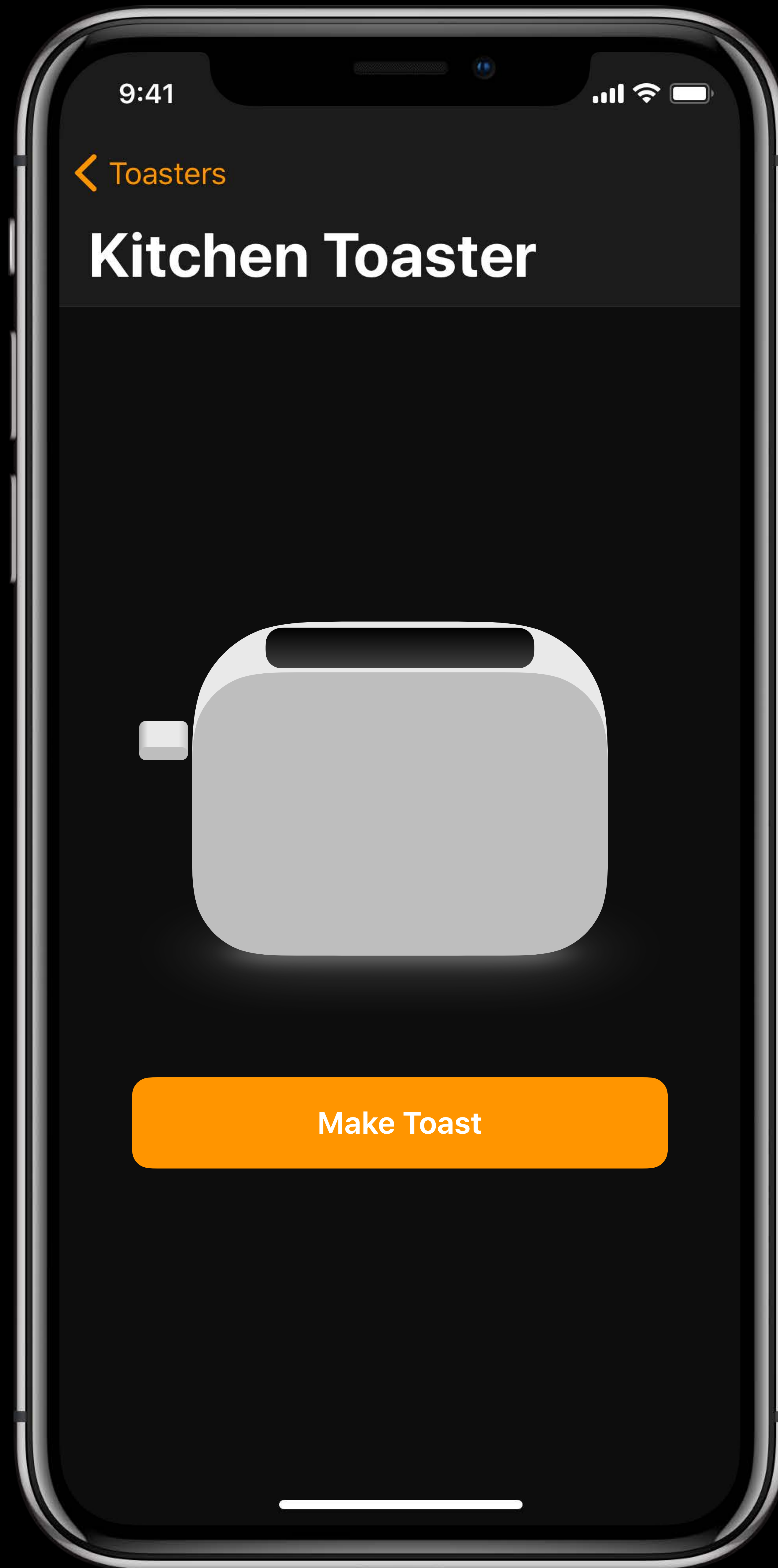
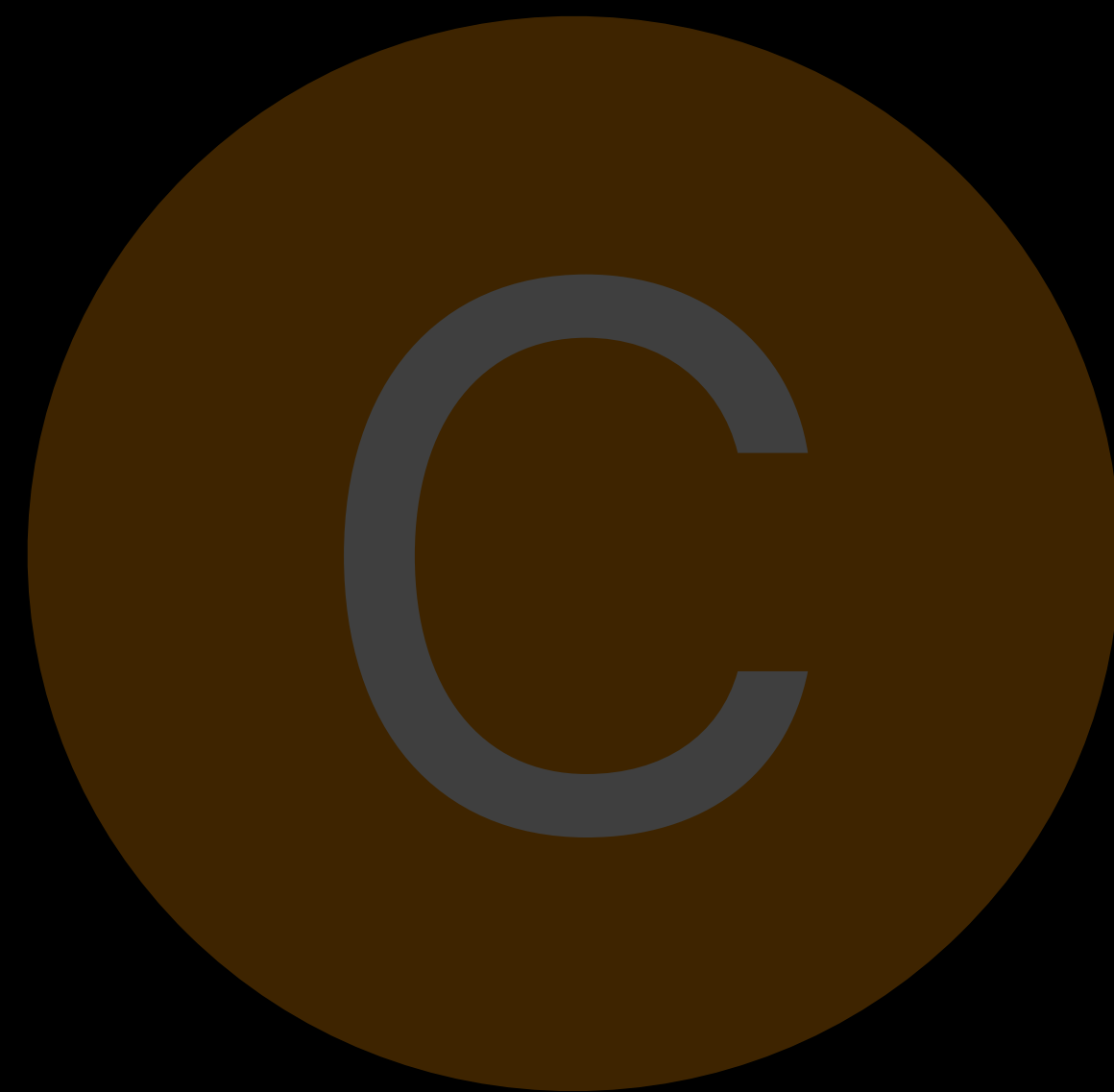


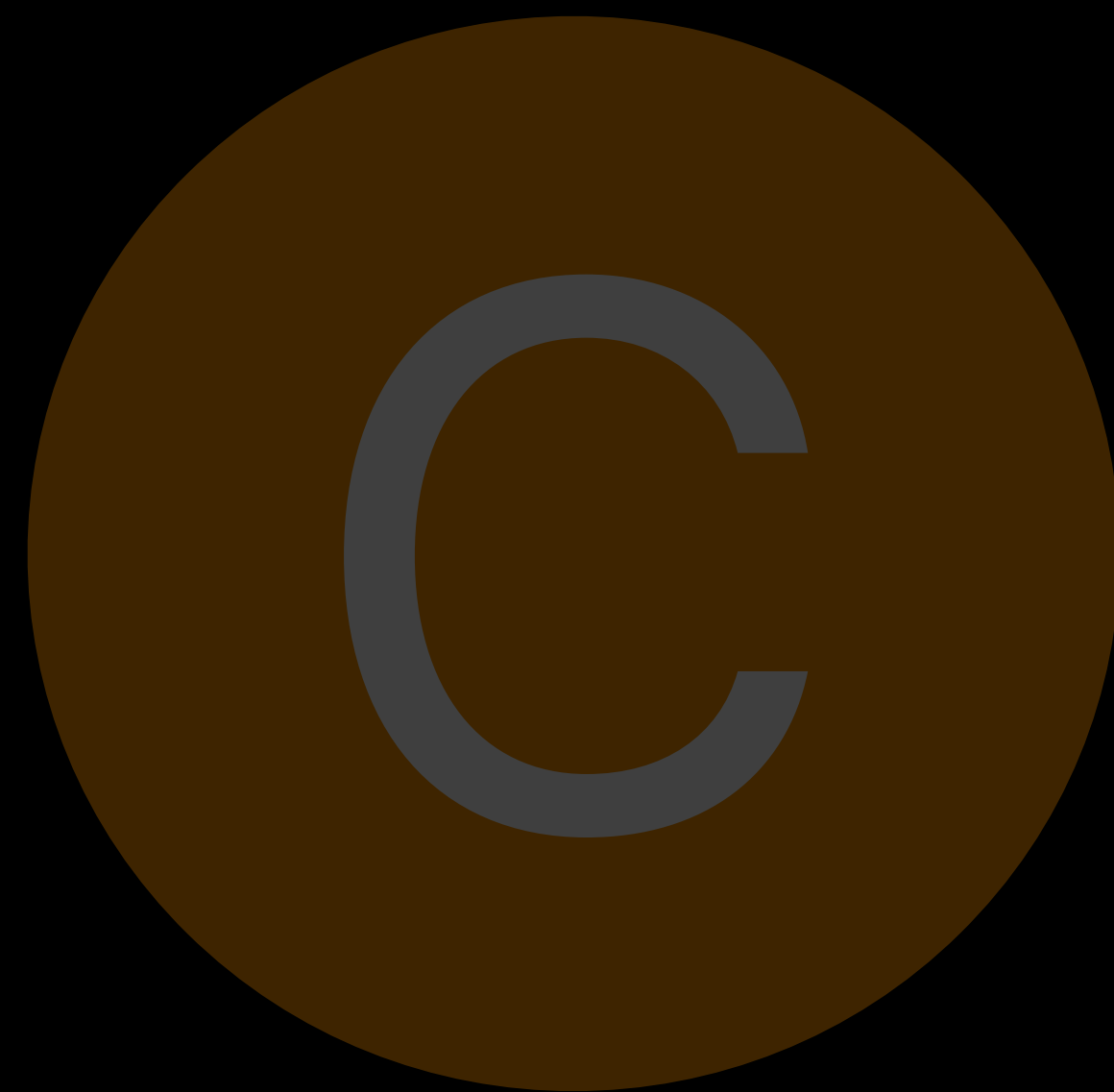






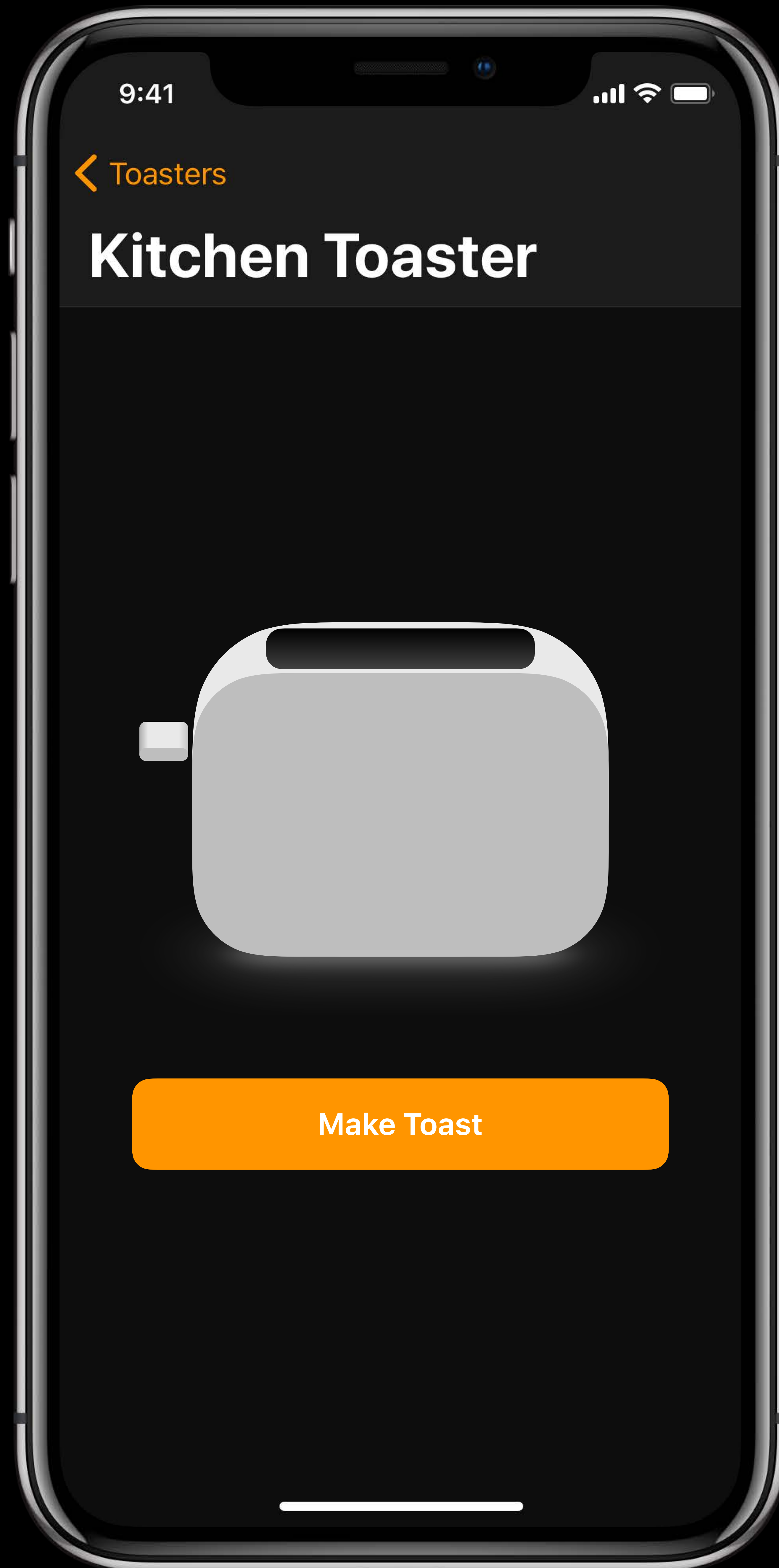
















Done.

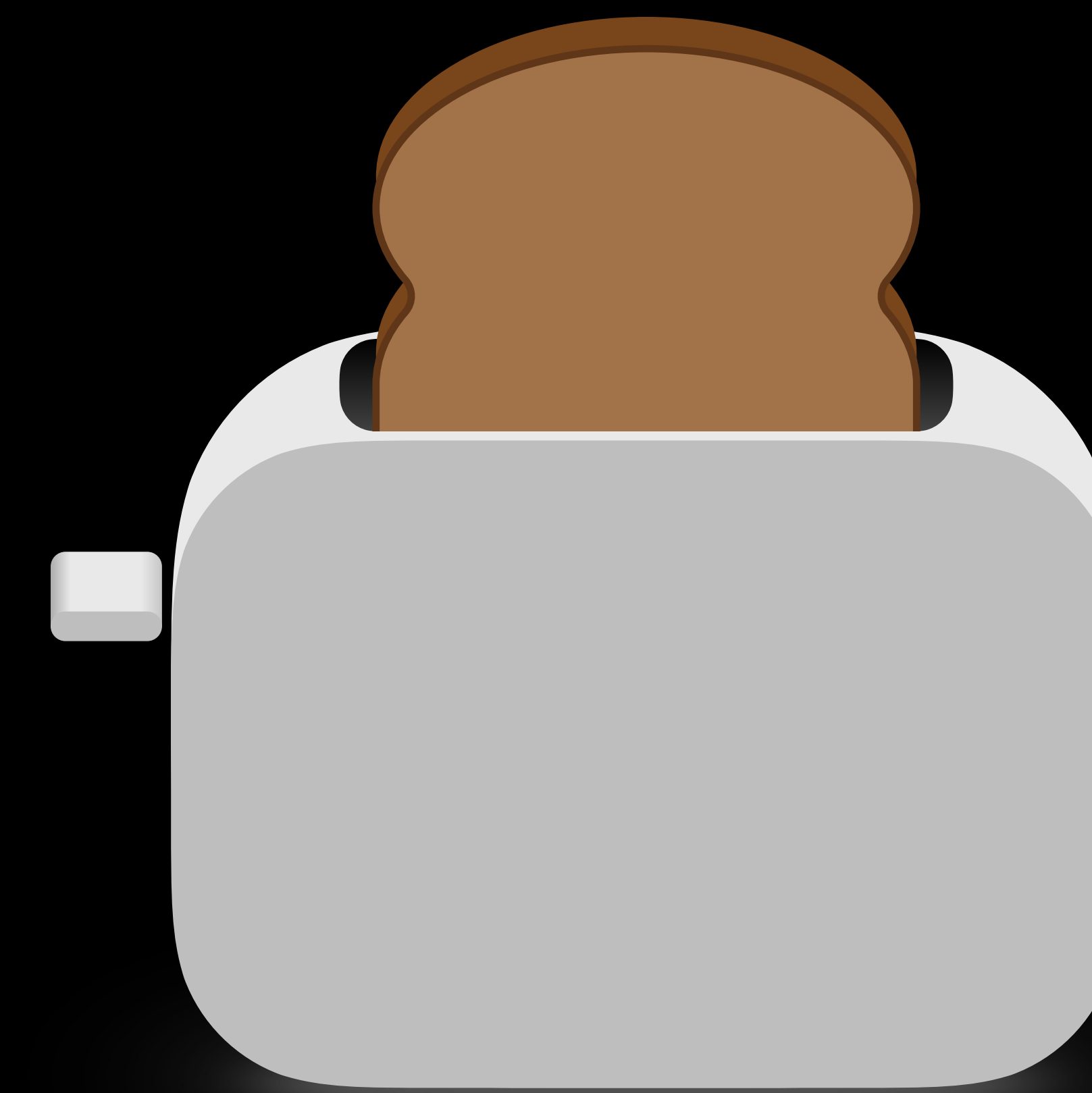
Done...? 🤔



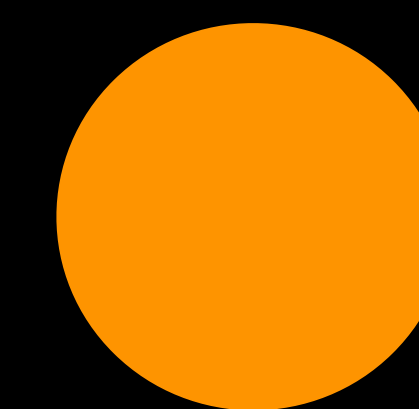
Toaster
Ready

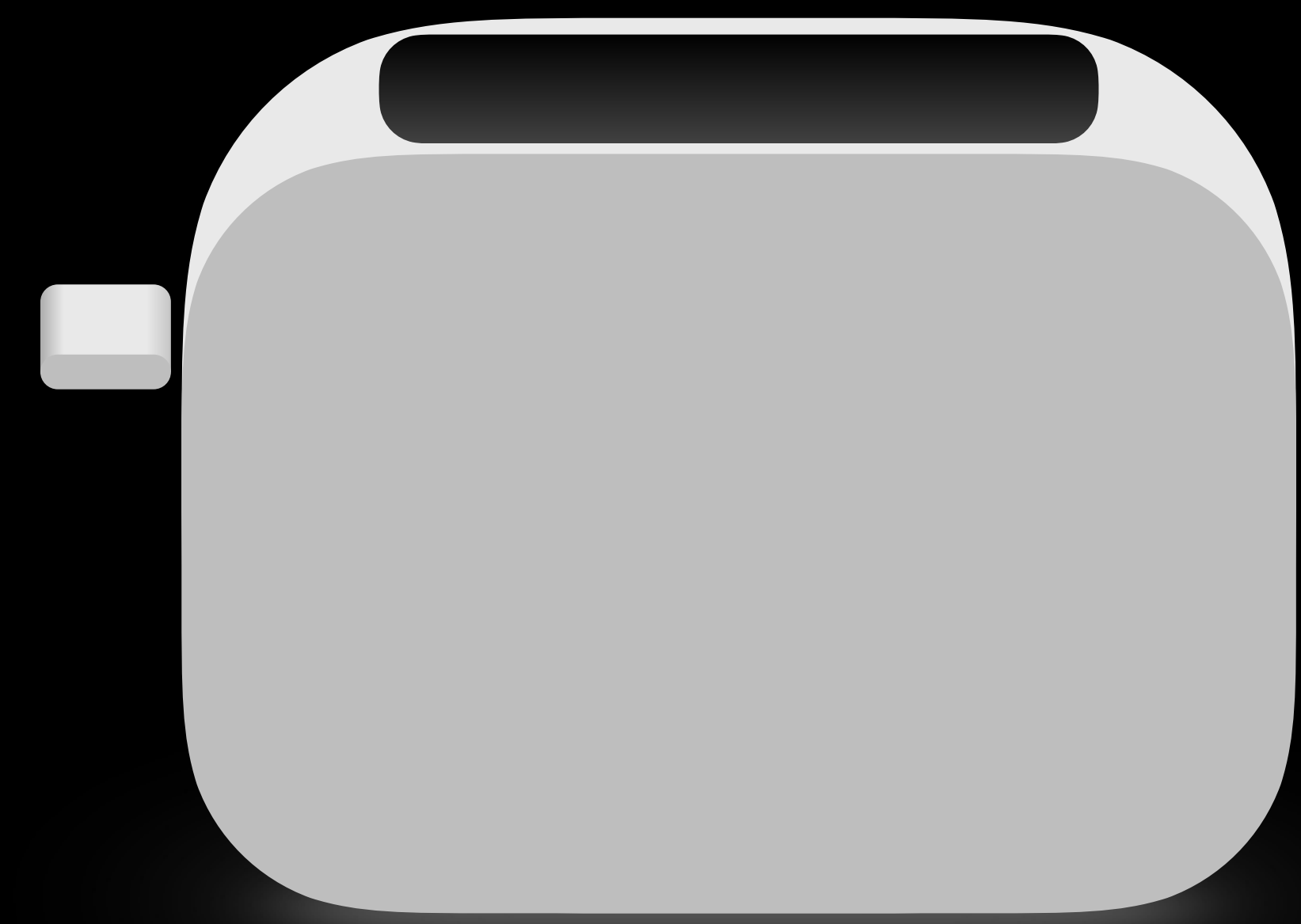


Making
Toast



Toast
Done

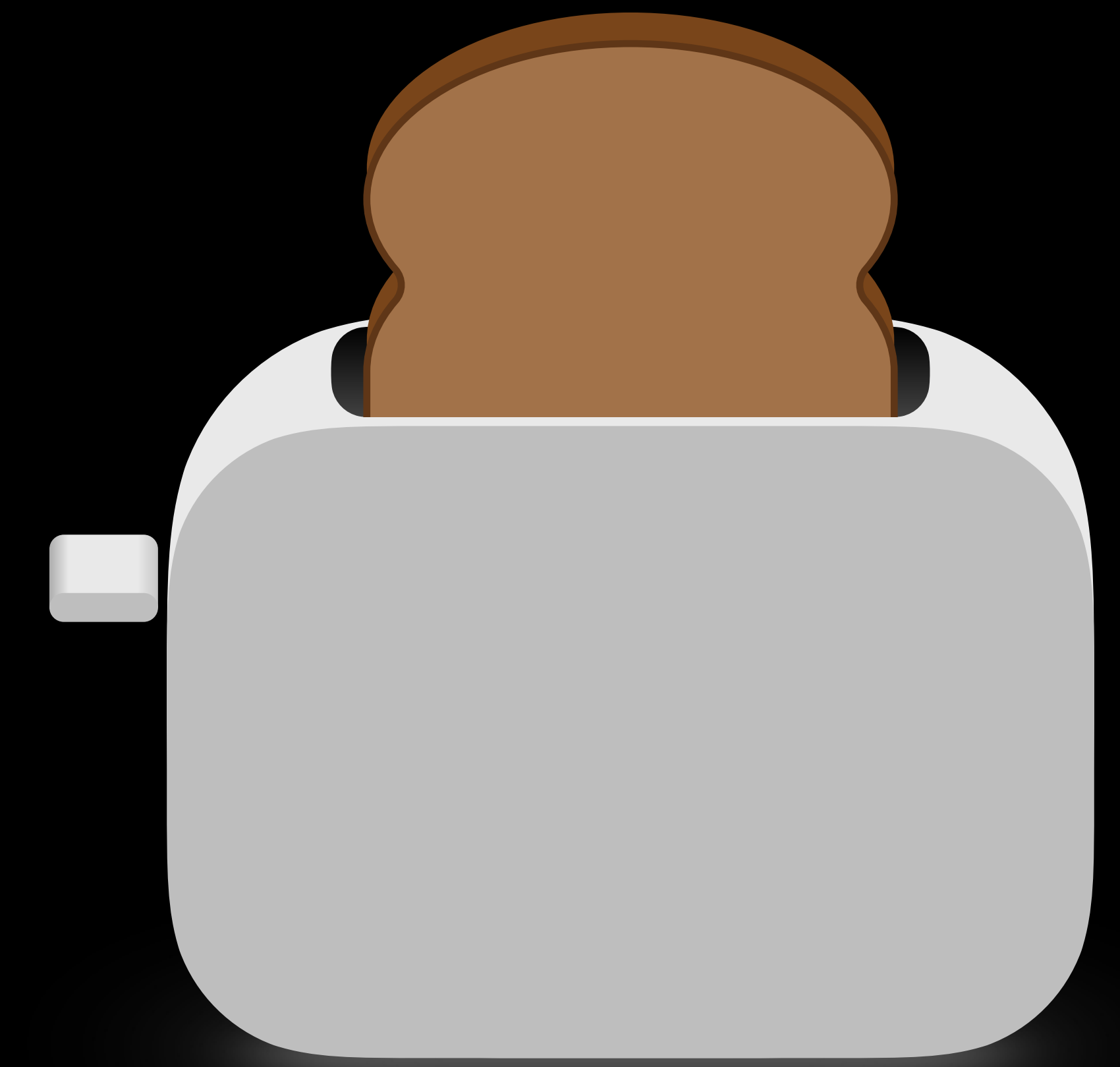




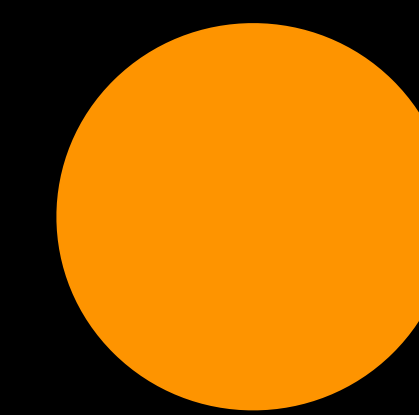
Toaster
Ready



Making
Toast



Toast
Done

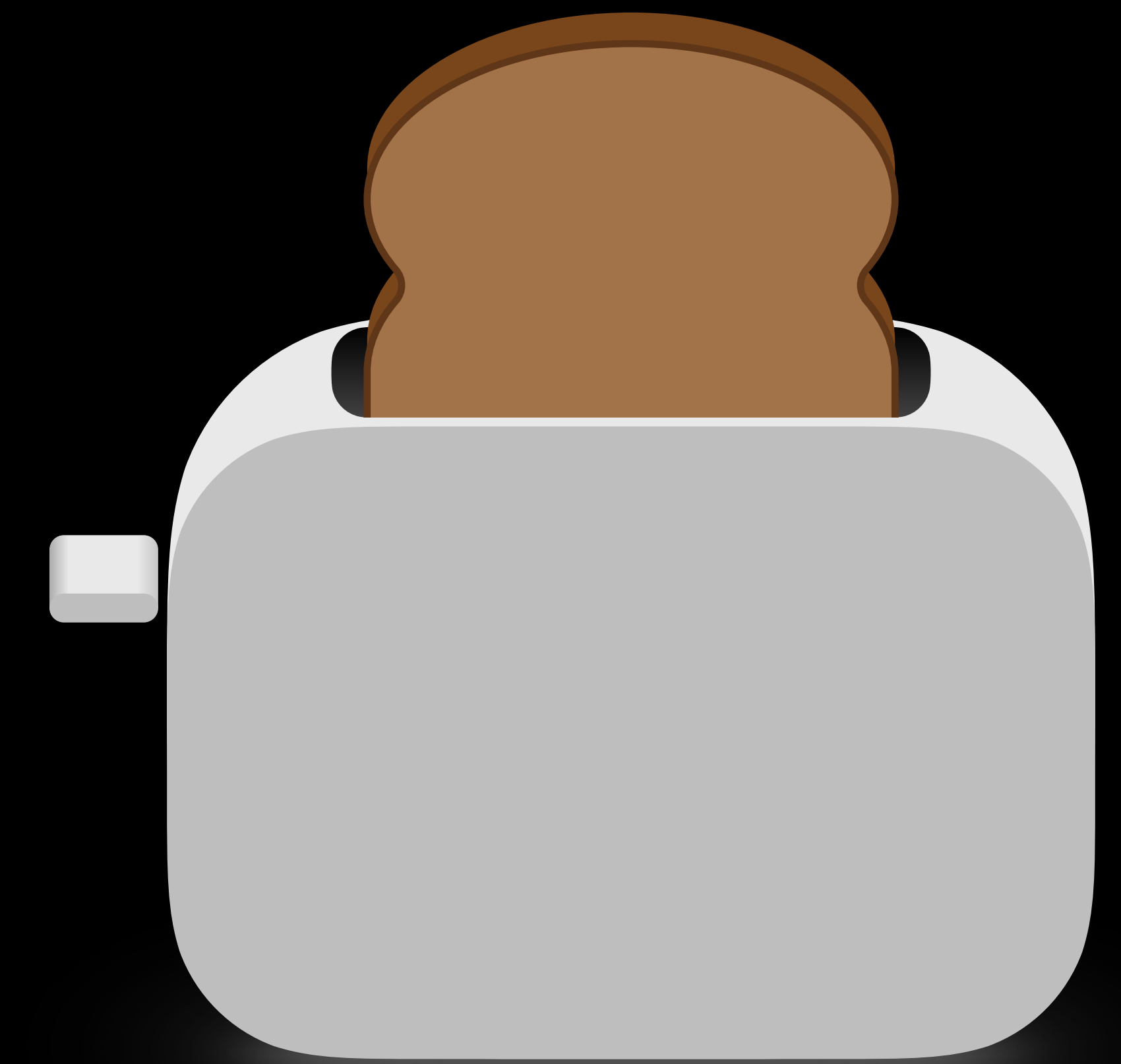




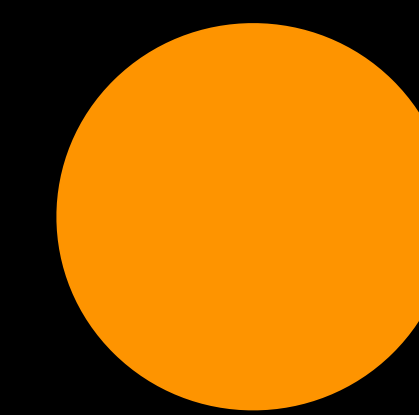
Toaster
Ready



Making
Toast



Toast
Done

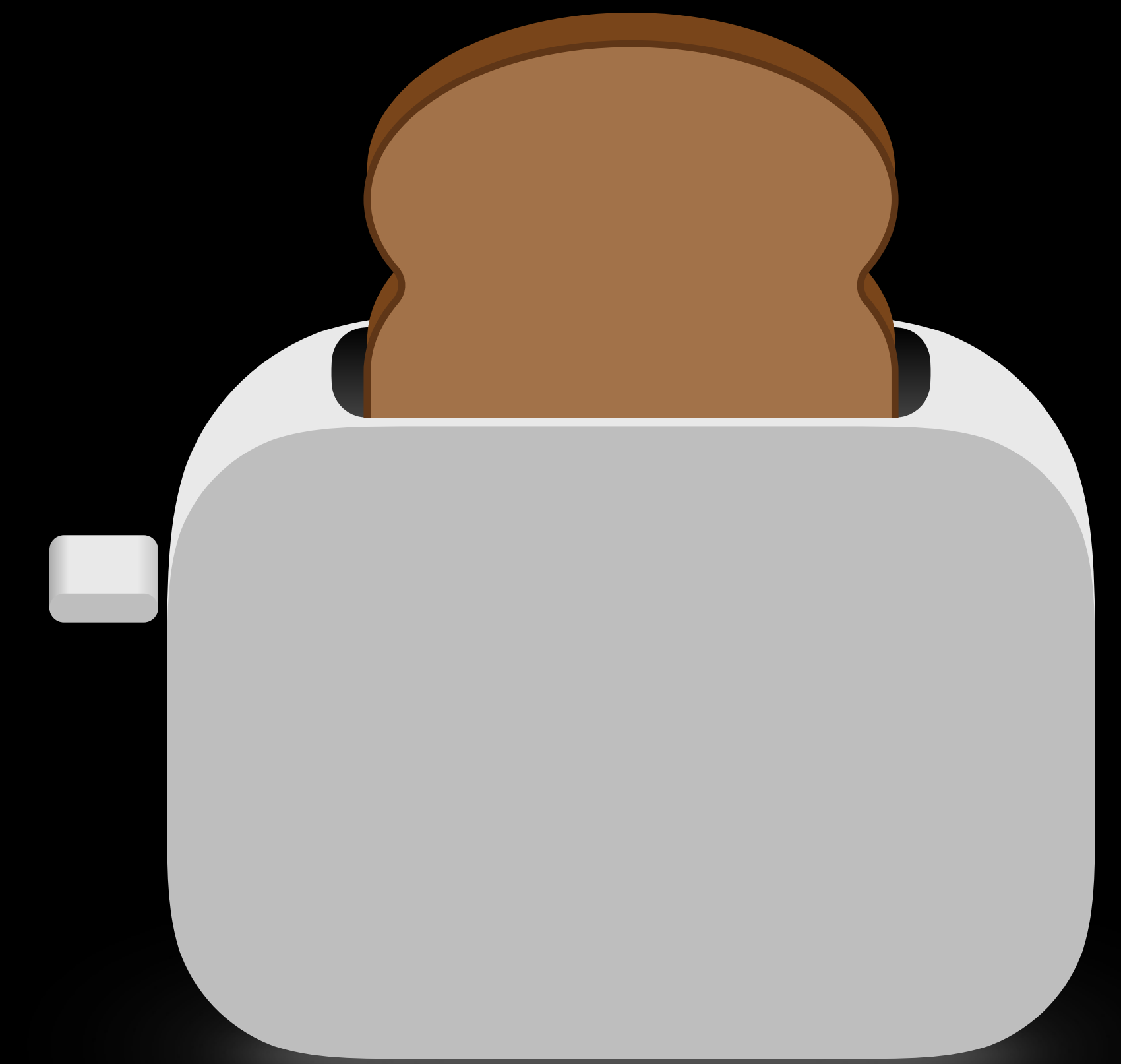




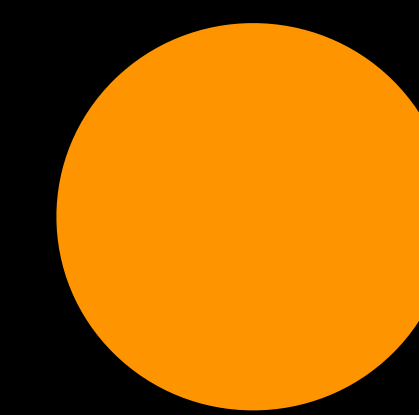
Toaster
Ready



Making
Toast



Toast
Done

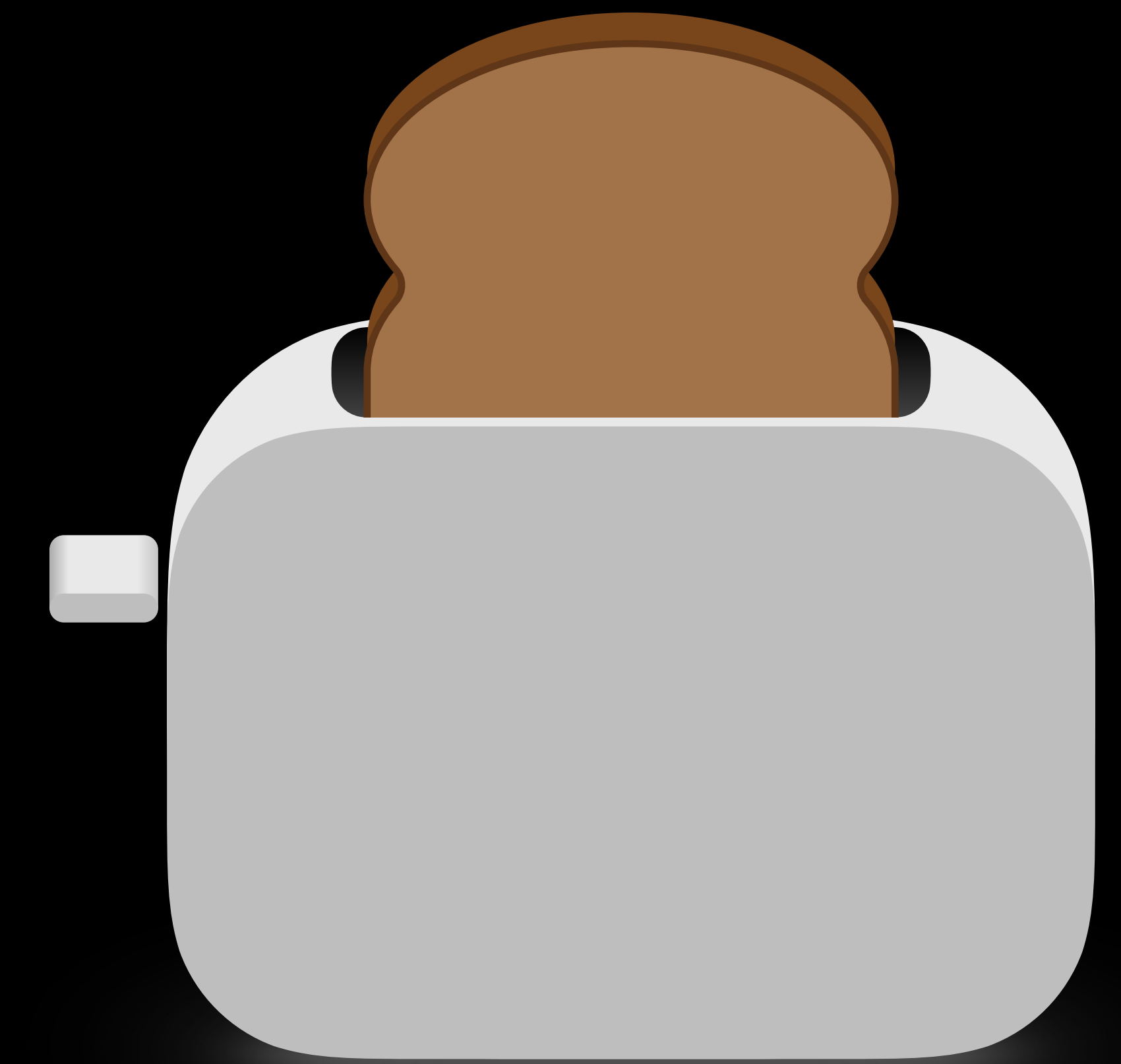




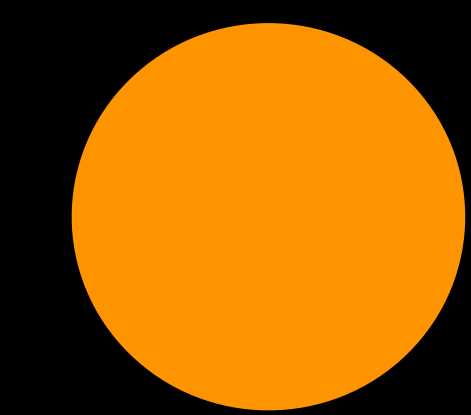
Toaster
Ready



Making
Toast



Toast
Done



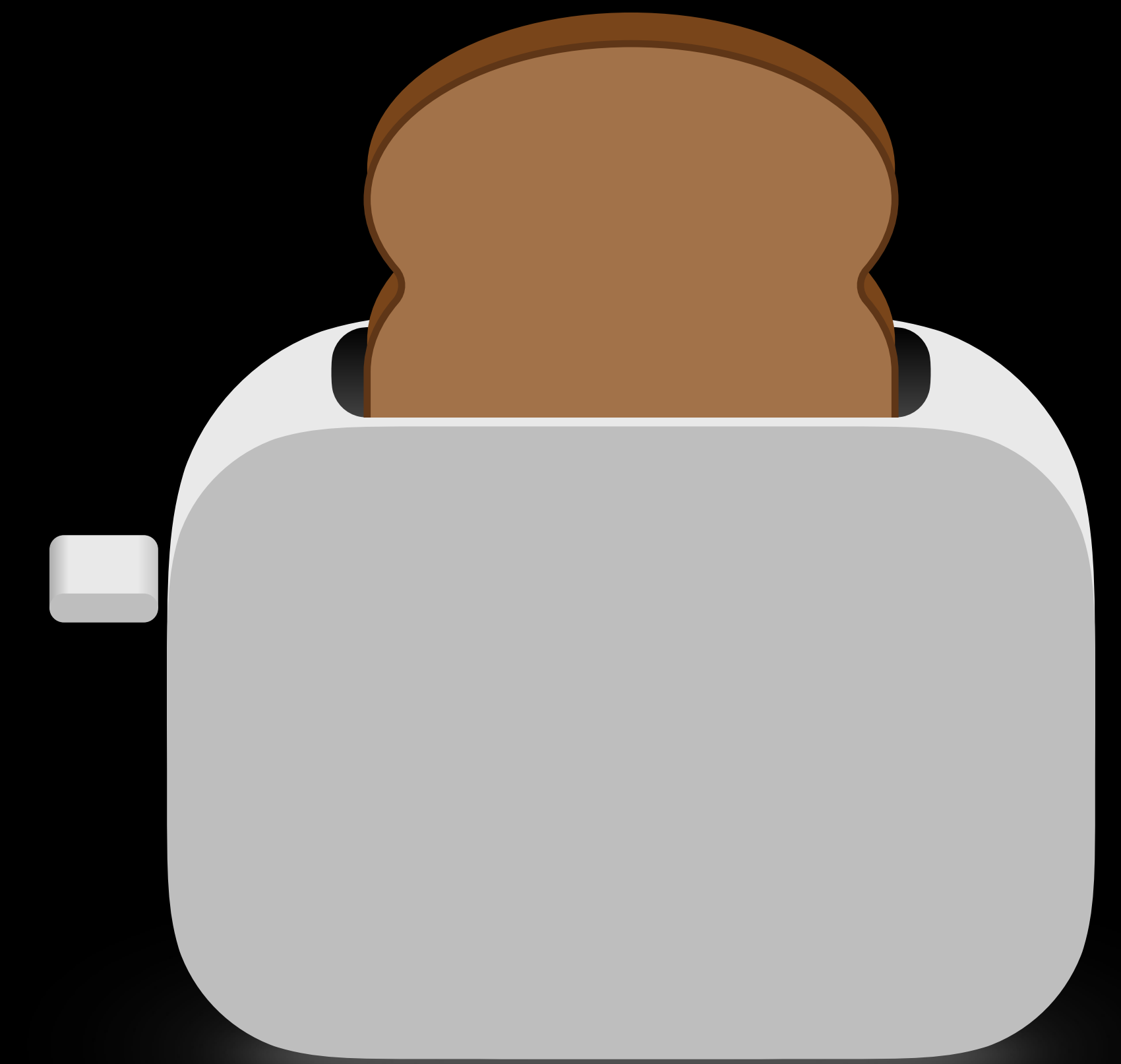


Toaster
Ready

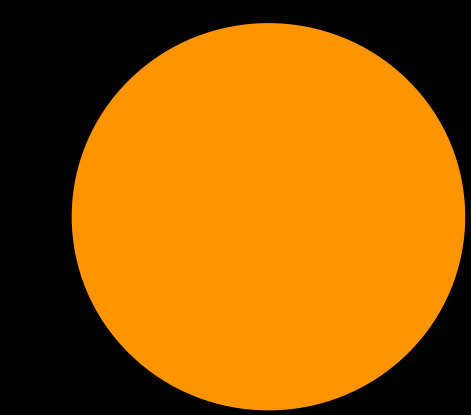
Request
Toast

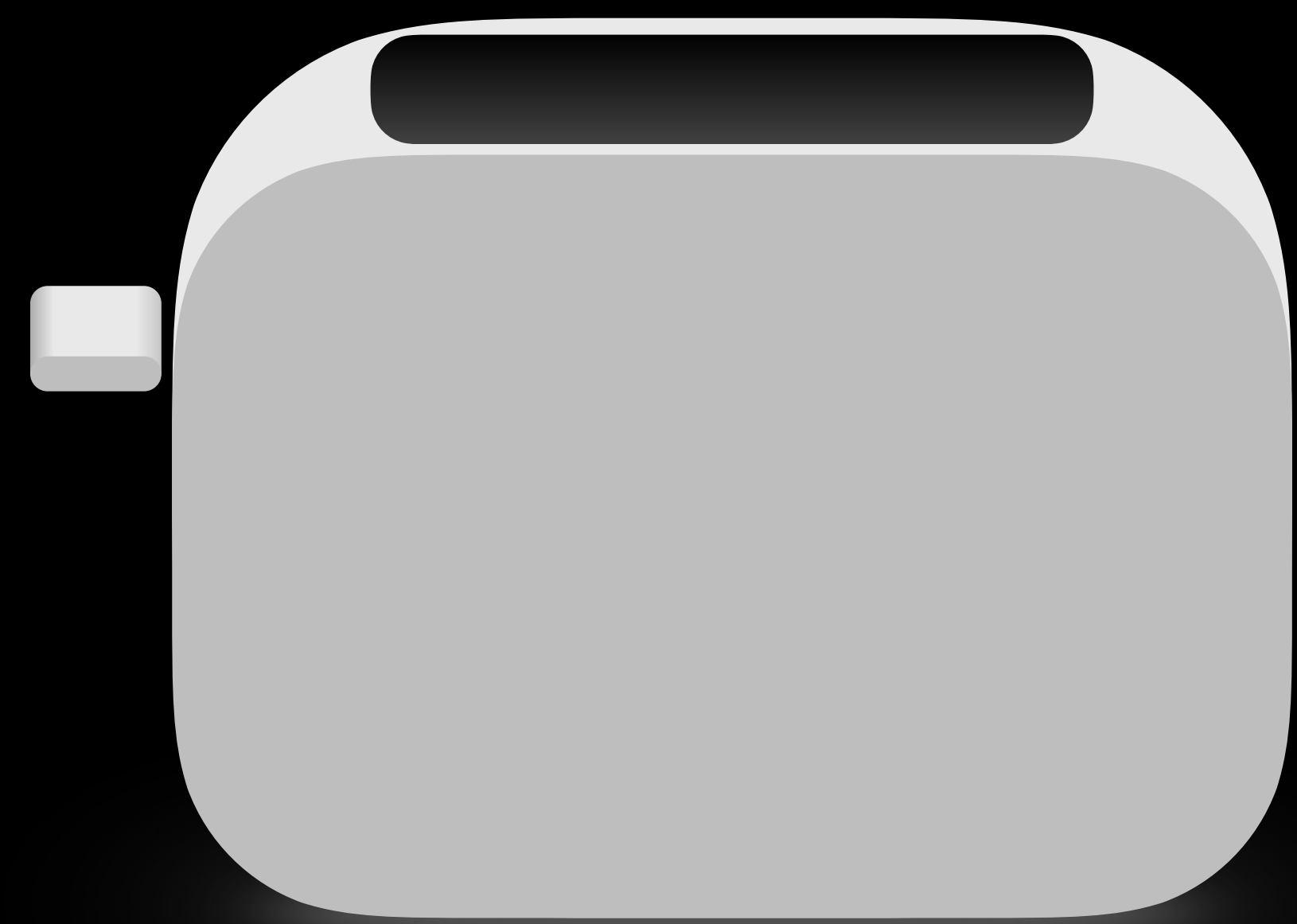


Making
Toast

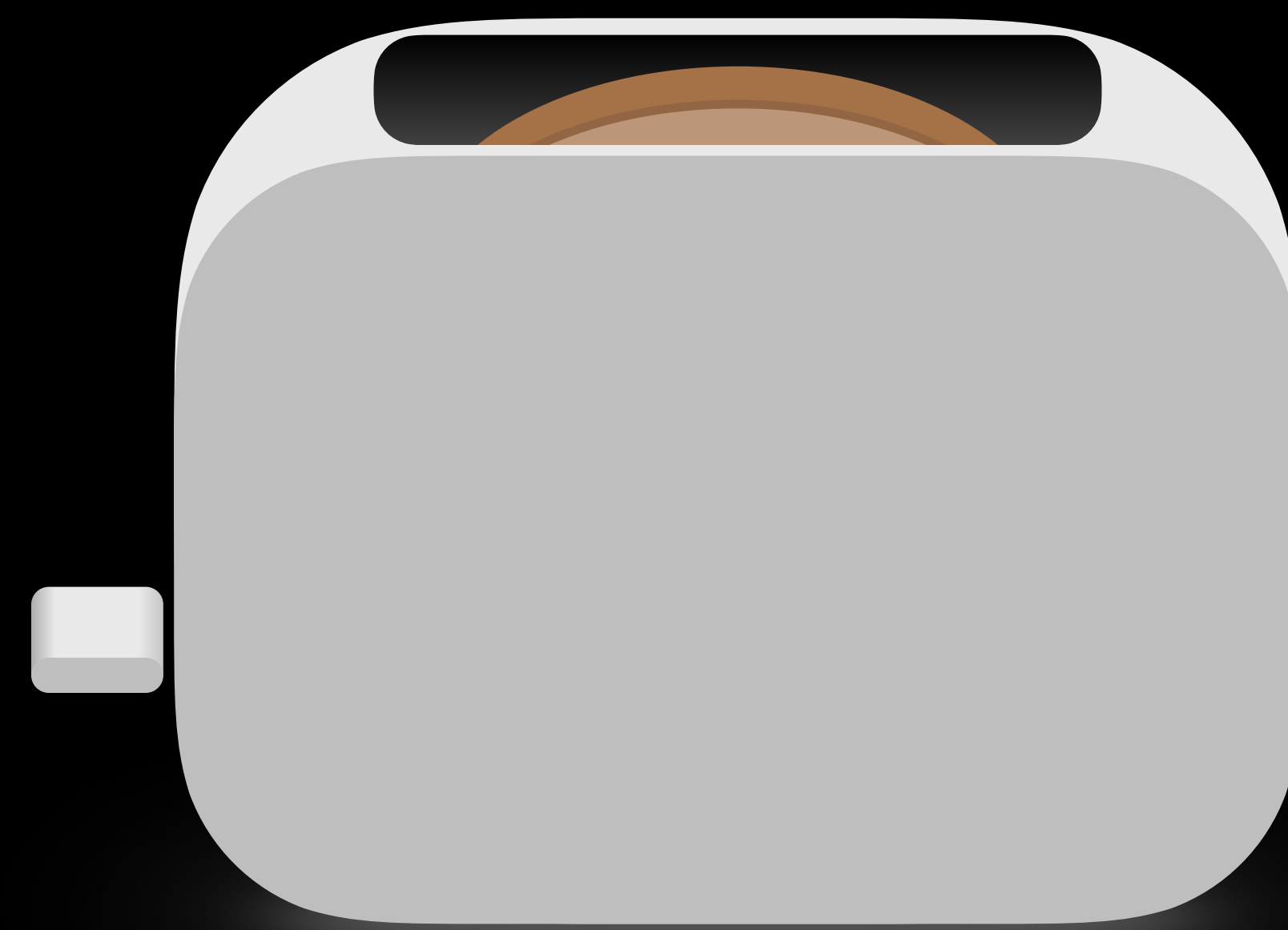


Toast
Done

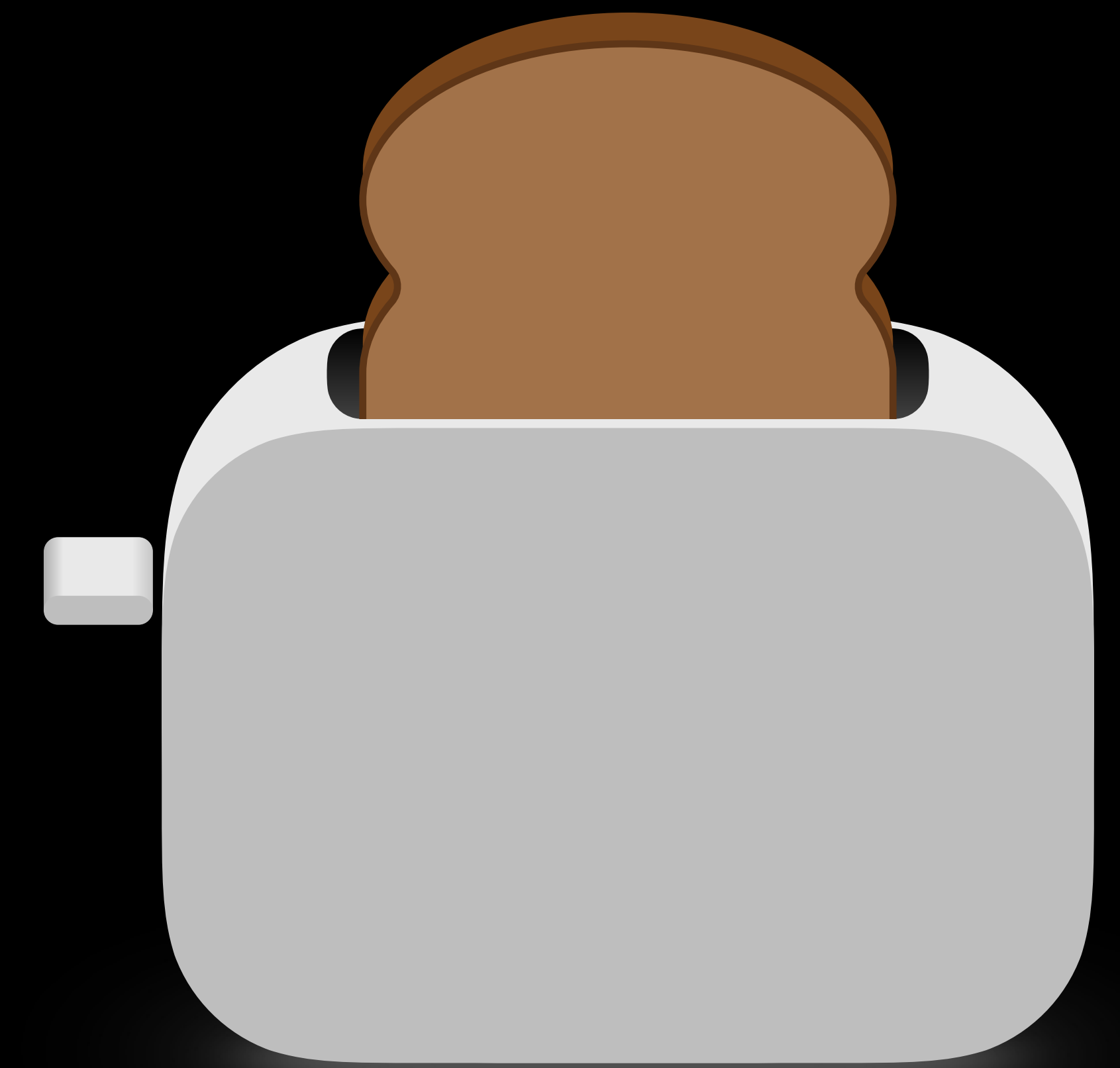




Toaster
Ready



Making
Toast



Toast
Done

Request
Toast

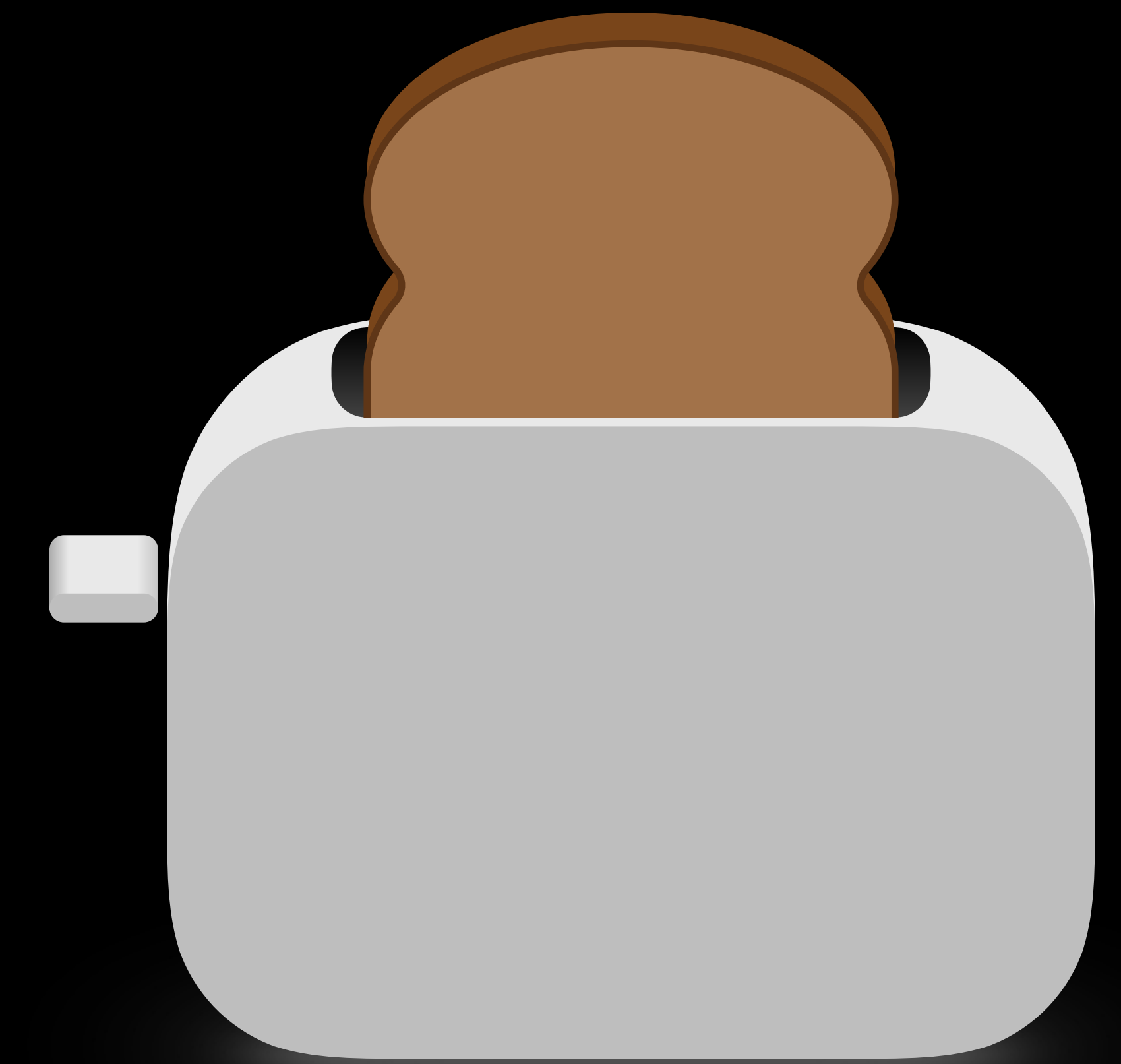




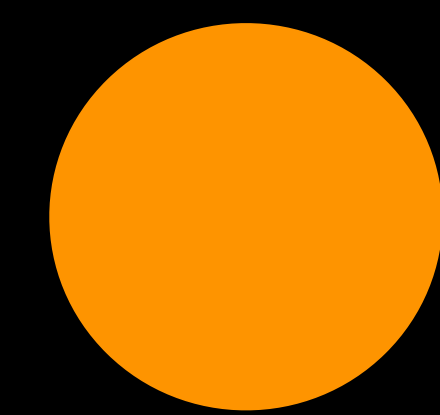
Toaster
Ready



Making
Toast



Toast
Done



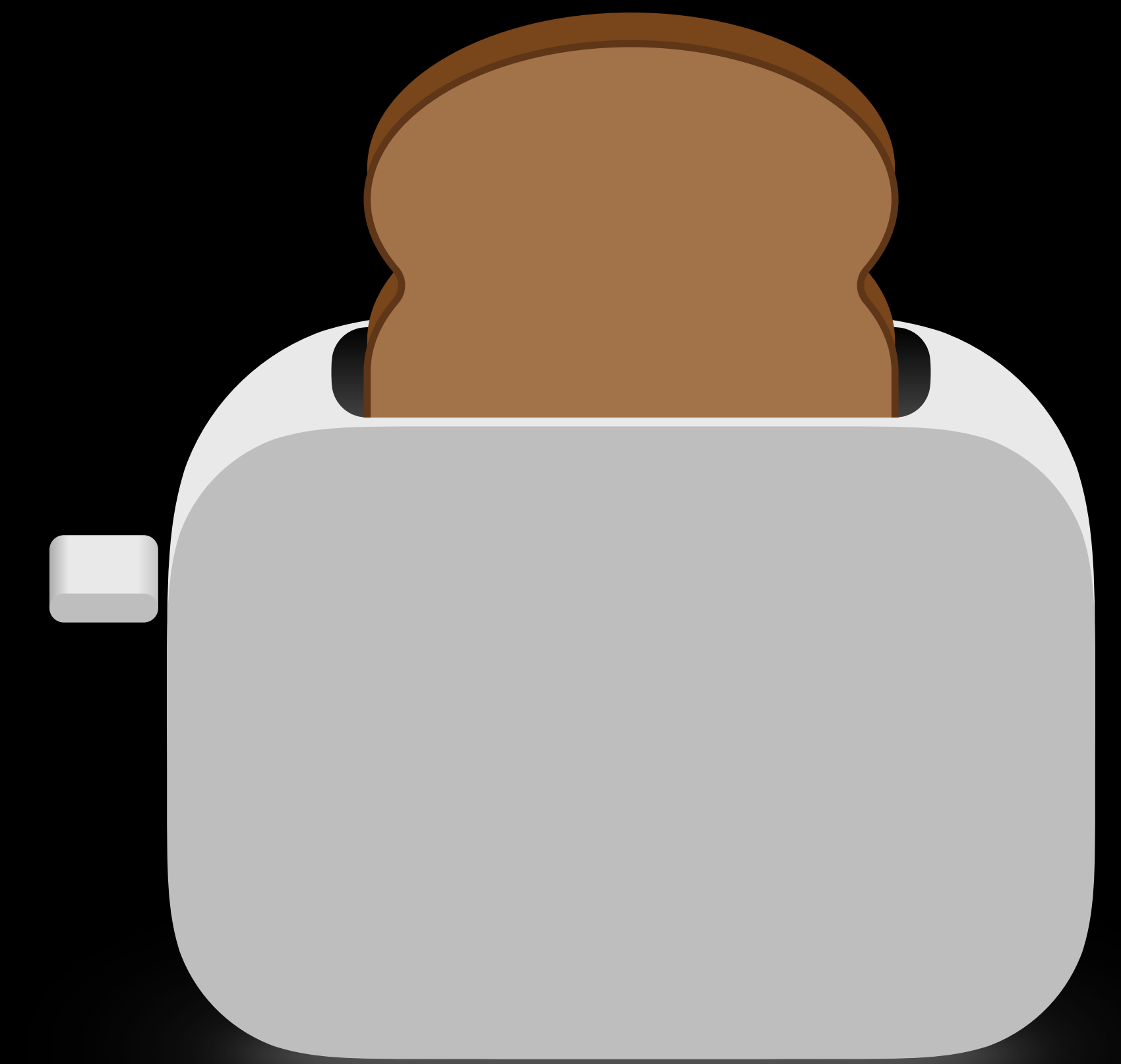
Request
Toast



Toaster
Ready

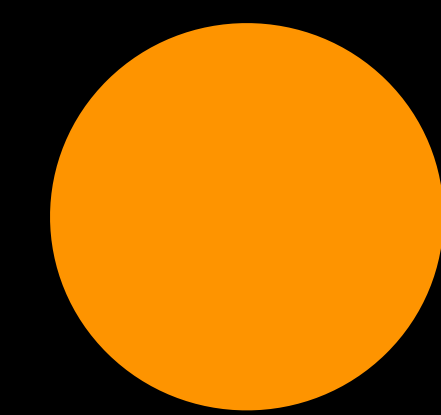


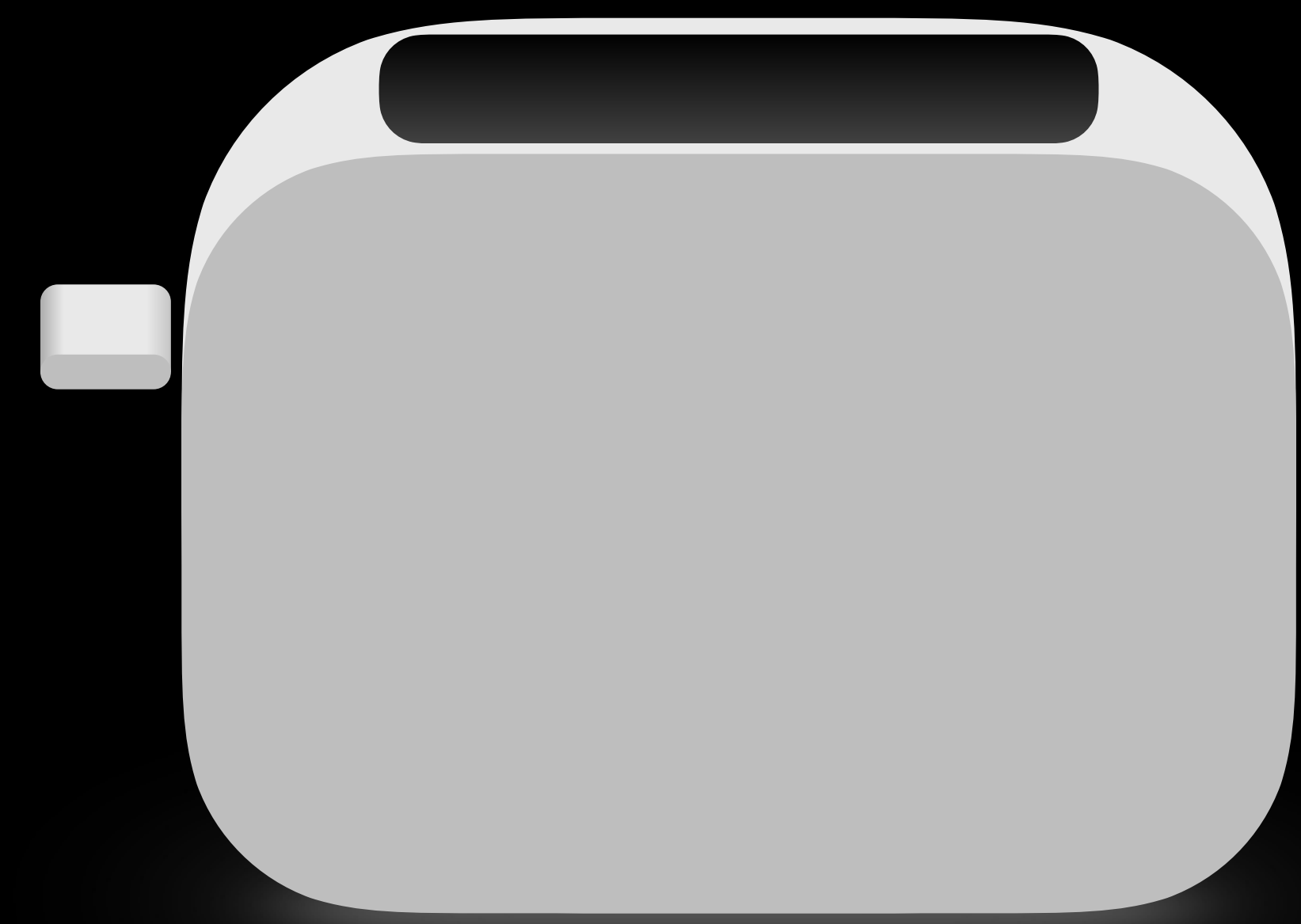
Making
Toast



Toast
Done

Request
Toast

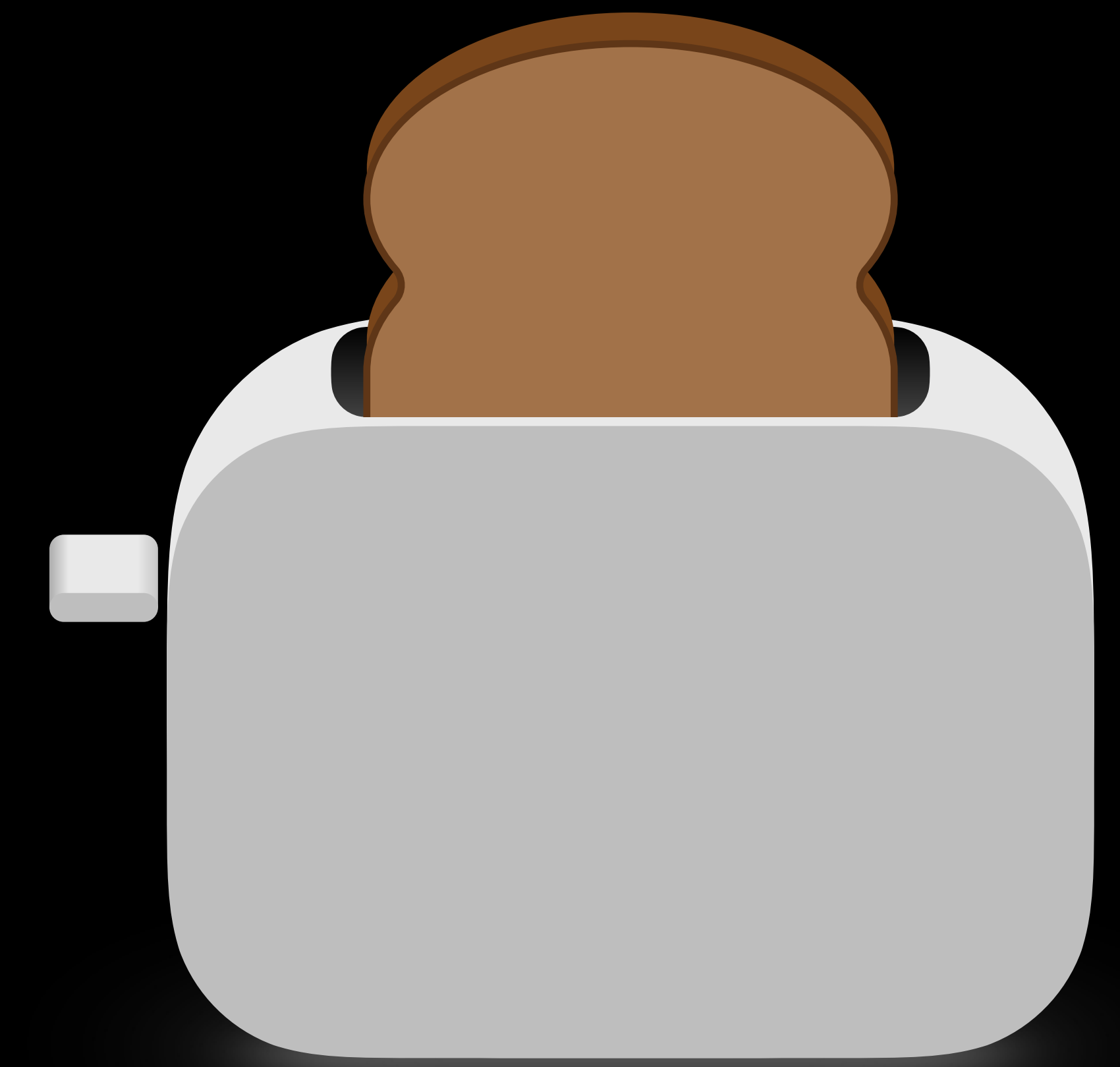




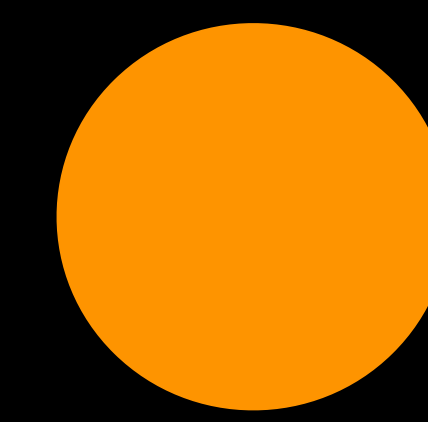
Toaster
Ready



Making
Toast



Toast
Done

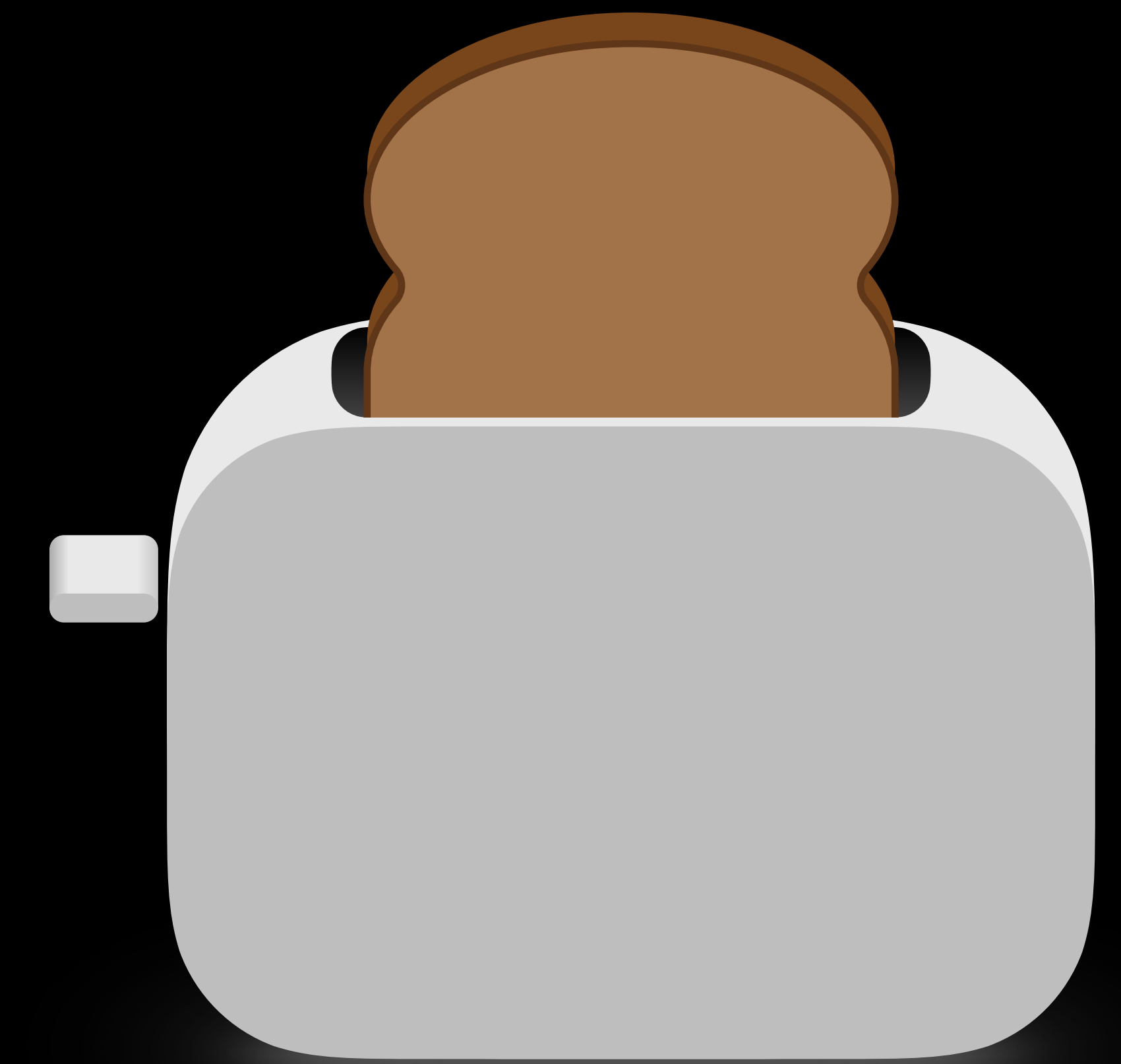




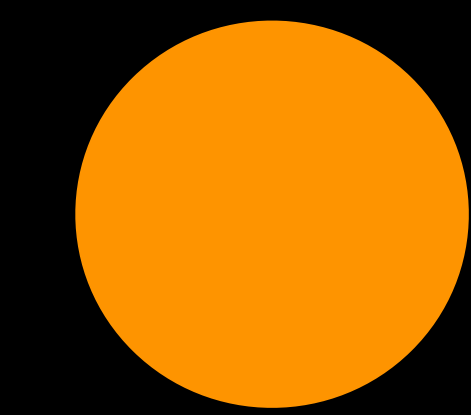
Toaster
Ready



Making
Toast



Toast
Done



Inspiration

Designing sound

Building blocks

Timbre

Timbre







Timbre

Timbre

Material

Timbre

Material

Shape

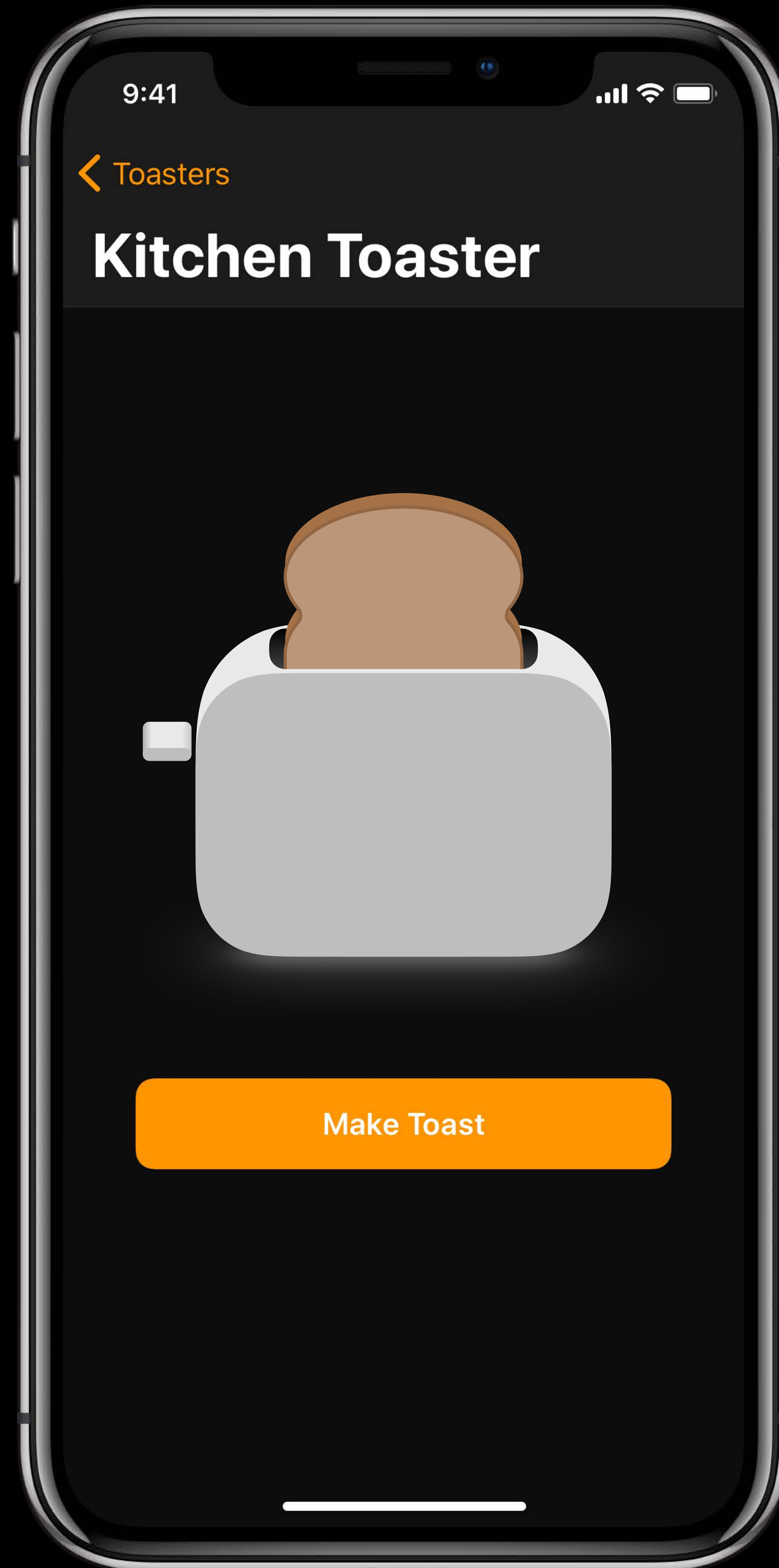
Timbre

Material

Shape

Excitation

Timbre



Frequency

Frequency

High

Frequency

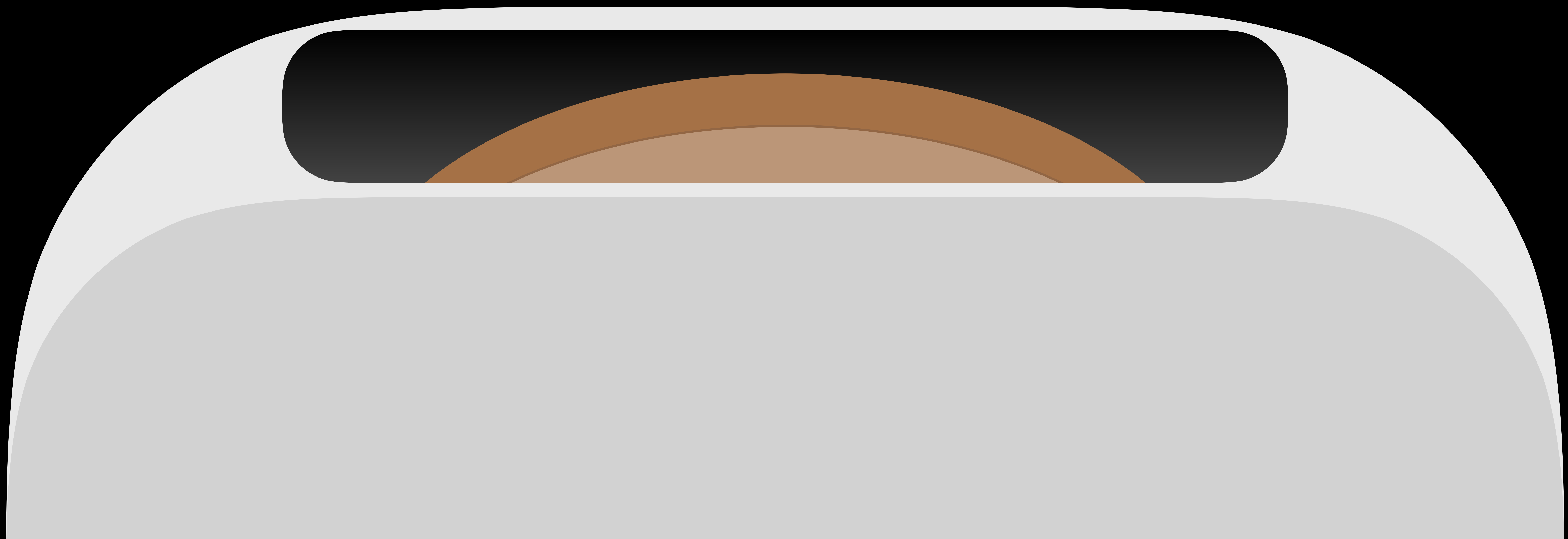
High

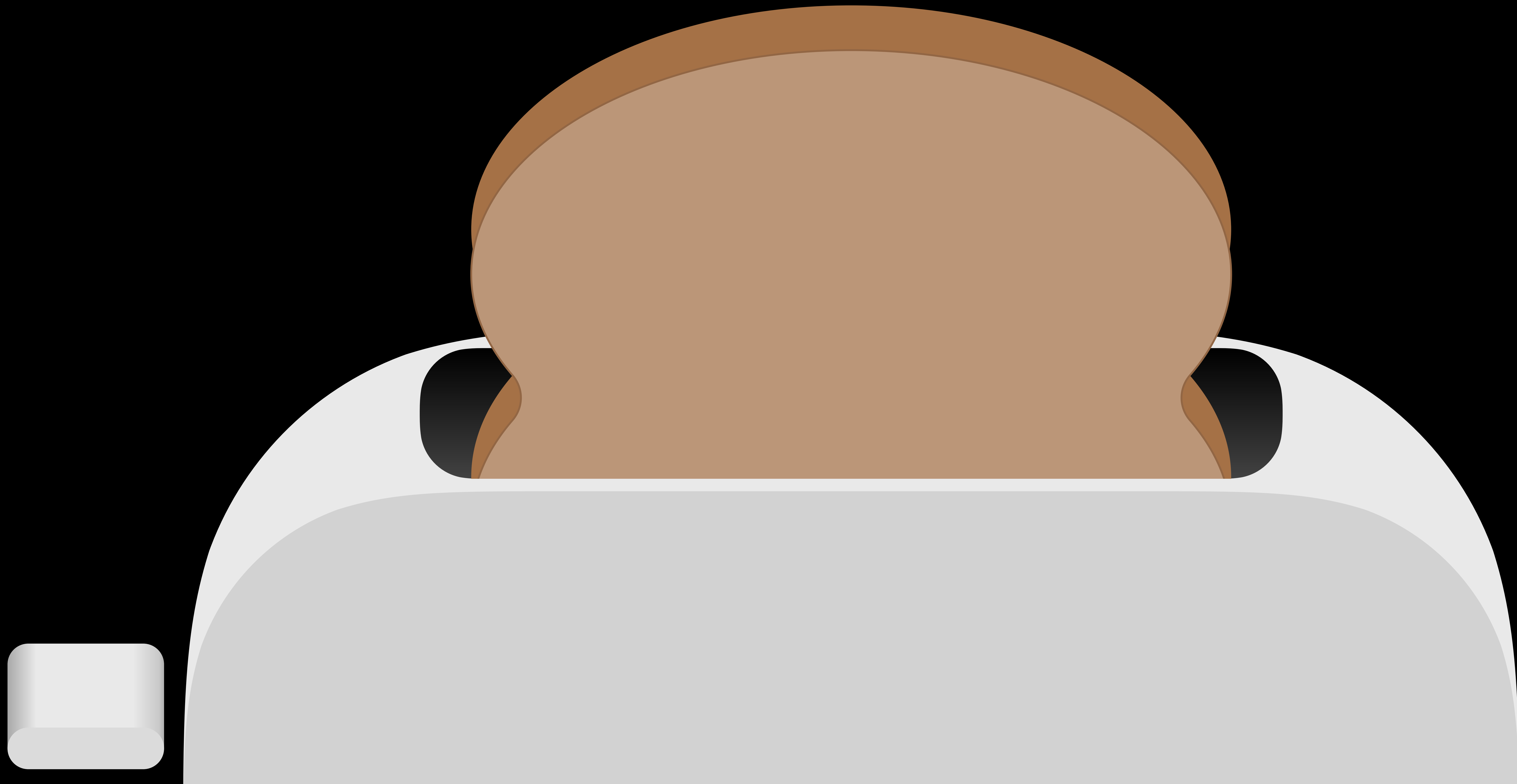
Low





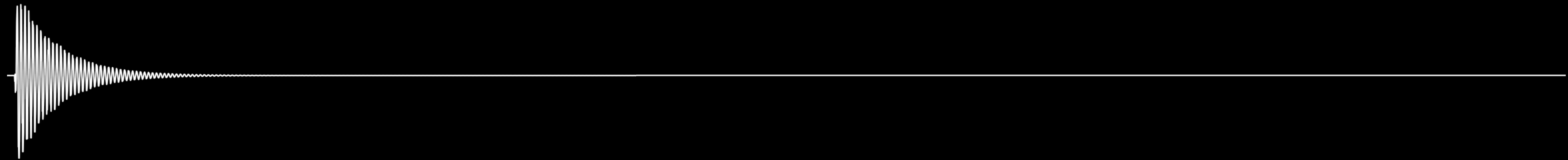




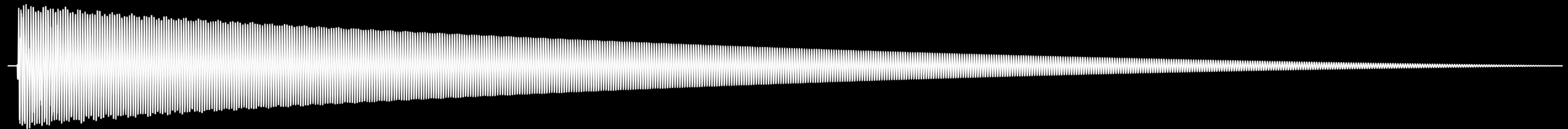
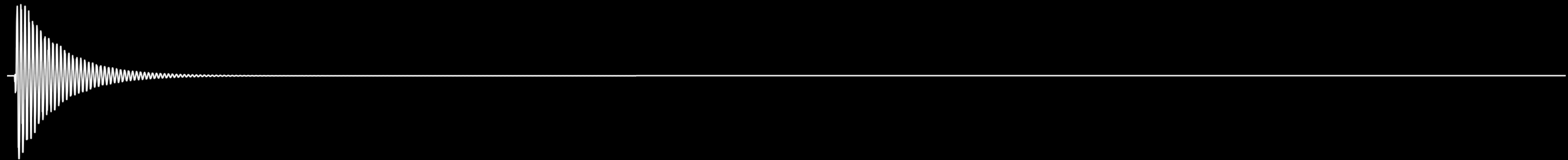


Duration

Duration



Duration



9:41



< Toasters

Kitchen Toaster



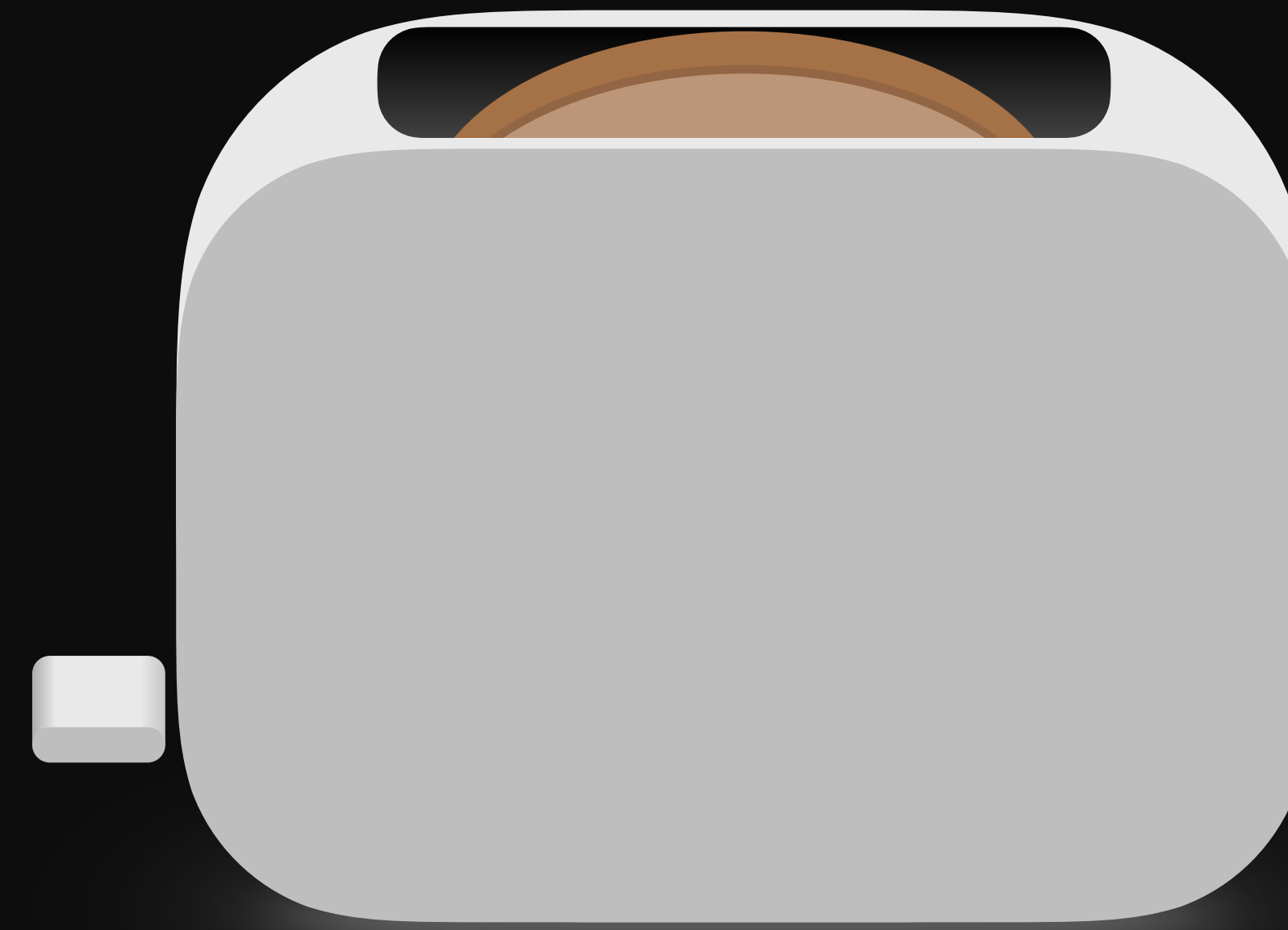
Make Toast

9:41



< Toasters

Kitchen Toaster



Toasting...

Make Toast

Stop Toasting

Loudness

9:41



Mitch Lerner



Apple Inc.



Remind Me



Message



slide to answer

9:41



Mitch Lerner



Apple Inc.



Remind Me



Message



slide to answer

09:41



Mitch

Good job on mastering those ringtones, they sound amazing on the iPhone X.

Hey thanks!!
I just push buttons until they sound good. 😊

What can we do to make them sound even better at WWDC?

Delivered

You know what they say...
"E=MC² (plus or minus 3dB)"



iMessage



Okay

Thanks

Tomorrow

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



09:41



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Building Blocks

Building Blocks

Timbre

Building Blocks

Timbre

Frequency

Building Blocks

Timbre

Frequency

Duration

Building Blocks

Timbre

Frequency

Duration

Loudness

Summary

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Details add up to the whole

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Physical world can offer inspiration

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Physical world can offer inspiration

A user interface is more than what you see

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Learn by trying things out

More Information

<https://developer.apple.com/wwdc18/804>

